

For Approval**Open Session**

To: Senate Undergraduate Council

From: Senate Undergraduate Council – Curriculum Subcommittee

Sponsor/Presenter: David DeVidi
Associate Vice-President, Academic

Date of Meeting: May 27, 2025

Agenda Item: **1.1 SUC Curriculum Subcommittee Report: Honours Bachelor of Medical Sciences (BMSci)**

Recommendation/Motion

To recommend that Senate approve the Honours Bachelor of Medical Sciences (BMSci) program, in partnership with St. George's University (SGU) in Grenada, including new courses that will deliver SGU course content, and proposed regulation changes, effective September 1, 2026, as presented.

Summary of Proposal

At its meeting on April 8, 2025, the Senate Undergraduate Council (SUC) agreed that the Honours Bachelor of Medical Sciences (BMSci) program should proceed through an expedited approval process in order to meet the target launch date of Fall 2026. The BMSci proposal is returning to SUC for recommendation to Senate, with feedback incorporated from the external reviewer's report after an April 24-25th site visit. The motion for approval must be presented at Senate no later than June 2025 to achieve this timeline.

The SUC Curriculum Subcommittee has reviewed the revised program proposal and, through an electronic vote concluded on May 26, 2025, endorsed the proposal for submission to SUC for further review and recommendation to Senate for approval.

The proposal and related curricular documentation are appended to this report. For ease of viewing, the Kuali link is also provided below.

- Bachelor of Medical Science: [Faculty of Science](#) (BMSci)

Summary of changes since SUC initial review on April 8th, 2025:

- Addition of two paragraphs (pg. 2) to discuss how the proposed program will support the challenges of Canadian students to access medical education and in turn for internationally trained medical graduates to return to Canada.
- Addition of two sentences (pg. 3) to address the higher cost of the program.
- Modification to paragraph under heading: Student Financial Support (pg. 9), to address UW's commitment to student access to educational programming.

2.5.a Resources

- Row BIOL 273: Principles of Human Physiology/Equivalent: BIOL 202 (SGU) – removed Laura Lemieux and replaced with TBD to better align with faculty expertise.

Summary of modifications to Volume 1: Proposal Brief after SUC Curriculum Sub-Committee Feedback

Introduction

- Addition of new subheading: Administrative Policies and Processes to articulate the commitment by UW and SGU to the transparent communication of the regulations and policies that protect and guide students while studying/attending/registered at the respective institution in the proposed program.

Proposal/Rationale

The Faculty of Science (Science) at the University of Waterloo (UW), in an exclusive North American partnership with St. George's University (SGU) in Grenada, West Indies, will provide students an educational pathway to medical training, and a Doctorate of Medicine (M.D.) in this innovative undergraduate degree program. This partnership agreement between SGU and UW aligns with the success of an existing partnership agreement between SGU and Northumbria University (NU) in the United Kingdom (UK). The objective of the UW agreement is to diversify medical pathways for students, generate accelerated pathways out of high school, and create a pool of skilled medical professionals to address the demands within the Canadian health care system.

BMSci is a full-cost recovery co-matriculation undergraduate program. This program provides students with two unique opportunities, an entry from high school into a 6-year path, or an entry with first year credits into a 5-year path. In the 6-year path, students complete two years of preclinical studies at UW and four years of clinical training at SGU. In the 5-year path, students who meet pre-requisite admission requirements complete only the second of the two years at UW, followed by four years of clinical training at SGU. The courses taken during the first two years of the M.D. program at SGU will count towards degree requirements of both the BMSci and M.D. degrees.

There are currently 24 UW graduates enrolled in the M.D. program at SGU. While this is an 8-year path for these students, the proposed program would provide an accelerated pathway for students, requiring only six years to obtain an M.D. from high school. Since 2019 there have been 42 Ontario high school students who have chosen to proceed through the 6-year path at SGU.

Over the past 40 years, SGU has conferred M.D. degrees on approximately 2,400 Canadian students, where 203 chose Canadian residencies after their degree. Of these residents, 125 physicians have practiced in Ontario to date. To return to Canada to practice medicine after graduating from SGU School of Medicine, Canadian students have two main pathways, the Canadian Residency Pathway (CaRMS) and the United States (U.S.) Residency Pathway through the National Resident Matching Program (NRMP).

With the implementation of this new proposed program and agreement with SGU, it is expected that SGU enrolment of Ontario students, as well as students from elsewhere in Canada, could grow, in alignment with North American students' preference to remain closer to home for the first two years of post-secondary education. The BMSci program is also an attractive alternative for a student demographic interested in an international educational pathway to practice medicine, including an interest in accessing U.S. residencies. The proposed program, with rigorous educational requirements and a shorter duration, will support Canada's efforts to recruit qualified medical professionals.

The proposed program is administered fully on-campus (UW and SGU) with a proposed launch of Fall 2026 and a first-year intake of up to 100 students, with a projected enrolment of 25 students for each of the 6-year and 5-year tracks (a minimum student number of 10 for each track, below which the program will not be offered). The proposed program aligns

the learning outcomes between UW, SGU and Northumbria University (NU). The curriculum was designed by applying longstanding analytical practices of metrics and assessments that drive the success of students and graduates in medical education.

The tuition fee for Fall 2026 is projected to be \$47,904 USD for the academic year, converting to approximately \$70K CAD. A portion of the gross revenue from the tuition fee is allocated to UW to account for the human resource costs of administering the proposed program. These will be additional administrative and academic supports to promote student success in the program. This will include a dedicated advisor at the UW, after hours support, an advisor at SGU and cohort building activities, access to a peer mentorship program, and interaction with SGU alumni and physicians.

Administratively, the University benefits from the success of existing collaborative practices, processes and procedures that put at the center the specific needs of this student demographic. Student success drives the collaborative model between SGU and the institutional partnerships (NU and UW). As a result of the partnership agreement between SGU and NU, UW will share/access resource intensive administrative processes such as Registration and Admission, Marketing and Recruitment, and residency placement. The services through the Office of Career Guidance at SGU begin in the second year of the M.D. program (before clinical rotations) and continue after students graduate and enter residency. As per the partnership agreement, Canadian students have access to comprehensive resources for those aiming to return to Canada for residency, including a Canadian Residency Mentor who provides coaching on navigating the recruitment process.

The postsecondary credits students earn in the proposed program could be transferred to other science-related programs because there is considerable overlap in course requirements between the BMSci and other programs at UW. Students who choose not to continue in the proposed program, or who have failed to meet progression requirements, will have the opportunity to transfer the course credits for entry to several existing Science programs. At this time, students will be reassessed to determine whether they meet the entry requirements for their chosen program at UW.

Admission Requirements

Academic Criteria

For direct entry from high school, an Ontario Secondary School Diploma (OSSD) with an overall average of about 90 per cent with a strong science performance, are the typical requirements for entry to SGU pre-clinical programs. The students admitted into the BMSci program will have met SGU admission requirements.

Once SGU completes an assessment of the potential students' credentials and have deemed they meet the admission requirements, they are provided with a link to an Ontario Universities' Application Centre (OUAC) application specific to this program. The OUAC application fee will be waived. The OUAC application to UW will enable the standard new student processes to take place. Once the potential UW student accepts the offer from the university, they are added to the Student Information System/Student Records (Quest) and receive identical communication and services afforded any student. At this stage they are considered a standard UW student with all the rights and privileges of a first-year student which means they have access to all the resources, amenities, benefits, services on-campus, and guaranteed access to housing in residence.

Non-Academic Criteria

SGU also undertakes a holistic admission process where students are examined for personal characteristics such as motivation for medicine, empathy and compassion, communication

skills, critical thinking and curiosity, resilience, and teamwork. These factors are viewed in combination to consider how an individual might contribute value not only as a medical student but also as a future physician.

New Courses

New MEDSCI courses- Open to students in the new Bachelor of Medical Sciences (BMSci) program only:

- MEDSCI 200, 202- Year two courses (2A BMSci), with SGU content, taught at UW
- MEDSCI 203, 250, 260, 270, 280, 290- Year two courses (2B BMSci), with SGU content (mirror term), running 16 weeks at UW
- MEDSCI 300, 350, Year three courses (3A, 3B BMSci)/ Year one Doctor of Medicine courses, taught at SGU (co-matriculation)
- MEDSCI 400, 420, 450- Year four courses (4A, 4B, 4C BMSci)/Year two Doctor of Medicine courses, taught at SGU (co-matriculation)

Table 1: Determination of Course Weights – MEDSCI (based on SGU credits)

MEDSCI	SGU credits	weeks	Assigned UW unit weight
200	1	12	0.25
202	2	12	0.5
203	3	16	0.5
250	4	16	0.5
260	4	16	0.5
270	4	16	0.5
280	3	16	0.5
290	4	16	0.5
300	17	17	2.5
350	17	18	2.5
400	21	18	3.0
420	8	6	1.0
450	19	18	2.5

General Guidelines to determine unit weights*	
SGU credits	UW units
1 credit	0.25 units
2-4 credits	0.5 units
5-8 credits	1.0 unit
9-12 credits	1.5 units
13-16 credits	2.0 units
17-20 credits	2.5 units
21-24 credits	3.0 units

*Using 4 credits to 0.5 unit as a rough guide, rounding up to higher credit

Associated Regulation Changes

The proposed new Bachelor of Medical Sciences (BMSci) program will have its own unique progression information. As students in the SGU M.D. program can complete their pre-clinical courses at either SGU, Northumbria (NU) or UW, it is necessary to establish equivalencies through grade conversions.

The SGU/UW grade conversion is achieved using the grade of 70 per cent at SGU representing a passing (satisfactory) minimum and aligning this with 60 per cent grade at UW, also representing a minimum satisfactory (C category) grade. The following will be used to interconvert between SGU and UW percentages:

$$UW\% = 1.33 * SGU\% - 33.3$$

where UW represents the percentage grade reported by a UW course and on a UW transcript, and where SGU per cent represents the percentage grade reported by a SGU course and is recorded on a SGU transcript.

SGU will set the progression and promotion requirements for students. Students receive this information in their manuals upon acceptance to SGU.

The minimum mark that students UW/SGU M.D. pathway must obtain in every course in terms 1A-2A is 70 per cent at SGU, converting to 60 per cent at UW. The term average requirements is set as an SGU grade point of 3.2 (~83 per cent). This corresponds to 77 per cent at UW.

Jurisdictional Information

As provided for in [Senate Bylaw 2](#), section 5.03, council is empowered to make approvals on behalf of Senate for a variety of operational matters:

- a. Make recommendations to Senate with respect to rules and regulations for the governance, direction and management of undergraduate studies in the university
- c. Make recommendations to Senate with respect to new undergraduate programs/plans, the deletion of undergraduate programs/plans, and major changes to undergraduate programs/plans.

Governance Path

- i. Science Faculty Council: March 31, 2025
- ii. Senate Undergraduate Council: April 8, 2025 (preliminary proposal review)
- iii. Senate Undergraduate Council, Curriculum Subcommittee: May 26, 2025 (via e-vote)

Prospective:

- iv. Senate Undergraduate Council: May 30, 2025 (via e-vote)
- v. Senate: June 9, 2025

Documentation Provided

- i. Faculty of Science – Program Proposal (BMSci)
- ii. Faculty of Science – News Courses, Plan and Regulation Changes (BMSci)
- iii. Expedited Approval Pathway (Information Only)

Summary of modifications to Volume 1: Proposal Brief after the site visit

Introduction

- Addition of two paragraphs (pg. 2) to discuss how the proposed program will support the challenges of Canadian students to access medical education and in turn for internationally trained medical graduates to return to Canada.
- Addition of two sentences (pg. 3) to address the higher cost of the program.
- Modification to paragraph under heading: Student Financial Support (pg. 9), to address UW's commitment to student access to educational programming.

2.5.a Resources

- Row BIOL 273: Principles of Human Physiology/Equivalent: BIOL 202 (SGU) – removed Laura Lemieux and replaced with TBD to better align with faculty expertise.

Summary of modifications to Volume 1: Proposal Brief after SUC Curriculum Sub-Committee Feedback

Introduction

- Addition of new subheading: Administrative Policies and Processes to articulate the commitment by UW and SGU to the transparent communication of the regulations and policies that protect and guide students while studying/attending/registered at the respective institution in the proposed program.

UNIVERSITY OF WATERLOO



NEW PROGRAM PROPOSAL OF BACHELOR OF MEDICAL SCIENCES Submitted to the Ontario Universities Council on Quality Assurance

VOLUME I - PROPOSED BRIEF

SEPTEMBER 2026

***NOTE:** This template must be used for submission of a new program proposal. Please consult the University of Waterloo [Institutional Quality Assurance Process](#) and the [Quality Assurance Framework](#) (QAF) for details or the [Academic Quality Enhancement Office](#).

****Volumes I, II, III must be reviewed and approved by the Academic Quality Enhancement Office, GSPA and IAP prior to submission to your Faculty Council****

Completed by AQuE Office

Proposed Start Date:

Fall 2026

*(subject to change by AQuE Office
depending on meeting approval
milestones)*

- QC Submission by **May 2025**
- QC Approval by **July 2025**

Approved Start Date:

[]

TABLE OF CONTENTS

1. INTRODUCTION	2
2. EVALUATION CRITERIA.....	16
2.1 Objectives of the program (QAF 2.1.2.1)	16
2.2 Program Requirements (QAF 2.1.2.2)	19
2.3 Assessment of teaching and learning (QAF 2.1.2.4)	20
2.4 Admission Requirements (QAF 2.1.2.5)	23
2.5 Resources (QAF 2.1.2.6)	24
2.6 Resources for graduate programs only (QAF 2.1.2.7).....	62
2.7 Quality and other indicators (QAF 2.1.2.8)	62
Appendix A – Summary of PLOs and UDLEs Mapped to Courses and Assessment Methods	64
Appendix B – Program Maps	68
Appendix C – Residency and Practicing Pathways for Canadians	71

1. INTRODUCTION

The Bachelor of Medical Sciences (BMSci)¹ program and pathway to a Doctor of Medicine (M.D.) program, known as the 6- and 5-Year Medical Degree Track and referred to as the proposed program throughout the application, is designed to provide students with the core knowledge, skills and abilities fundamental to academic success in health and medical sciences programs, as well as other science- and medical-related programs. Students develop their knowledge and skills in communications, biology, physiology, physics, and general and organic chemistry to prepare them for the rigours of continuing studies in medicine. In addition, students gain valuable coaching and mentorship by highly skilled faculty, physicians and graduates to prepare them for potential careers in the health and medical sciences that will enable them to achieve their career objectives.

The proposed program objectives and learning outcomes capture the fundamental principles in biology, anatomy and physiology and the impact of the social determinants of health on patient outcomes. This supports the graduate's clinical reasoning when evaluating patient symptoms and assessing potential and effective treatments, and, is a curricular foundation for further exploration of the learning outcomes that support patient care for the M.D. program at St. George's University (SGU) in Grenada, West Indies.

The Faculty of Science (Science), in partnership with SGU, will provide students in the proposed program with an educational pathway to medical training, residency and employment opportunities in a shorter duration (2+4 years versus 4+4 years). The negotiation of this agreement between SGU and the University of Waterloo (UW) will align with the success of an existing agreement between SGU and [Northumbria University \(NU\)](#) in the United Kingdom (UK). These agreements are focused on reducing barriers for students seeking pathways to becoming physicians. Currently there are no other Ontario institutions with a similar co-matriculation agreement with an international medical school.

The pathway created from the UW-SGU agreement provides students with dreams of practicing medicine to not wait anxiously as they progress through their undergraduate studies, concerned about how each grade will affect their chances of being accepted into a Canadian medical school after their fourth year of studies. This early acceptance, directly out of high school, provides the student who meets the minimum threshold, a guaranteed path into medical school. This is currently available in Grenada as the 6-year path directly through SGU, and Ontario students, and Canadian students more widely, who have chosen to attend SGU for that early acceptance program are succeeding in metrics at every level, termly tests, licensing exams, and residency match rates (see below). The UW-SGU agreement mirrors what was created 10 years ago with Northumbria University, where students can stay in the UK for the first two years of basic sciences training, before proceeding to the medicine courses, amounting to four years, at SGU in Grenada. This model is the foundation for the UW-SGU agreement. The UW-SGU agreement allows Ontario students to finish the basic sciences at UW therefore staying closer to home for those first two years out of high school and continuing for the remaining four years at SGU in Grenada.

¹ The BMSci program is a four-year honours program and will be used to refer to the first four years of the 6-Year Track and the last three years of the four-year honours program refers to the 5-Year Track.

UW is aware of the challenges faced by international medical graduates (IMGs) with Ontario restrictions of access to residencies currently capped at 10 per cent. Even with this in place, some Canadian students are continuing to choose from the various international pathways available to them, with many interested in family medicine or psychiatry, knowing there is a strong track record of IMGs obtaining those matches. To address the continuing reports of shortages in Ontario for family physicians, the UW-SGU pathway facilitates this journey for the student interested in what an international path has to offer. By relying on SGU alumni family physicians currently practicing Ontario (see Graduate Metrics below), students choosing the UW-SGU path can have access to mentors for career guidance. While SGU acknowledges that it has tracked students matched into their residencies, including Canadian residencies, there are many Canadians who return to work as physicians in Canada after American residencies, through reciprocity agreements between Canadian provinces and American states, and as such, some of the results below (see next paragraph) may be underreporting the number of Canadian SGU grads practicing in Canada.

As the current number of medical school graduates is predicted to yield a short-fall of physicians with Ontario currently under resourced for family physicians (CBC, [Number of Ontarians without family doctor reaches 2.5 million, college says](#), July 12, 2024; Ontario Medical Association [News release](#), January 29, 2024), the international school pathway permits a larger number of Canadian students to obtain this expertise. SGU has already placed over 200 Canadian graduates in Canadian residencies, and over 68 UW graduates have proceeded to obtain their M.D. degree from SGU's medical school (data collected between 1980 and 2024). As this pathway is already of interest to students, and with demonstrated routes to return to practice in Canada (see [Appendix C](#)), this partnership will enhance Canada's recruitment of qualified medical personnel. Between 1980 and 2024, a total 203 Canadian graduates from SGU successfully matched into Canadian residency programs. Of these: 108 graduates (53 per cent) secured positions in Family Medicine residencies.

The agreement increases the number and diversity of medical school pathways available to students at the UW and supports undergraduate enrolment growth in Science. As a full cost-recovery program² based on a 2+4 model, it does not affect Ministry of Colleges and Universities (MCU) corridor funding and sets a precedent for similar pathways in the future at the UW. UW acknowledges that this proposed program comes at a higher cost for students and as a result, this program is likely to be of interest to the type of student already choosing to embark on the 6-year track in Grenada. The UW-SGU agreement allows these students to live at home or closer to home for two years before proceeding to Grenada.

The proposed program is comprised of a six-year full-time, on campus and regular stream program which includes a pathway to completing the M.D. program at SGU. This is referred to as the 6-year Medical Degree Track. Potential students can also access a 5-year Medical Degree Track. This provides potential students, with the requisite requirements, to access the second year of the proposed program. For the 6-year track, students are geographically

² As a full cost-recovery program, Science is aware it is not eligible for Ministry of Colleges and Universities (MCU) funding, students do not contribute to corridor admission reporting, and students may be eligible for the Ontario Student Assistance Program (OSAP).

located, for the first two years, at the UW and for the subsequent four years at SGU where they will be taking medical science courses to advance their skills in medicine-specific clinical settings. Students in the 5-year track are geographically located, for the first year, at UW and for the subsequent four years at SGU where they will be taking medical science courses to advance their skills in medicine-specific clinical settings.

Students in the proposed program co-matriculate with a BMSci undergraduate degree from UW, and a Doctor of Medicine (M.D.) degree from SGU. Students in the 5-year track will be awarded the BMSci degree after three years and students in the 6-year track after four years. Students in the 5-year track are awarded an M.D. after five years and students in the 6-year track are awarded an M.D. after six years (See [Appendix B](#) for a visual representation of the BMSci (UW), Doctor of Medicine (SGU), and 5YR and 6YR tracks). Please note that students will need to be located at SGU to complete the third- and fourth-year courses of the BMSci program.

Grade Conversion

As students in the SGU M.D. program can complete their pre-clinical courses at either SGU, Northumbria (NU) or UW, it is necessary to establish equivalencies through grade conversions.

The SGU/UW grade conversion is achieved using the grade of 70 per cent at SGU representing a passing (satisfactory) minimum and aligning this with 60 per cent grade at UW, also representing a minimum satisfactory (C category) grade. The following will be used to interconvert between SGU and UW percentages:

$$UW\% = 1.33 * SGU\% - 33.3$$

where UW represents the percentage grade reported by a UW course and on a UW transcript, and where SGU per cent represents the percentage grade reported by a SGU course and is recorded on a SGU transcript.

SGU will set the progression and promotion requirements for students. Students receive this information in their manuals upon acceptance to SGU.

The minimum mark that students UW/SGU M.D. pathway must obtain in every course in terms 1A-2A is 70 per cent at SGU, converting to 60 per cent at UW. The term average requirements is set as an SGU grade point of 3.2 (~83 per cent). This corresponds to 77 per cent at UW.

The requirements for UW students to meet the term progressions between 1A and 2A is:

- Minimum grade of 60 per cent in every course; and
- Minimum overall term average of 77 per cent.

During the 2B term, students are only taking SGU courses. The grades for these courses, determined by SGU grading, will be converted to UW grading for the BMSci UW student transcript.

Progression Requirements

Both UW and SGU will monitor the student's progress through the proposed program and can audit the administration of the program to ensure it is running efficiently, in alignment with the program objectives (POs), program learning outcomes (PLOs) and Degree Level Expectations and according to the terms and obligations set forth in the agreement. UW is

responsible for monitoring students' progress while students are enrolled in the first two years of study and will keep SGU informed of student progress.

Progression from 1A to 2B

Courses

Students must obtain SGU 70 per cent (UW 60 per cent minimum in every course).

- If a student does not meet this minimum, they must retake that course before progression to the next term. Only the higher grade is used in average calculations when repeated.
- A student can normally repeat a failed course only once, advisors will be in contact with these students to help them succeed.

Term Average

Students must meet the term average of SGU 83 per cent (UW 77 per cent) to progress to the next term.

- Students who do not meet this average will not proceed to the following term;
- Those who do not proceed can retake one or more courses to increase the grade in those courses to impact the overall term average, as only the higher grade is used in calculations of averages.

Promotion from 2B to 3A

Students must obtain:

- SGU 70 per cent (UW 60 per cent minimum in every course);
- SGU 83 per cent (UW 77 per cent) weighted average across all 2A and 2B courses
- SGU 80 per cent (UW 73 per cent) weighted average across all 2A and 2B science (Science courses do not include the Communications and Learning Strategies courses); and
- SGU 70 per cent (UW 60 per cent) minimum grade on each component of the comprehensive exam.

SGU will determine promotion and may offer students who do not meet one or more of the above requirements an opportunity to take courses in the following term at SGU so that their grades can meet requirements.

Progression once in M.D. program

Required minimum grade in each course:

- 3A: 69.5 per cent (UW 59 per cent);
- 3B: 71.5 per cent (UW 61.5 per cent); and
- 4A, 4B and 4C: 72.5 per cent (UW 63 per cent).

All grades from 2B and higher terms will be SGU graded, converted into UW percentages (using established grade conversion formula), and the UW grades will be recorded on the UW BMSci transcript.

Pathways and Student Transferability: UW Programs

The postsecondary credits students earn in the proposed program could be transferred to other science-related programs because there is considerable overlap in course requirements between the BMSci and other programs in Science. Students who choose not to continue in the proposed program, or who have failed to meet progression requirements (see above), will have the opportunity to apply to the UW to transfer the course credits for entry to several

existing Science programs. At this time, students will be reassessed to determine whether they meet the admission requirements for entry to programs at UW. If student applicants are found not to have completed the course requirements for Science, they will be denied admission and directed and guided to other opportunities, such as an online delivery to fulfill those requirements.

If successful with their application to transfer to another Science program, the student will continue to be registered at the UW and will pay the domestic or international tuition fee associated with the program, as appropriate. The student will continue to have access to all the resources and services (for example, counselling, campus wellness, athletics, bus pass, etc.) afforded any UW student.

An existing Science program with the best alignment to the proposed program is the Honours Bachelor of Biomedical Sciences (Biomedical Sciences) program, as there are many courses that contribute toward the core requirements in both programs. This is a regular program and therefore does not require students to complete co-op requirements. In this scenario all course credits from year one and two of the proposed program could be transferable. Students will need to meet the 65 per cent average in courses in Science and 60 per cent overall average, and any additional admission requirements (if applicable), for transfer to the Biomedical Sciences program.

An alternative to the Biomedical Sciences program is the Honours Bachelor of Science program, which is a very flexible program. In this case, all courses from year one and two of the proposed program could be transferred to either core or elective requirements of the program. Students will need to meet the 60 per cent average in courses in Science and 60 per cent overall average requirements, and any additional admission requirements (if applicable). The Honours Bachelor of Science is a regular program, chosen by many students who are interested in continuing studies in Canadian Medicine, Dentistry, Pharmacy or Optometry programs.

Any student who does not meet the above average requirements could transfer to the Bachelor of General Science three-year degree program that requires a 55 per cent average in courses in Science and a 55 per cent overall average, and any additional admission requirements (if applicable). Students who do not meet these requirements would not be permitted to continue studying in the Faculty of Science and can meet with advisors about transferring out of the Faculty.

Tuition

The proposed program is administered fully on-campus with a proposed launch of Fall 2026 and a first-year intake of up to 100 students, with a projected enrolment of 25 students for each of the 6-year and 5-year tracks, with a minimum student number of 10 for each track - below which the program will not be offered³. The tuition fee for Fall 2026, according to the partnership agreement, is at a rate of \$47,904 USD for the academic year. This converts, on

³ According to the agreement between UW and SGU, For the inaugural class, in September 2026, the minimum starting enrolment will be 10 Students. For future cohorts, this minimum viable cohort may be revised upon the agreement of both Parties, taking into consideration both internal and external factors that may impact setting the appropriate class size (Enrolment Targets, Schedule 3 – Recruitment and Marketing).

February 3, 2026, to approximately \$34,932 CAD/ for the term and \$69,863 CAD for the academic year. This is remitted to SGU by the student. SGU invoices students and collects all applicable student fees. SGU is also responsible for keeping an accurate accounting of student fees and for providing that accounting to the UW for review.

This tuition fee also accounts for the human resource costs of administering the proposed program. Once the tuition fee is collected by SGU, a portion of the gross revenue is allocated to UW.

Application Process

Potential students apply to the proposed program through the application procedure at SGU. SGU's committee on admissions, the Faculty Student Selection Committee (FSSC), reviews applicants holistically, taking into account both academic performance and personal attributes. Admission to the pre-clinical track requires strong academic achievement in high school, and especially in science subjects such as Biology, Chemistry, and Math. Additional factors, such as motivation for medicine, empathy and compassion, communication skills, critical thinking and curiosity, resilience, and teamwork, are also important in the selection process. These factors are viewed in combination to consider how an individual might contribute value not only as a medical student but also as a future physician.

All students admitted into the program by SGU will have met SGU requirements. Once SGU completes an assessment of the potential students' credentials and have deemed they meet the admission requirements, they are provided with a link to an Ontario Universities' Application Centre (OUAC) application specific to this program. The OUAC application fee will be waived. The OUAC application to UW will enable the standard new student processes to take place. Once the potential UW student accepts the offer from the university, they are added to the Student Information System/Student Records (Quest) and receive identical communication and services afforded any student. At this stage they are considered a standard UW student with all the rights and privileges of a first-year student which means they have access to all the resources, amenities, benefits, services on-campus, and guaranteed access to housing in residence (only first year students are guaranteed a spot in residence).

Registration

The Office of the Registrar will 'block enroll' students into required courses in each term of the four years of the proposed program. At the end of UW year three and UW year four, transcripts from SGU will be provided to record grades. During years three and four, as students are not present on campus, they will be enrolled with no fees⁴ applicable as they will not be accessing UW resources. These students will not be paying ancillary or tuition fees to UW. Students will apply for graduation from UW at the end of year four. Students are geographically located at the UW in year one and two and at SGU in year three, four, five and six (see table below for visual representation; see [Appendix B](#) for program maps for the BMSci program, and 5- and 6-year tracks).

⁴ The reference to fees is to those attributed to students who are physically on-campus. This does not refer to tuition. Students in years three and four will pay tuition to SGU.

Delivered at the University of Waterloo (*content/assessments provided by SGU)				Delivered at St. George's University			
1A Term (Fall)	1B Term (Winter)	2A Term (Fall)	*2B Term (Winter) 16 weeks	3A Term (Fall) 17 weeks	3B Term (Winter) 18 weeks	4A Term (Fall)	4B Term (Winter) 18 weeks
All courses taken at UW	All courses taken at UW	All courses taken at UW	All courses taken at UW	All courses taken at SGU	All courses taken at SGU	All courses taken at SGU	All courses taken at SGU
Fees applicable (students will pay SGU and SGU will transfer to UW)				Student will be enrolled in courses at UW but no fees will apply (all courses are 'zero billing units')			

Administrative Policies and Processes

To ensure students are aware of their rights and responsibilities as guided by the appropriate regulations and policies while studying/attending/registered at UW and SGU, a note will be added to the academic calendar and discussion point integrated into the marketing materials that support student recruitment efforts.

The note in the academic calendar will indicate to students that while they are studying/attending/registered at UW, they are bound and protected by regulations and policies at UW. Another note will be added to the academic calendar that will indicate to students that while they are studying/attending/registered at SGU, they are bound and protected by the regulations and policies at SGU in addition to essential requirements, termed technical standards. These standards are comprised of the following: [Technical Standards for Pre-Clinical](#); [Observation Skills](#); [Communication Skills](#); [Motor Skills](#); [Intellectual/Conceptual, Integrative and Quantitative Abilities](#); [Behavioral and Social Attributes](#); and [Computer Literacy](#). In addition, the transparent communication of the students' rights and responsibilities will be integrated into UW and SGU recruitment efforts.

These commitments are to ensure transparency of the students' rights and responsibilities through a clear statement of the appropriate regulations and policies while studying/attending/registered in the proposed program.

UW Student Program Incentives

Students in the proposed program, while at the UW, will be placed in sections with students in other programs. To account for the tuition fee for the students in the proposed program, additional administrative and scholarly support to best facilitate their success in the program is provided. This includes a dedicated advisor at the UW, after hours support, an advisor at SGU and a peer mentorship program.

UW will provide access to peer mentors. The advisor for BMSci students will monitor student performance through the first-year midterm check-in and will connect with students to ensure they are aware of the progression requirements and the resources to succeed. The advisor will then determine if a student needs and is interested in participating in peer mentoring. Peer mentors are students who have excelled in particular courses and volunteer their time to

support students to succeed. The advisor will have access to a list of tutors should students seek more specialized and individualized support. The benefits of a strong mentorship program can enhance academic success, improve study skills, increase student engagement, promote peer collaboration, and develop communication and leadership skills.

For fourth year students in the proposed program/second year student in the M.D. program, the SGU's Office of Career Guidance and Student Development offers comprehensive resources for Canadian students aiming to return to Canada for residency, which can be divided into two groups: those seeking residency through the Canadian Resident Matching Service ([CaRMS](#)) process and those who have completed a U.S. residency (see [Appendix C](#) for a discussion about the two pathways). Their support includes an annual webinar that presents updates on the CaRMS match and recent match statistics for both Canada and the U.S., broken down by specialty, geography, and institution. They also host specific sessions for Canadian interview preparation and a post-match webinar, featuring recent graduates who share insights on Canadian interview styles and contemporary topics both provincially and nationally.

In addition, Canadian students are assigned to a Canadian Residency Mentor, Dr. Joshua Ramjist, an SGU Canadian graduate, the Associate Program Director of the Pediatric General and Thoracic Surgery Fellowship at SickKids and liaison to the General Surgery program at the University of Toronto (UoT). He offers a valuable perspective on the nuances of recruitment, including the importance of diversity, equity, and inclusion in the current medical climate. He serves as a direct point of contact for Canadian students, assisting them as they navigate the process. The services through the Office of Career Guidance start in the second year of the M.D. program (before clinical rotations) and continue after students graduate and enter residency. As per the partnership agreement, the services offered by SGU's Office of Career Guidance and Student Development to Canadian students is access to a Canadian Residency Mentor to provide coaching on navigating the recruitment process.

Student Financial Support

As an institution of higher education with a vision of providing access to education, UW understands the students' financial obligation to complete the proposed program. In this effort to provide access to a diverse body of students, the UW is exploring support in the form of scholarships provided to UW students in the first two years of the proposed program.

Comparable Program at UW

There are no comparable programs at UW. The Honours BMSci program uniquely presents students with the opportunity to co-matriculate with an international institution, where the fundamentals of medicine are condensed into two years of preclinical work undertaken at UW. The first two years of the M.D. program will provide the connection between more specialized anatomy, physiology and biochemistry, and pathology and treating the patient, and these two years will be counted towards degree requirements for both the BMSci and M.D. programs.

The Pre-Clinical Specialization in the School of Public Health Sciences at UW offers a blend of courses in the behaviour and health sciences. This specialization provides an opportunity to study the foundational sciences, such as biology, chemistry and physics, and the areas of global health, behaviour science and policy and health promotion. The proposed program

differs from the Pre-Clinical Health Sciences Specialization as it addresses learning objectives principally in the areas of anatomy, biochemistry, physiology and psychology for the prevention, treatment and palliation of disease.

Comparable Programs in Ontario

There are two programs in Ontario that have a very similar title to the proposed degree program, and similar curricular and admission requirements. The programs at Western University and Brock University do not have formalized academic pathway agreements for graduates of an undergraduate program to an M.D. program.

Trent University has a number of pathways and partnerships, namely with SGU, the University of Medicine and Health Sciences (St. Kitts), Trinity School of Medicine (St. Vincent and the Grenadines) and Massachusetts College of Pharmacy and Health Sciences (United States) (see table below for details). The SGU agreement is a 4+4 pathway where after four years of study, graduates of the Bachelor Honours B.A. or B.Sc. while completing the Medical Professional Stream earn the qualifications for entry into SGU's School of Medicine (SoM) Doctor of Medicine (M.D.) program. Applicants from Trent University are required to graduate with a cumulative average of 77 per cent, complete an undergraduate interview with graduates of SGU's SoM, and meet all the admission requirements of SGU's SoM, including a letter of recommendation from the Trent University Medical Professional Stream. These students may spend their first two years studying in Grenada or choose to complete their first year at Northumbria University in the United Kingdom as part of the SGU NU/UK program before returning to Grenada for their second year. During the third and fourth years, students will complete clinical rotations in the United States, United Kingdom, or Canada.

Ontario Tech also has 4+4 pathway agreements with Saba University School of Medicine, Medical University of the Americas, St. Matthew's University School of Medicine and SGU's SoM. Graduates of Chemical Biology, Health Sciences, Human Health Science, Neuroscience, Biomedical Science and Public Health with a minimum cumulative GPA of 75 per cent are eligible for admission to the M.D. programs. Graduates must satisfactorily complete an undergraduate interview with the admissions team at one of the pathway universities, along with other steps in the admissions process.

University/ Program Title	Western University Bachelor of Medical Sciences Approximately 800 students are admitted to Medical Sciences 1 each year.
Overview	Molecular, cellular and systematic organization of the human body and the biological mechanisms it uses to adapt to environmental changes and disease. Subject Areas: Biochemistry, Epidemiology and Biostatistics, Interdisciplinary Medical Sciences, Medical Biophysics, Medical Cell Biology, Medical Health Informatics, Microbiology and Immunology, One Health, Pathology, Pharmacology, and Physiology.

Admission Requirements	OSSD Ontario Grade 12 courses required for admission include: Biology, Chemistry, Calculus, English and two other 4U/M courses. Recommended Physics Students are registered as Medical Sciences students in Years 1 and 2 and apply to the BMSc Program when they enter Year 3. Entry into the BMSc Program is competitive and limited but admission is assured for Medical Sciences 2 students who achieve a minimum average of 80%, with no mark less than 60%, in the Year 2 courses that are specific to the student's module of interest for Year 3 BMSc.
Educational or Career Pathways	Many graduates with BMSc degrees go on to pursue further education in graduate studies (MSc and/or PhD) or professional schools such as: Dentistry, Medicine, Veterinary Medicine, Pharmacy, Physical Therapy, and Optometry. Other career opportunities include: Law (bioethics, patent development); Business (biotechnology marketing, research and development, quality control); Industry (pharmaceuticals, biotechnology, biosafety regulation and enforcement); and Teaching (elementary, secondary, post-secondary).
University/ Program Title	Brock University Bachelor of Science in Medical Sciences
Overview	Medical Sciences focuses on the biophysical foundation of human health. In addition to courses in anatomy, biology, physiology and the social sciences, we offer advanced courses in clinical epidemiology, cardiology, medical microbiology and pharmacology.
Admission Requirements	OSSD English (ENG4U) Biology (SBI4U) Chemistry (SCH4U) (min. 70%) One 4U math (MDM4U preferred) Recommended Exercise Science (PSE4U) or Introductory Kinesiology (PSK4U) Data Management (MDM4U)
Educational or Career Pathways	Graduates of this program have the foundation to pursue other advanced and professional degrees in medicine, dentistry, rehabilitation or occupational therapy, among others. For instance, Physician, Dentist, Optometrist, Chiropractor, Pharmacist, and Health researcher. *Some careers may require additional education/qualifications

University/ Program Title	Trent University Medical School Pathways & Partnerships
Overview	Through these partnerships and learning experiences, students can earn a competitive edge for entry into the Schools' professional medicine programs. Students begin their journey to medical school at Trent University, where they will spend four years completing an undergraduate degree in the program of their choice while concurrently participating in unique learning opportunities to prepare for medical school through the Medical Professional Stream.
Admission Requirements	SGU Requirements • Students must graduate Trent University with a Bachelor Honours B.A. or B.Sc. while completing the Medical Professional Stream with a cumulative average of 77% • Must obtain a competitive score on the Medical College Admission Test (MCAT), within three points of the prior term average score at St. George's • Complete an undergraduate interview with graduates of St. George's University • Meet all the admission requirements of St. George's University School of Medicine • A letter of recommendation from the Trent University Medical Professional Stream University of Medicine and Health Sciences (St. Kitts) Pathway • Completion of 20 credits of university level courses and the required prerequisite courses • An overall Grade Point Average of 3.2 (77%) or higher • No grade lower than a "C" (65%) in any of the prerequisite courses • Minimum MCAT score of 490 for those applicants applying to the Standard Basic Science Program • Applicants that do not meet this minimum MCAT requirement or do not have an MCAT score will be reviewed for the Extended Basic Sciences Program (5 semesters) or the Accelerated Review Program • A recommendation for admission by UMHS interviewer who interviewed the applicant • A written recommendation from Trent attesting to the candidate's preparation and that they are suitable for the study and practice of medicine. Trinity School of Medicine (Saint Vincent and the Grenadines) Pathway

	- Students must have 90 credit hours of undergraduate coursework or equivalent to 15 credits in Trent University standards, with a concentration of courses in the sciences (biology, chemistry and biochemistry) - Students should have a 77% cumulative grade average - The MCAT is no longer required for admission. - An interview with TMSU and two letters of recommendation Massachusetts College of Pharmacy and Health Sciences Pathway - Graduate from Trent University with a Bachelor Honours B.A. or B.Sc. while completing the Medical Professional Stream (MPS) - Achieve a competitive cumulative average (minimum 77%) - Complete an undergraduate interview with MCPHS admissions representatives - Submit a letter of recommendation from the Trent University MPS program - Meet all MCPHS admission requirements - MCAT not required for admission
Educational or Career Pathways	SGU University of Medicine and Health Sciences (St. Kitts) Pathway Trinity School of Medicine (Saint Vincent and the Grenadines) Pathway - Doctor - Surgeon - Anesthesiologist - Policy Advisor - Medical Researcher - General Practitioner - Professor Massachusetts College of Pharmacy and Health Sciences Pathway - Pharmacist - Optometrist - Clinical Researcher - Healthcare Consultant
University/ Program Title	Ontario Tech University Medical School Pathway
Overview	Ontario Tech students who successfully graduate from the following programs with a minimum cumulative GPA of 75 per cent* will be eligible for admission** to the Doctor of Medicine (MD) program at Saba University School of Medicine, Medical University of the Americas, St. Matthew's University School of Medicine or St. George's University of Grenada School of Medicine:

	• Chemical Biology • Health Sciences • Human Health Science • Neuroscience • Biomedical Science • Public Health *Ontario Tech graduates with a GPA lower than 75 per cent will be considered on an individual basis and subject to seat availability. **To receive entry, Ontario Tech graduates must satisfactorily complete an undergraduate interview with the admissions team at one of the pathway universities, along with other steps in the admissions process.
Admission Requirements	The following courses are the pre-medical requirements for admission Biology: One-year General Biology or Zoology course with a laboratory requirement. Students who elect to pursue additional coursework in the Biological Sciences should consider Genetics, Embryology, Cell and Molecular Biology, or Comparative Anatomy. Chemistry: One year of Organic Chemistry with a laboratory component. Biochemistry can be considered as an option for one semester of Organic Chemistry. English: At least one year of post-secondary level English literature, composition or communications.
Educational or Career Pathways	• Doctor • Surgeon • Anesthesiologist • Policy Advisor • Medical Researcher • General Practitioner • Professor

Comparable Program in Canada

The only Canadian 2+4 program combining an undergraduate Bachelor of Medical Science with a professional degree in the medical field is the [University of Alberta pathway for Doctor of Dental Surgery \(DDS\) students](#). Students can enter with two years of post-secondary education in the social sciences, general or physical science or engineering, and obtain a Bachelor of Medical Science degree after two years in the DDS program. The proposed UW BMSci program presents a route through an international institution, and as such is not constrained by availability in a Canadian medical school.

Rationale for Proposed Program

The impetus for proposing this new program stems from the need in Ontario and Canada for physicians and a potential solution to the current limitations for training physicians in medical

schools. Currently 2.5 million people in Ontario are without a family physician and that number is expected to double in two years (CBC, [Number of Ontarians without family doctor reaches 2.5 million, college says](#), July 12, 2024; Ontario Medical Association [News release](#), January 29, 2024). This amounts to approximately 2.8 physicians per 1000 people ([Ontario Medical Association Fact Sheet: Ontario's Doctor Shortage](#)). Despite forecasts that the shortage will worsen, enrolment at the 17 medical schools in Canada have not been permitted to increase at a rate that closes the gap, unlike our United States counterpart “which is nearing a targeted increase of 30 per cent set by the Association of American Medical Colleges in 2006 to address a projected physician shortage” (Owens, B., October 22, 2018, [If Canada needs more doctors, why hasn't medical school enrolment increased?](#) Canadian Medical Association Journal).

This agreement between the UW and SGU is timely. Since SGU has the capacity to accept a higher number of incoming medical students, the proposed program provides students access to medical training that has the potential to close the skills gap. Benefiting from the success of an existing 2+4 agreement with [Northumbria University](#) (NU) in the United Kingdom (UK), the UW will be the institution in the North American space to provide access to the preclinical courses and medical training⁵ at SGU.

Based on the data from SGU, there are a number of Canadian students entering SGU directly to do their two preparatory years followed by the M.D. program and currently paying the tuition fee and travelling internationally to obtain this medical training. SGU has reported that over the past 40 years approximately 2,400 Canadian students have graduated with an M.D. degree, 203 have secured Canadian Residencies and 125 are practicing in Ontario. There have been 68 graduates with a UW undergraduate degree who have proceeded to enrol in the SGU M.D. program between 1989 and 2020, with 24 UW graduates currently enrolled.

Canadian and American students achieved a 96 per cent first time pass rate on the United States Medical Licensing Examination (USMLE) Step 1. This is not surprising considering students in the proposed program have access to medical professionals, including SGU's Medical School instructors and advisors, and courses developed and delivered by SGU (2B term), referred to as the 'mirror' term. The content of the mirror term parallels the agreement between SGU and [NU](#) and is designed to provide students at NU and the UW an equivalent educational experience and comparable entry requirement for the clinical courses in the M.D. program. With past UW graduates succeeding in these exams, it is predicted that this proposed program will also generate successful graduates of the M.D. program.

With the implementation of this new proposed program and agreement with SGU, it is expected that SGU enrolment of Ontario students could grow to align with North American students' preference to remain closer to home for the first two years of post-secondary education. The UW/SGU partnership is well placed to provide students with an alternate avenue to pursue their MD and clear pathways to return to Canada as a practicing physician.

⁵ The agreement to support this proposed program is two-way between SGU and the UW. It is consistent with the successful program at NU to ensure students are equally prepared. NU is an external consultant to provide guidance and direction on how to structure the agreement.

2. EVALUATION CRITERIA

2.1 Objectives of the program (QAF 2.1.2.1)

Program Objectives (POs)

- To provide a multidisciplinary program with theoretical and applied courses in the health sciences, liberal/communication arts and science.
- To teach students the significance of approaching clinical reasoning with a sensitivity and responsiveness to a diverse patient population.
- To provide students with opportunities to engage in an intellectual curiosity for new knowledge, guidelines, standards, technologies, products, services and resources that improve outcomes for patients and provide optimal healthcare.
- To provide a program where students develop the self-evaluation skills and passion for life-long learning that improves patient care and maintains a healthy professional identity.
- To provide students with experiential learning opportunities to gain the communication, professional and ethical skills to support collaborative and trusting relationships with patients, families, and all members of the health care team to advance patient care.

Nomenclature

The proposed title for the four-year degree is Honours Bachelor of Medical Sciences (BMSci). It meets degree level standards in credential, subject matter and outcomes. The courses at the UW have had curricular and instructional support by Educational Developers in the Centre for Teaching Excellence (CTE), who are familiar with degree level study. The title of the proposed program reflects the level of postsecondary education achieved and is consistent with the nomenclature of similar degrees in the sector, facilitating public understanding of the credential. By way of example, Western University, [Bachelor of Medical Sciences](#), and Brock University, [Bachelor of Science in Medical Sciences](#), have similar and most notably recognizable program titles.

Program Learning Outcomes (PLOs)

By the time of graduation, all students will be able to:

1. Apply communication tools and techniques to engage in a professional and respectful manner with various audiences and mediums.
2. Describe the etiology, pathogenesis, structural and molecular alterations as they relate to the signs, symptoms, laboratory results, imaging investigations and causes of common and important diseases.
3. Incorporate biological factors, such as aging, genetic and epigenetic, nutritional, molecular reactivity, and their effects on human health.
4. Incorporate the psycho-socio-cultural factors, such as behavior, psychological, cultural, environmental, economic, geographical, religious, and their effects on human health.
5. Apply scientific health information in clinical reasoning.
6. Evaluate scientific studies and evidence-based therapeutic strategies to determine the best options for the prevention, treatment and palliation of disease.

7. Adhere to ethical behaviour that respects diversity and patient autonomy, and act in accordance with ethical codes of conduct, following patient privacy and informed consent procedures.
8. Commit to self-evaluation and life-long learning by investigating and evaluating professional practices, engaging in professional development and seeking professional networking and mentorship opportunities to improve patient care and maintain a healthy professional identity.
9. Assess healthcare systems, resources, services and patient care.

Alignment with Strategic Plans

The partnership with SGU is in the spirit of the UW's historical foundation of "[c]onnecting with our community and being engaged nationally and globally". It champions the UW's and Science's commitment to interdisciplinary and international educational opportunities that empower students to forge connections and engagement with communities more broadly. Science is committed to "[d]eveloping programs to support employees and students [that] create a strong, supportive community where people have the tools they need to succeed". The students of the proposed program engage with a community of peers, colleagues and healthcare professionals to forge, as graduates, social connections on a global scale.

This partnership recognizes the strength of the UW's intellectual and research talent, strength of the academic programs, and the rich student experience evident in programs at the university. The proposed program removes systemic barriers to achieving personal, academic and professional goals and contributes strong future talent to address the urgent need for physicians globally. The launch of the proposed program in Fall 2026 increases the number and diversity of medical school pathways at the UW and increases the undergraduate enrolment in Science. Students accessing this diverse learning experience and educational pathway will be strong future-ready talent and global citizens addressing a rapidly changing and complex future.

Equity

Addressing equity, diversity and inclusion (EDI) in Science responds to one of the three main pillars in the UW's Strategic plan: "strengthening sustainable and diverse communities". For instance, the Department of Biology's and Physics' commitment to EDI is directly in line with a commitment to a strong, diverse, and productive community. Empirical studies have repeatedly demonstrated that highly diverse environments improve team productivity and decision making. Ensuring department members feel safe and empowered within their place of work will help members maximize their potential and strengthen research and teaching outcomes.

There have been many developments and initiatives aimed at addressing equity. For instance, the Department of Physics has been addressing the underrepresentation of women since 2016. Below is a list of initiatives:

- The Department invited a Site Visit from the American Physical Society's Committee on the Status of Women in Physics, March 20-23, 2016. The committee found that "the Department has a collegial environment for faculty" and that the visit itself is a "clear indication that the Department is willing to work towards making an equally welcome environment for all members of the community". They provided a written report with

recommendations and action items to the Chair which was made available to faculty and staff. Many of the recommendations and action items have been addressed.

- Departmental support for FemPhys, a community of undergraduate and graduate students in physics and related fields. They hold regular events and discussions around a variety of social and academic topics, often related to equity. Physics provides the club with newly renovated space, a faculty liaison, and some financial support.
- Departmental funding (about \$3000/year) to partially subsidize students who wish to attend the Women in Physics Canada (WIPC) and the Canadian Conference for Undergraduate Women in Physics (CCUWiP) conferences, in addition to the annual meeting of the Canadian Association of Physicists (CAP). Approximately ten students per year are supported through these funds.
- Departmental seminars and colloquia about equity (1-2 per year).
- Physics participated in an intervention led by the College Transition Collaborative (CTC) and provided partial financial support.
- Hiring procedures have been overhauled. Equity training for hiring committees, conducted through the Office of Equity, Diversity, Inclusion and Anti-Racism, is now mandatory for all members. In addition, we have changed our procedures to adopt best practices, including asking standardized questions of all candidates during interviews.
- Online content (e.g., course outlines) have been updated to conform to Accessibility requirements.

Another example is the formation of the Department of Biology Equity, Diversity, and Inclusion (EDI) committee initiated in January 2021. An internal survey of staff, lecturers, and faculty identified areas for improvement and was the impetus for formation of this committee. There was considerable enthusiasm within the department for the committee.

Activities to date: The EDI committee built a website which is hosted within the Department of Biology [website](#), including a resource page with compiled resources from reputable sources addressing diverse topics within the EDI space. The website also has an anonymous comment form, to encourage confidential feedback. A fact sheet on [Microaggressions](#) was developed and circulated to the department, addressing an identified issue within the Department. The fact sheets focus on definitions of a given issue of interest and suggest ways to address the issue from the perspective of perpetrators, observers, and the impacted individuals. The number of fact sheets is impressive and the development of more is underway.

The EDI committee partnered with Science Outreach and the Earth Sciences Museum to host an exhibit featuring Dr. Anne Dagg's writings on women in science with a display of artifacts from her career as an internationally recognized giraffologist. The exhibit ran from August to November 2022 in the STC main lobby. The EDI committee hosted Dr. Dagg and her daughter Mary for a Q&A and meet and greet at the close of the exhibit.

In the Winter 2023, the EDI committee ran a 12-Week EDI Challenge for the Department of Biology graduate students, postdoctoral fellows, staff, instructors, and faculty members. The challenge consisted of a weekly email on a topic (e.g., racism, LGBTQ2SIA+ identities, Indigenous rights) which provided 1-3 quick challenges to connect with the topic (including highlighting UW-specific resources, organizations, and clubs) and a series of reflective

questions. Each week also included opportunities for a deeper examination of the topic through books, podcasts, workshops, and options to expand the participants' networks.

The 12-Week EDI challenge highlighted workshops and courses available at the UW or freely available elsewhere on topics including Indigenous Rights and sexism. The EDI Challenge also shared resources and quick actions members of the Department could take to improve equity or inclusion in their teaching and research activities, including suggestions to list pronouns, improve diversity of highlighted scientists within lectures, and a science-themed safe space poster.

In teaching and learning activities (e.g., courses, workshops, seminars, etc.), the Biology Department EDI committee has liaised with the Seminar committee to improve diversity within the speaker series and include speakers with research examining EDI considerations. Highlights of this collaboration include Dr. Juliet Daniels from McMaster University, who researches cancer in underrepresented populations, Dr. Lauren Esposito from CalAcademy, who is the co-founder for the network of 500 Queer Scientists, and Mr. Myeengun Henry, the UW Health Sciences Indigenous Knowledge Holder.

The Department of Biology has been steadily improving the diversity within their faculty demographics. A mentorship program has been developed, which helps to ensure members of underrepresented groups do not feel isolated and have equal knowledge of and access to resources on campus.

Resources

University of Waterloo. Faculty of Science (n.d.) [Future of Science](#), Strategic Plan 2024-2029.
University of Waterloo. (n.d.) [Connecting Imagination with Impact](#), Strategic Plan 2020-2025.

2.2 Program Requirements (QAF 2.1.2.2)

Subject Areas and Scaffolding

The program's structure and curricular requirements meet the program objectives and program-level learning outcomes through a scaffolded curricular approach that includes increasing complexity of subject matter and assessment of student proficiency. During the first year of study, the students are introduced to the foundational subject areas in science, chemistry, biology and physics. This is expanded during the second year, to capture the more complex examples in anatomy, organic chemistry, biochemistry, physiology and psychopathology. As the students progress through year three, they are challenged to apply the fundamental knowledge of natural science to better understand human systems, for example, musculoskeletal, cardiovascular, pulmonary and renal systems. During the fourth and final year of the program, students work to develop evidence-based therapeutic strategies to determine the best options for the prevention, treatment and palliation of disease.

In-person Delivery

The proposed program is composed of courses that will rely on in-person delivery. The in-person delivery, in addition to the structure, curricular requirements and the teaching and assessment practices, facilitates the students' successful achievement of the POs and PLOs.

Courses may choose to engage students online as well. In-person delivery is significant for the students' ability to engage in active learning and experiential learning opportunities to support them to solve clinical problems and apply communication skills to engage in an ethical and professional manner. Students will have access to laboratories for hands-on skills and application of knowledge, tools and methodologies to support clinical reasoning.

The curriculum for the BMSci program aligns with the preparatory two years delivered by NU. These students have demonstrated strong success in U.S. licensing examinations (USMLEs), success matching residencies, and have obtained work as physicians in many different countries. With this success, we are confident that the foundations of this proposed program are well aimed to develop the skills needed for students' success.

Program Currency: SGU⁶

The curriculum for the 6- and 5-Year tracks (see [Appendix B](#)) falls under the Joint Curriculum Committee of the Pre-Clinical Sciences Program (JCC-PCSP) which is a sub-committee of the Basic Sciences Curriculum Committee for the 4-year M.D. program and the Curriculum Committee of the School of Arts and Sciences (SAS). The JCC-PCSP is formed with School of Medicine (SOM) faculty, SAS Faculty, and student representatives from the student government.

The M.D. program has a four-year cycle of curriculum review that includes all faculty from the M.D. program including clinical faculty who are residency directors from affiliated hospital sites that are also affiliated SGU faculty and in some cases also serve as faculty for other medical schools. These are industry specialists and affiliated faculty of SGU in the clinical setting; they work across the healthcare sector in the UK and USA and are often responsible for postgraduate medical training and residency administration outside of their SGU-SOM role. The pre-medical program follows an adjusted program review based on the cadence of the M.D. review process, where every four years there is a whole curriculum review. This is scheduled for Spring 2025 and is the first cycle of a new review pattern as adopted by the curriculum committee.

Additionally, the SOM board is designated as a set of academic and industry representatives that act as the governance committee for the SOM M.D. program, but may also advise on pre-med and feeder programs for the SOM. The Admissions Policy Board of the School of Medicine (APBSOM) establishes policies and regulations for admissions requirements, including the feeder programs.

2.3 Assessment of teaching and learning (QAF 2.1.2.4)

The grading and assessment of student succession throughout the proposed program aligns with the practices currently used in existing programs in Science. Students will learn through lectures, laboratory classes, and small group work. They will submit written assignments, engage with case analyses, participate in group and individual assignments, deliver presentations, complete examinations (mid-term tests and final examinations) and

⁶ See 2.7 Quality and other indicators below for a discussion about Faculty Currency at UW and SGU.

participate in simulation or performance-based assessments. See [Appendix A](#) for a curriculum map of the courses and assessments to the PLOs and Undergraduate Degree Level Expectations ([UDLEs](#)).

Written assignments are effective in assessing students' ability to express understanding, analysis, and interpretation of a topic, issue, question, or prompt provided by an instructor. Written assignments can take various forms, such as essays - argumentative, expository, analytical, and reflective – research projects, online discussion posts, presentations and reports. These types of assessments meet the POs and PLOs that address the application of communication strategies (PO#1, PLO#1), the description of science-related technical content as it relates to other forms of information (PLO#2), the evaluation of scientific content (PO#3, PLO#6) and the commitment to self-reflective practice for the health care professional and engaging in networking opportunities (PO#4, PLO#8).

Case analysis prepares students to engage in an analysis and/or evaluation of a specific case study, in which key issues/problems are identified and practical solutions or recommendations are proposed. This supports students to meet the expectation to incorporate psycho-social, institutional (PLO#9) and scientific information to assess the impact on human health (PO#1, PLO#3, PLO#4). Case study analysis provides students the opportunity to demonstrate critical thinking and critical reasoning skills (PO#2, PLO#5) in the application of specific knowledge and skills in activities that simulate real-life situations. It also facilitates opportunities to practice and receive feedback from colleagues and instructors to build respectful professional relationships (PLO#7, PLO#8, PLO#9). Students' participation in collaborative tasks and/or projects involving small groups assess their collective and individual learning outcomes, skills, and abilities. Group work focuses on evaluating students' capacity to work effectively as part of a team, solve problems collaboratively, communicate ideas, and achieve shared goals. This supports PLOs that address adherence to ethical and respectful behaviour (PO#5, PLO#7) and building a strong professional identity (PO#4, PLO#8).

Tests and examinations are used in the proposed program to prepare students to demonstrate their knowledge, understanding, and skills without access to any external resources or materials, perform specific skills, tasks, procedures, or demonstrations within a controlled setting. These types of assessments focus on assessing scientific knowledge (PLO#6), demonstrating technical proficiency (PLO#2), and applying theoretical concepts (PO#3, PLO#5).

Students also engage in simulation or performance-based assessments. These are structured educational experiences to engage in hands-on learning and practical training within a professional setting relevant to the discipline studied. Students demonstrate critical thinking (PO#2, PLO#5), the application of specific knowledge and skills in activities that simulate real-life situations (PO#5, PLO#6) and professionalism (PO#4, PLO#7).

Students develop theoretical knowledge across eight terms through a program curriculum scaffolded with increasing complexity and detailed knowledge expectations (Depth and Breadth & Diversity). The use of a variety of assessment practices supports learners in applying concepts (Application of Knowledge), theory and methods (Knowledge of Methodologies), procedural skills (Experiential Learning & Autonomy and Professional

Capacity), communication strategies (Communication Skills) and clinical reasoning (Application of Knowledge & Awareness of Limits of Knowledge) to inform medical care. The assessments will be diversified and challenge students to apply the knowledge and skills to demonstrate proficiency in meeting the POs and PLOs.

Overall course grades will be based on the student's performance on these various assessments and serve to evaluate the achievement of the Degree Level Expectations, POs and PLOs. Each will be measured by several assessments embedded in the courses throughout the curriculum. Student performance on these and the final assessments will be measured against pre-established performance benchmarks and conveyed using rubrics, where appropriate. See a curriculum map of the PLOs aligned to the [UDLEs](#), courses and assessments in [Appendix A](#).

Quality Assurance: Academic Curriculum Alignment

The UW and SGU share the responsibility for curricular quality control of the proposed program (see Program Currency above for discussion about industry engagement and academic quality measures). Quality of provision is the responsibility of all managerial, academic, administrative and technical staff associated with the proposed program. The proposed program shall be subject to UW's Institutional Quality Assurance Processes (alignment with POs, PLOs and Degree Level Expectations) and SGU's reasonable academic standards, according to the agreement.

As is the case for both UW and SGU instructor expectations, instructors are responsible to deliver and assess the subject, maintain appropriate records and have academic oversight, this includes responsibility for all Quality Assurance procedures, such as the co-ordination, organisation and development of the content and the delivery of the course(s) and co-ordination and organisation of assessment of the course(s).

A joint academic management structure will be defined by both institutions to support curriculum co-ordination, ensure academic quality, establish joint systems and arbitrate any concerns or problems. This structure centers on the appointment of representatives or appointed designates (known as Partnership Managers) at both institutions. Partnership Managers will be responsible for implementing the structure and for revising as needed for the continued administration of the proposed program. The UW Partnership Managers will be responsible for the proposed program and ultimately, the relevant academic outcomes. A Joint Steering Committee will meet quarterly to discuss issues arising from the operation of the proposed program, including recruitment, financial performance, fees and other related matters.

Graduate Metrics

The Advancement Office in Science ([University of Waterloo Faculty of Science](#)) collects data at various points in time. The first is at convocation where the graduate scans a QR code and provides information about their next steps. At year one and five, incentivized surveys are distributed. The objective of these surveys is to update contact information and employment. The office is also responsible for participating in the cyclical review and collects data relevant to the Department's needs.

SGU maintains records of all graduates from the M.D. program, including student residency specialty and location. From these records, UW will be able to connect with Canadian physicians and graduates of UW's BMSci program. To date, SGU is aware of four UW graduates who continued and obtained an SGU M.D. degree and who obtained an Ontario residency (Emergency Medicine, Internal Medicine and two in Family Medicine).

2.4 Admission Requirements (QAF 2.1.2.5)

This proposed program is a full-time and a fully on-campus delivery (see 2.2 Program Requirements above for a description of the significance of an in-person delivery). Courses retain the freedom to require students to engage with online material, including online assessments, at the discretion of the instructor.

For direct entry from high school, an Ontario Secondary School Diploma (OSSD) with an overall average of at least 90 per cent with a strong science performance, are the typical requirements for entry to SGU pre-clinical programs. The students admitted into the BMSci program will have met SGU admission requirements. SGU also undertakes a holistic admission process where students are examined for personal characteristics such as motivation for medicine, empathy and compassion, communication skills, critical thinking and curiosity, resilience, and teamwork, are also important in the selection process. These factors are viewed in combination to consider how an individual might contribute value not only as a medical student but also as a future physician.

2.5 Resources (QAF 2.1.2.6)

Given the program's planned / anticipated class sizes and cohorts as well as its program-level learning outcomes:

- a) Provide evidence of participation of a sufficient number and quality of core faculty who are competent to teach and/or supervise in and achieve the goals of the program and foster the appropriate academic environment;

NOTE: It may be helpful to create a table or map detailing faculty teaching assignments.

Year/ Term	Course Title	Units	Professor/ Faculty	Highest Qualification Earned and Discipline of Study	Appointment (Regular/ Adjunct/PT/ Limited Term)	Expertise ⁷ (qualifications, funding, honours, awards, research, innovation and scholarly record, etc.)
1/A	CHEM 120: General Chemistry 1 Equivalent: CHEM 122 (SGU)	0.5	Laura Ingram Associate Professor, Teaching Stream Department of Chemistry	Ph.D. Organic Chemistry	Regular	2022 University of Waterloo WUSA Excellence in Undergraduate Teaching Award 2009 Author of three published journal articles (2006, 2009, 2011), one of which was a "Featured Article" in the Journal of Organic Chemistry 2007-2010 NSERC Council of Canada Postgraduate Scholarship (Doctoral) 2007 Dean of Science Award for Outstanding Research in a Chemistry M.Sc. Program 2007-2010 University of Waterloo President's Graduate Scholarship 2007 University of Waterloo Provost Doctoral Entrance Award 2008 & 2005 Poster Awards for Biological and Medicinal Chemistry – CSC Conference 2006 Oral Presentation Award for Organic Chemistry – CSC Conference
	CHEM 120L: General Chemistry Laboratory 1	0.25	Sue Stathopoulos Laboratory Instructor	BSc – Honours Science	Staff	Workshops UW First Year Science student workshop: 2022-2024 Marketing your science skills

⁷ Only select information, to streamline the table, is included on this table. CVs, which have more detail about community engagement, graduate student advising, and publications, for instance are available for review in Volume 3.

Year/ Term	Course Title	Units	Professor/ Faculty	Highest Qualification Earned and Discipline of Study	Appointment (Regular/ Adjunct/PT/ Limited Term)	Expertise ⁷ (qualifications, funding, honours, awards, research, innovation and scholarly record, etc.)
			Department of Chemistry			SHAD Canada 3-day chemistry workshop: 2024 topic – green chemistry SHAD Canada 3-day chemistry workshop: 2023 topic – technology in the laboratory STAO 2016: Workshop presentation: Taking the fear out of the first-year chemistry lab Gairdner Lecture workshop: Topic- Reaction Kinetics and Rate Laws TD Discovery Days workshops: Topic – Vitamin C analysis Chem Ed Conference: Workshop presentation: First-year Chemistry Success UW Living Learning Community workshop: Topic – Writing Laboratory Reports BCCE 1998: Chemicals and Equipment Chair Chem Ed 2013: Logistics Chair
	PSYCH 101: Introductory Psychology Equivalent: PHYC 201 (SGU)	0.5	Paul Wehr Associate Professor, Teaching Stream Department of Psychology	Ph.D. Psychology	Regular	Awards 2019 University of Waterloo Online Course Design Award for PSYCH101. 2018 – 2020 Arts First Teaching Fellow with grant (CDN 2,000), University of Waterloo. 2016 – 2017 Learning Innovation and Technology Enhancement Full Grant (CDN 30,000), University of Waterloo. 2011 Recipient of the Knox Master Teaching Award for best sessional instructor in the psychology department at UBC, as voted by the student body.

Year/ Term	Course Title	Units	Professor/ Faculty	Highest Qualification Earned and Discipline of Study	Appointment (Regular/ Adjunct/PT/ Limited Term)	Expertise ⁷ (qualifications, funding, honours, awards, research, innovation and scholarly record, etc.)
						2007 Recipient of an Award for Teaching Excellence, Kwantlen Polytechnic University. Student nominated award. 2011, 2012 Notice of Special Recognition, Capilano University. Submitted by graduating students to thank a faculty or staff member who made an impact on their life, or who helped them to achieve their educational goals. 2004 – 2006 Centre of Excellence Research Grant (CDN 10,000), Hokkaido University. 2000 – 2003 University Graduate Fellowship (CDN 40,000), University of British Columbia. 1998 Best Thesis in Psychology, Nomination, CSULB
	PHYS 105: Introduction to Physics for the Health Care Professions (new) Equivalent: PHYS 200 (SGU)	0.5	Stefan Idziak Associate Dean of Science for Experiential Education and Computing Department of Physics and Astronomy	Ph.D., Physics	Regular	Awards 2022 Excellence in Science Teaching Award 2018 Youth Science Canada Distinguished Service Award 2000 Premier's Research Excellence Award 1987 Dean's Fellow, University of Pennsylvania 1986 Robert E. Bell Prize University Scholar, McGill University; E. R. Crawford Scholarship, McGill University
	HLTH 101: Introduction to Health 1 Equivalent: PUBH 302 (SGU)	0.5	Diane E. (Ronan) Williams Associate Director Undergrad	Ph.D. Speech and Hearing Bioscience and Technology	Regular	Academic Awards and Distinctions April 2003-2004 Vollum Institute Training Grant, Oregon Health and Sciences University. June 24-July 1, 2001 NSF Fellowship to attend the 4th international IEEE EMBS (Engineering in Medicine and Biology Society) Summer School on

Year/ Term	Course Title	Units	Professor/ Faculty	Highest Qualification Earned and Discipline of Study	Appointment (Regular/ Adjunct/PT/ Limited Term)	Expertise ⁷ (qualifications, funding, honours, awards, research, innovation and scholarly record, etc.)
			Faculty of Health, School of Public Health Sciences			Biocomplexity, Bioscaling, and Biosignal Interpretation at Dartmouth College in New Hampshire.
	BIOL 130: Introductory Cell Biology	0.5	Vivian Dayeh Associate Professor, Teaching Stream Department of Biology	Ph.D., Biology	Regular	Research Grants 2024–2025 Indigenous Learning Circles in Stem Education, University of Waterloo LITE Seed Grant, \$7,500, (Principal Investigator, with collaborators B. Lee and S. Sloat) 2023–2024 Building an Accurate and Learner- Centered Library of Scientific Artwork in the Area of Human Physiology, Staebler Insurance OER Fellows Grant; \$5,000 (Principal Investigator) Scholarships/Awards 2024 Society for In Vitro Biology (SIVB) Service Award 2023 Society for In Vitro Biology (SIVB) President’s Award 2023 Society for In Vitro Biology (SIVB) Service Award 2021 Society for In Vitro Biology (SIVB) Fellow Award (2021). Awarded to those who have made a significant contribution to the field of in vitro biology and service to the society. 2021 Society for In Vitro Biology (SIVB) Service Award

Year/ Term	Course Title	Units	Professor/ Faculty	Highest Qualification Earned and Discipline of Study	Appointment (Regular/ Adjunct/PT/ Limited Term)	Expertise ⁷ (qualifications, funding, honours, awards, research, innovation and scholarly record, etc.)
						2020 University of Waterloo Outstanding Performance Award 2018 Professor Jack Carlson Teaching Excellence Award. Department of Biology, University of Waterloo
	BIOL 130L: Cell Biology Laboratory	0.25	Jola Gurska	Ph.D. Biology	Staff	Awards, Scholarships and Grants 2021-2022 University of Waterloo, CTE LITE SEED Grant, \$6800 2020-2021 University of Waterloo, CTE LITE SEED Grant, \$4000
1/B	CHEM 123: General Chemistry 2 Equivalent: CHEM 124 (SGU)	0.5	Laura Ingram Associate Professor, Teaching Stream Department of Chemistry	Ph.D. in Organic Chemistry	Regular	See General Chemistry 1 above
	CHEM 123L: General Chemistry Laboratory 2 Equivalent: CHEM 125 (SGU)	0.25	Sue Stathopoulos		Staff	See General Chemistry Laboratory 1
	KIN 146: Introduction to Human Nutrition Equivalent: NUTR 201 (SGU)	0.5	Ken D. Stark Professor Department of Kinesiology and Health Sciences	Ph.D. Human Biology and Nutritional Science	Regular	Academic Awards and Distinctions 2017-2022 Tier 2 CIHR Canada Research Chair Renewal 2012-2017 Tier 2 CIHR Canada Research Chair 2009 Early Researcher Award – Ontario Ministry of Research and Innovation 2009 Young Scientist Award - American Oil Chemists' Society

Year/ Term	Course Title	Units	Professor/ Faculty	Highest Qualification Earned and Discipline of Study	Appointment (Regular/ Adjunct/PT/ Limited Term)	Expertise ⁷ (qualifications, funding, honours, awards, research, innovation and scholarly record, etc.)
						2006 Young Investigator Grant - International Society for the Study of Fatty Acids and Lipids 2005 – 2007 New Investigator Scholarship - GENESIS ICE Team (Canadian Institutes of Health Research/Heart and Stroke Foundation of Canada Interdisciplinary Capacity Enhancement Team. Gender and Sex Determinants of Cardiovascular Disease: From Bench to Beyond) Scholarly and Professional Activities Grant Review Activity 2024 NSERC Discovery Grant External Reviewer (X1) 2022 NSERC Discovery Grant External Reviewer (X2) 2021 NSERC Discovery Grant External Reviewer (X2) 2018 CFI Leaders Fund External Reviewer 2018-2019 CIHR College of Reviewers 2018 NSERC Discovery Grant External Reviewer 2017 UW Network for Aging Research Catalyst Grant 2017 NSERC Discovery Grant External Reviewer (X3) 2015-2018 CIHR Vanier Canada Graduate Scholarships selection committee
	BIOL 201: Human Anatomy Equivalent: BIOL 101 (SGU)	0.5)	Michael Bording-Jorgensen Assistant Professor, Teaching Stream	PhD in Physiology	Regular	Funding 2023 Farncombe Family Digestive Health Research Institute Postdoctoral Fellowship Project: Therapeutic effects of new-generation anti-proteolytic probiotics in colitis

Year/ Term	Course Title	Units	Professor/ Faculty	Highest Qualification Earned and Discipline of Study	Appointment (Regular/ Adjunct/PT/ Limited Term)	Expertise ⁷ (qualifications, funding, honours, awards, research, innovation and scholarly record, etc.)
			Department of Biology & Vivian Dayeh (see details above)			2021 Weston Family Foundation Proof-of-Principle LOI Project Title: Dietary fibers: feeding the microbiome, or fueling inflammation in diseases of dysbiosis Principle Applicant: Dr. Heather Armstrong Role: Co-Applicant 2020-2022 Postdoctoral Fellowship November Funding Agency: Mitacs Elevate and W. Garfield Weston Foundation Project Title: Fibre in Children with Inflammatory Bowel Diseases: Feeding Our Microbes vs. Fuelling Inflammation Professional Awards 2024 Canadian Digestive Disease Week Poster of Distinction – Canadian Association of Gastroenterology 2023 Farncombe Family Digestive Health Research Institute Research Day Poster Award 2023 Canadian Digestive Disease Week Poster of Distinction – Canadian Association of Gastroenterology 2022 Canadian Digestive Disease Week Poster of Distinction – Canadian Association of Gastroenterology 2021 Division of Gastroenterology Top Poster Award 2020-2022 Mitacs Elevate Post-Doctoral Fellowship

Year/ Term	Course Title	Units	Professor/ Faculty	Highest Qualification Earned and Discipline of Study	Appointment (Regular/ Adjunct/PT/ Limited Term)	Expertise ⁷ (qualifications, funding, honours, awards, research, innovation and scholarly record, etc.)
	BIOL 239: Genetics Equivalent: BIOL 320 (SGU)	0.5	Jacqueline MacDonald Assistant Professor Department of Biology	Ph.D. Chemical Engineering and Applied Chemistry	Regular	Scholarships and Awards 2012-2015 NSERC Visiting Fellowship, \$150,000 2011-2012 Biozone Graduate Scholarship, \$3,000 2011-2012 McAllister Graduate Fellowship, \$2,500 2010-2011 Doctoral Completion Award, \$3,560 2008-2009 Ontario Graduate Scholarship in Science and Technology, \$15,000 2007-2008 University of Toronto Open Fellowship, \$19,000 2000-2004 Dean's Honor List (all 4 years) 2000-2001 Western Scholar Award, \$750
	HLTH 204: Quantitative Approaches to Health Science Equivalent: MATH 220 (SGU)	0.5	Ashok Chaurasia Associate Professor School of Public Health Sciences	Ph.D. Statistics	Regular	Academic Awards and Distinctions 2023 Nominated for the 2023 Faculty of Health Mid-Career Graduate Mentorship Award. 2022 Applied Health Sciences Teaching Award Co- recipient, University of Waterloo. 2017-2018 Nominated for Applied Health Sciences Teaching Award, University of Waterloo. 2014 Young Researcher Travel Award for Ordered Data Analysis, Models, and Health Research Models: An International Conference. Research Grants and Contracts 2022-2023 Project Grant, Government of Alberta, Can traumatic events across the lifespan affect cardiovascular and metabolic health in first responders? \$56,898.01 (CAD) 2021-2022 Operating Grant: Emerging COVID-19 Research Gaps & Priorities - Indigenous Health

Year/ Term	Course Title	Units	Professor/ Faculty	Highest Qualification Earned and Discipline of Study	Appointment (Regular/ Adjunct/PT/ Limited Term)	Expertise ⁷ (qualifications, funding, honours, awards, research, innovation and scholarly record, etc.)
						Research, CIHR, What impacts COVID-19 vaccine uptake in Métis Citizens in Ontario? A population-based data linkage study., \$181,960 (CAD) 2018-2024 NSERC Discovery Grant, NSERC, Power calculators for studies with designed missingness., PI, \$92, 000 (CAD) 2018-2022 Project Grant, Occupational Health and Safety, An exploration of the occupational and psychosocial variables moderating the biological embedding of stress within firefighters., \$43,439.16 (CAD) 2018-2022 Project Grant, CIHR, Beyond diarrhea, to disability and death: uncovering the hidden health consequences of foodborne infections. \$585,224 (CAD) 2016-2021 Project Grant, CIHR, Extension of the COMPASS Study: building on our current success shaping the direction of youth health. \$1,578,695 (CAD)
	HLTH 107: Sociology of Activity, Health, and Well-Being UCR equivalency	0.5	Michelle Ogrodnik Assistant Professor, Teaching Stream Department of Kinesiology and Health Sciences, Faculty of Health	Ph.D.	Regular	Teaching Focused Research Grants Fall 2024 Learning Innovation and Teaching Enhancement (LITE) Seed Grant. Comparison of Generative Artificial Intelligence in Health-Related Workforce and in Faculty of Health Classrooms at the University of Waterloo, \$7500 (CAD). Collaborator: Dr. Laura Williams, University of Waterloo, Centre for Teaching Excellence. Summer 2023 Student Partner Project Funding – Exploring the impact of a Senior Laboratory. Thesis on Undergraduate Student Professional

Year/ Term	Course Title	Units	Professor/ Faculty	Highest Qualification Earned and Discipline of Study	Appointment (Regular/ Adjunct/PT/ Limited Term)	Expertise ⁷ (qualifications, funding, honours, awards, research, innovation and scholarly record, etc.)
						Development as Researchers, \$2000 (CAD). Collaborators: Dr. Celeste Suart, Hailey Zubyk, Caitlin Mullarkey, and Felicia Vulcu - McMaster University, MacPherson Institute. Summer 2021 Student Partner Project Funding – Department of Kinesiology. Strategizing for Curriculum Review, \$1932 (CAD). Collaborators: Dr. Steven Bray & Krista Madsen - McMaster University, MacPherson Institute. 2021-2022 Student Partner Project Funding – Department of Kinesiology. Data Collection for Curriculum Review, \$1932 (CAD). Collaborators: Dr. Steven Bray & Krista Madsen - McMaster University, MacPherson Institute. Bursaries & Scholarships 2020-2023 Joseph-Armand Bombardier Canada Graduate Scholarship (CGS-D), \$105 000 (CAD) 2020-2021 Wilson Leadership Scholar Award, \$25 000 (CAD) 2019-2020 Ontario Graduate Scholarship (central competition), \$15 000 (CAD) 2019 Educational Developer Grants for Exchanges (EDGEs), \$2000 (CAD) 2019 Student Travel Award, Society for Teaching and Learning in Higher Education, \$475 (CAD) 2018-2019 Ontario Graduate Scholarship (central competition), \$15 000 (CAD) 2017-2018 Canada Graduate Scholarship Master's SSHRC, \$17 500 (CAD)

Year/ Term	Course Title	Units	Professor/ Faculty	Highest Qualification Earned and Discipline of Study	Appointment (Regular/ Adjunct/PT/ Limited Term)	Expertise ⁷ (qualifications, funding, honours, awards, research, innovation and scholarly record, etc.)
						Publications (sample) Karsan, S., Kuhn, T., Ogrodnik, M., Middleton, L. E., & Heisz, J. J. (2024). Exploring the interactive effect of dysfunctional sleep beliefs and mental health on sleep in university students. <i>Frontiers in Sleep</i>, 3, 1340729. Suart, C., Ogrodnik, M., & Suttie, M. (2024). Learning the landscape: Using journal clubs to introduce graduate students and early-career researchers to SoTL. In Miller-Young, J., & Chick, N. L. (Eds.), <i>Becoming a SoTL scholar</i>. Elon University. Coletta, G., Tuckey, C., McQuarrie, A., Ogrodnik, M., Nicholson, E., Phillips, S. M., & Cupido, C. (2023). A Virtual Versus In-Person Comparison of the Senior Fitness Test: A Randomized Crossover Trial. <i>Physiotherapy Canada</i>, e20230026. Ogrodnik, M., Karsan, S., Malamis, B., Kwan, M., Fenesi, B., & Heisz, J. (2023). Exploring barriers and facilitators to physical activity in adults with ADHD: A qualitative investigation. <i>Journal of Developmental and Physical Disabilities</i>. 1–21. Ogrodnik, M., Karsan, S., & Heisz, J. (2023) Mental health in adults with ADHD: Examining the relationship with cardiorespiratory fitness. <i>Journal of Attention Disorders</i>, 27(7), 698–708. Ogrodnik, M., Karsan, S., Cirone, V., & Heisz, J. (2023). Exploring the relationship between cardiorespiratory fitness and executive

Year/ Term	Course Title	Units	Professor/ Faculty	Highest Qualification Earned and Discipline of Study	Appointment (Regular/ Adjunct/PT/ Limited Term)	Expertise ⁷ (qualifications, funding, honours, awards, research, innovation and scholarly record, etc.)
						functioning in adults with ADHD. Brain Sciences, 13(4), 673. Halladay, J., Ogrodnik, M., Alla, J. F., Sunderland, M., Gardner, L. A., & Georgiades, K. (2023). Playing for more than winning: Exploring sports participation, physical activity, and belongingness and their relationship with patterns of adolescent substance use and mental health. Drug and Alcohol Dependence, 111039.
2/A	CHEM 237: Introductory Biochemistry	0.5	Thorsten Dieckmann Associate Professor Department of Chemistry	Dr. rer. nat.	Regular	Research Funding 2022-2027 NSERC Discovery Grant, Structure and Function of Aptamer based Biosensor Building Blocks (PI), \$120, 000 2019-2020 Canada Foundation for Innovation, John R. Evans Leaders Fund “High Resolution NMR Facility for Structure Elucidation” (T. Dieckmann, G. Murphy, and S. Taylor Investigators), \$352,810 2019-2020 Ontario Research Foundation, “Comprehensive update of the Chemistry NMR Facility” (T. Dieckmann, G. Murphy, and S. Taylor Investigators), \$352,810 2017-2018 OCE-VIP “DNA detection scheme for paper-based allergy tests” (PI), \$25,000
	CHEM 266: Basic Organic Chemistry 1 Equivalent: CHEM 222 (SGU)	0.5	Julie Goll	M.Sc. in Organic Chemistry	Staff	Awards and Scholarships 2023 Excellence in Science Teaching Award (University of Waterloo) 2007-2008 Ontario Graduate Scholarship (Chemistry)

Year/ Term	Course Title	Units	Professor/ Faculty	Highest Qualification Earned and Discipline of Study	Appointment (Regular/ Adjunct/PT/ Limited Term)	Expertise ⁷ (qualifications, funding, honours, awards, research, innovation and scholarly record, etc.)
						2006 Women in Chemistry Scholarship University of Waterloo) 2005-2007 Ontario Graduate Scholarship (Chemistry)
	CHEM 266L: Organic Chemistry Laboratory Equivalent: CHEM 223 (SGU)	0.25	Leanne Racicot Chemistry Instructor Department of Chemistry	Ph.D. Chemistry	Staff	Awards and Grants 2023 Gold level Green Lab certification, Undergraduate Organic Chemistry Teaching Lab 2023 Staff Enhancement Experience (SEE) Canada Grant (University of Waterloo) 2021 eCampus Ontario Virtual Learning Strategy (VLS) Grant (Organic Chemistry Virtual Labs, Principal Investigator, \$70,252) Download link: https://bit.ly/3W0Lg5p Publications Racicot, L.; Valliant, J.F., Murphy, G. K. "Synthesis and Evaluation of Fluorous-Tagged and Polystyrene-Supported Precursors for Fluoro-benziodoxole" Synthesis, 2023; 55, 2730. Cuzzucoli, F.; Racicot, L.; Valliant, J.F., Murphy, G. K. "Transition metal-free fluorocyclization of unsaturated N-methoxyamides gives cyclic N-methoxyimides" Tetrahedron, 2022, 123, 132982. Murphy, G. K.; Racicot, L.; Carle, M. S. "The Chemistry Between Hypervalent Iodine(III) Reagents and Organophosphorus Compounds" Asian J. Org. Chem., 2018, 7, 837. Zhao, Z.; Racicot, L.; Murphy, G. K. "Fluorinative Rearrangements of Substituted Phenylallenes Mediated by (Difluoroiodo)toluene: Synthesis of

Year/ Term	Course Title	Units	Professor/ Faculty	Highest Qualification Earned and Discipline of Study	Appointment (Regular/ Adjunct/PT/ Limited Term)	Expertise ⁷ (qualifications, funding, honours, awards, research, innovation and scholarly record, etc.)
						a-(Difluoromethyl)styrenes" Angew. Chem., Int. Ed., 2017, 56, 11620. Racicot, L.; Ciufolini, M. A. "Iodonium Metathesis Reactions of Unreactive Aryl Iodides" Tetrahedron, 2017, 73, 7067.
	BIOL 240: Fundamentals of Microbiology Equivalent: BIOL 401 (SGU)	0.5	Josh Neufeld Professor Department of Biology	Ph.D. Environmental Microbiology	Regular	Research Funding 2025-2030 NSERC Discovery (Nitrification and beyond: ecology and activity of nitrifiers in engineered aquatic environments) (PI), \$80,000 2023-2025 AMTD Global Talent Postdoctoral Fellowship (Aerobic methane oxidation in anoxic waters of boreal shield lakes: mechanisms, models, and microorganisms) (PI), \$80,000 2022-2025 NSERC Alliance (Validation of ammoniaoxidizing archaea and comammox Nitrospira for commercial application) (PI), \$30,000 2022-2027 NSERC Alliance (Integrated molecular profiling to explore the microbiology of deep geological repository components for storage of used nuclear fuel) (PI), \$560,000 2022-2027 Climate Action and Awareness Fund (CAAF) (Mitigation of methane emission hot-spots from municipal landfills), \$25,000 2019-2025 NSERC Discovery (Exploring nitrification within engineered aquatic environments) (PI), \$50,000
	BIOL 240L: Fundamental Microbiology Lab	0.25	Cheryl Duxbury	Ph.D. in Biology	Staff	Qualifications

Year/ Term	Course Title	Units	Professor/ Faculty	Highest Qualification Earned and Discipline of Study	Appointment (Regular/ Adjunct/PT/ Limited Term)	Expertise ⁷ (qualifications, funding, honours, awards, research, innovation and scholarly record, etc.)
						Research and education (B.Sc., M.Sc., Ph.D. and B.Ed.) encompass a diverse and extensive background of academic and applied biological sciences. Proven commitment to teaching exemplified by the attainment of a B.Ed. and an Ontario Teachers Certificate (Dean's Honour Role). Course work, laboratory teaching assistantships and research include animal, plant and microbial systems at the biochemical, cytological, physiological and toxicological levels. Familiar with the internal administration, curriculum and staff through a 35-year association with the Department of Biology at the University of Waterloo. Experienced educator, spanning introductory to advanced level courses in Biology Committed to continuous professional development by attending workshops on teaching pedagogy and supporting diverse learners in equitable environments Teaching of core courses in the Department of Biology with consistently high-performance evaluations. Have completed approximately 16 teaching assistantships for various laboratory courses ranging from introductory to senior levels in the Department of Biology.

Year/ Term	Course Title	Units	Professor/ Faculty	Highest Qualification Earned and Discipline of Study	Appointment (Regular/ Adjunct/PT/ Limited Term)	Expertise ⁷ (qualifications, funding, honours, awards, research, innovation and scholarly record, etc.)
						Conduct surveys for feedback on assessments, lecture pace and style and level of difficulty.
	BIOL 273: Principles of Human Physiology Equivalent: BIOL 202 (SGU)	0.5	TBD		Regular	
	MEDSCI 202: Communication for Health Professions I Equivalent: PCLN 302 (SGU)	0.5	TBD		Regular	
	MEDSCI 200: Learning Strategies for Preprofessional Programs Equivalent: PCLN 301 (SGU)	0.25	TBD		Contract, PT	
2/B	MEDSCI 270: Biochemistry Equivalent: CHEM 450 (SGU)	0.5	TBD		Regular	
	MEDSCI 280: Introduction to Psychopathology Equivalent: PSYC 411 (SGU)	0.5	Pamela Seeds Associate Professor, Teaching Stream Department of Psychology	Ph.D. Clinical Psychology	Regular	Honours 2017 Outstanding Performance Award, University of Waterloo 2016 Dr. Ruth Berman Award for an Early Career Psychologist, Ontario Psychological Association (OPA)
	MEDSCI 290: Molecular Biology	0.5	TBD		Regular	

Year/ Term	Course Title	Units	Professor/ Faculty	Highest Qualification Earned and Discipline of Study	Appointment (Regular/ Adjunct/PT/ Limited Term)	Expertise ⁷ (qualifications, funding, honours, awards, research, innovation and scholarly record, etc.)
	Equivalent: BIOL 321 (SGU)					
	MEDSCI 260: Human Anatomy Equivalent: BIOL 460 (SGU)	0.5	TBD		Regular	
	MEDSCI 250: Physiology Equivalent: BIOL 441 (SGU)	0.5	TBD		Regular	
	MEDSCI 203: Communication for Health Professions II Equivalent: PCLN 303 (SGU)	0.5	TBD		Regular	
3/A ^{8,9} SGU	MEDSCI 300: Basic Principles of Medicine I	2.5	Kevlian Andrew, MD, MBA Assistant Professor, Anatomical Sciences	M.D.	Regular	Andrew Administrative Appointments 2020-2021 Associate Course Director, Anatomy & Physiology 1 (BIOL 101) 11/20 – Present Assistant Year 1 Clinical Tutor Coordinator, St. George's University 2021-Present Course Director, Anatomy & Physiology 1 (BIOL 101) University Service

⁸ Please note, SGU faculty teaching courses in 3A-4B are numerous due to the collaborative and co-teaching model. Please see ([Basic Medical Sciences Faculty - St. George's University](#)) to access the SoM faculty at SGU.

⁹ General Academic Requirements at SGU

Rank Minimum Requirements at time of appointment or application for promotion:

Year/ Term	Course Title	Units	Professor/ Faculty	Highest Qualification Earned and Discipline of Study	Appointment (Regular/ Adjunct/PT/ Limited Term)	Expertise ⁷ (qualifications, funding, honours, awards, research, innovation and scholarly record, etc.)
			Subramanya Upadhya , MBBS Professor of Physiology, Neuroscience and Behavioral Sciences	DNB Varies		11/20 – Present Member, Clinical Tutor Coordinator Committee 4/21 – Present Member, Faculty Development Committee 4/21 – Present Chair, Year 1 Clinical Tutor Hiring Committee 8/21 – Present Member, Supplemental Academic Support Committee Professional Organizations 2020 – Present Member, American Association of Clinical Anatomists (AACA) Research Experience 7/20 – Present MSRI Faculty Advisor Publications Andrew K, Iwanaga J, Loukas M, et al. Does the Venus de Milo have a Spinal Deformity?. Cureus. 2018; 10(8): e3219. doi:10.7759/cureus.3219 Andrew K, Iwanaga J, Loukas M, et al. A Variant Origin of the Carotid Sinus Nerve. Cureus. 2018; 10(6): e2883. doi:10.7759/cureus.2883

Basic Sciences

Demonstrator - Bachelor's degree or equivalent; Instructor - Master's degree in an appropriate discipline; and Assistant, Associate and Full Professor - Terminal/professional degree: MD, MBBS, PhD or equivalent.

Clinical Faculty

Clinical teaching fellow MD or MBBS (without residency) without a postgraduate degree or internship; Clinical instructor MD or MBBS (without residency) without postgraduate degree, but with a completed internship; Lecturer - MD or MBBS (without residency) without postgraduate degree (e.g., MSc, MPH, MBA or other appropriate degree) in an appropriate field of study; and Assistant, Associate and Full Professor - MD or MBBS plus a postgraduate degree in their field, or board certification ([SGU SOM Faculty Handbook](#)).

Year/ Term	Course Title	Units	Professor/ Faculty	Highest Qualification Earned and Discipline of Study	Appointment (Regular/ Adjunct/PT/ Limited Term)	Expertise ⁷ (qualifications, funding, honours, awards, research, innovation and scholarly record, etc.)
						Upadhya Fellowship Awarded with Research Scientist fellowship and worked at National Guard Hospital, Riyadh, Saudi Arabia in year 2000. Administrative Experience Deputy Controller of Examinations at Manipal Academy of Higher Education (MAHE) (January 1996 to August 2006) Publications (select) Beneficial Effects of ragi (Finger Millet) on Hematological Parameters, Body Mass Index, and Scholastic Performance among Anemic Adolescent High-School Girls (AHSG). Suja Karkada, Sharmila Upadhya, Subramanya Upadhya & Gopalakrishna Bhat. Comprehensive Child and Adolescent Nursing, March 2018, DOI: 10.1080/24694193.2018.1440031. Link to this article: https://doi.org/10.1080/24694193.2018.1440031 Psychomotor functions at various weeks of chronic renal failure in rats. Merin Iype, Subramanya Upadhya, Sharmila Upadhya, Gopalakrishna Bhat. Cogn Neurodyn. April 2015, Volume 9, Issue 2, pp 201-211; DOI 10.1007/s11571-014-9315-z. Enhanced dendritic arborization of hippocampal CA3 neurons by Bacopa monniera extract treatment in adult rats. Vollala VR, Subramanya

Year/ Term	Course Title	Units	Professor/ Faculty	Highest Qualification Earned and Discipline of Study	Appointment (Regular/ Adjunct/PT/ Limited Term)	Expertise ⁷ (qualifications, funding, honours, awards, research, innovation and scholarly record, etc.)
						Upadhy, Nayak S. Rom J Morphol Embryol. 2011;52(3):879-86. PMID: 21892534. Enhancement of basolateral amygdaloid neuronal dendritic arborization following Bacopa monniera extract treatment in adult rats. Vollala VR, Subramanya Upadhy, Nayak S. Clinics (Sao Paulo). 2011;66(4):663-71. PMID: 21655763. Enhanced dendritic arborization of amygdala neurons during growth spurt periods in rats orally intubated with Bacopa monniera extract. Vollala VR, Subramanya Upadhy, Nayak S. Anat Sci Int. 2011 Dec;86(4):179-88. Epub 2011 Mar 17. PMID: 21409525.
3/B SGU	MEDSCI 350: Basic Principles of Medicine II	2.5	Janine Paul, MBBS Lecturer of Physiology, Neuroscience and Behavioral Sciences Mary C. Maj, PHD, MSc Professor of Biochemistry	Post Graduate Certificate in Medicine Ph.D. Biochemistry	Regular	Paul Work Experience - General Hospital Saint George's Grenada. January 2012 to December 2012 - Medical Internship-clinical rotations - Saint George's University. 2013 to 2016 - Clinical tutor in the Neuroscience, Physiology and Behavioral Sciences. Department responsible for all subjects taught in terms 1and 2 in the School of Medicine. - Saint George's University. 2018 to present - Clinical tutor in the Neuroscience, Physiology and Behavioral Sciences. Department responsible for all subjects in terms 1 and 3 in the School of Medicine.

Year/ Term	Course Title	Units	Professor/ Faculty	Highest Qualification Earned and Discipline of Study	Appointment (Regular/ Adjunct/PT/ Limited Term)	Expertise ⁷ (qualifications, funding, honours, awards, research, innovation and scholarly record, etc.)
						Maj St. George's University Service January 2020 to Present SOM Subcommittee for Promotions Chair January 2016-to Present SOM Judiciary Committee Chair Publications 1. In Preparation: M.Maj, K. Landau, D. Li, E. Bhoh, H. Toriello, B. Nelson, H. Hakonarson, S. Glusnitz, R. Walker, A. Sobering (2021) A novel homozygous truncating variant in SYNJ1 in causing early infantile epileptic encephalopathy 53 in and Afro-Caribbean individual 2. In Preparation: E. Salter, K. Balhotra, I. Holman, H.S. La, J. Lendore, K. Yearwood, A. Holbein, A. Reese, A. Brooks, T. John-Ballantyne, A. Bahador-Yetman, G. Lambert, P.J. Fields, M.C. Maj, F. McGill, (2017) Self Pap as a Method of Cervical Screening Modification and HPV Testing in Grenada 3. A. Wardeh, T. Jackson, B. Nelson, C. Ernst, J.F. Thérout, W. Al-Hertani, A. K. Sobering¹, and M. C. Maj, (2018) Identification of a de novo case of COL5A1-related Ehlers-Danlos syndrome in an infant in the West Indies leading to improved targeted clinical care. Clinical Case Report 4. M.D. Thompson, T. Sakurai, I. Rainero, M.C. Maj and J.P. Kukkonen. (2017) Orexin Receptor Multimerization versus Functional Interactions:

Year/ Term	Course Title	Units	Professor/ Faculty	Highest Qualification Earned and Discipline of Study	Appointment (Regular/ Adjunct/PT/ Limited Term)	Expertise ⁷ (qualifications, funding, honours, awards, research, innovation and scholarly record, etc.)
						Neuropharmacological Implications for Opioid and Cannabinoid Signalling and Pharmacogenetics. Pharmaceuticals (Basel). 2017 Oct 8;10(4). pii: E79. Editor Webmed Central: Open Access Biomedical Publisher using Post Publication Peer Review Professional Societies Canadian Society of Biological, Molecular and Cellular Biology United Mitochondrial Disease Foundation Society for the Study of Inborn Errors of Metabolism
4A SGU	MEDSCI 400: Principles of Clinical Medicine 1	2.5	Eward Marshall, MD, MSc, MSMEd Associate Professor, Pathology Theofanis Kollias, M.D. Assistant Professor Microbiology, Pharmacology and Immunology Alvin Billey, M.D.	MSMEd M.D. M.D.	Regular	Marshall Visiting Professor Post Graduate Anatomy and Histology. 2018-present. Department of Cell Biology, Harvard Medical School. Medical Education Feb -May 2020. Lake Erie College of Osteopathic Medicine. Publications Klaassen, Z., Marshall, E., Tubbs, R. S., Louis Jr, R. G., Wartmann, C. T., & Loukas, M. (2011). Anatomy of the ilioinguinal and iliohypogastric nerves with observations of their spinal nerve contributions. Clinical Anatomy, 24(4), 454-461. Pontell, M. E., Scali, F., Marshall, E., & Enix, D. (2013). The obliquus capitis inferior myodural bridge. Clinical anatomy, 26(4), 450-454. Scali, F., Pontell, M. E., Enix, D. E., & Marshall, E. (2013). Histological analysis of the rectus capitis

Year/ Term	Course Title	Units	Professor/ Faculty	Highest Qualification Earned and Discipline of Study	Appointment (Regular/ Adjunct/PT/ Limited Term)	Expertise ⁷ (qualifications, funding, honours, awards, research, innovation and scholarly record, etc.)
			Lecturer, Pathology			posterior major's myodural bridge. The Spine Journal, 13(5), 558-563. Scali, F., Pontell, M. E., Welk, A. B., Malmstrom, T. K., Marshall, E., & Kettner, N. W. (2013). Magnetic resonance imaging investigation of the atlanto-axial interspace. Clinical anatomy, 26(4), 444-449. Pontell, M. E., Scali, F., Enix, D. E., Battaglia, P. J., & Marshall, E. (2013). Histological examination of the human obliquus capitis inferior myodural bridge. Annals of Anatomy-Anatomischer Anzeiger, 195(6), 522-526. Pontell, M., Scali, F., & Marshall, E. (2011). A unique variation in the course of the musculocutaneous nerve. Clinical Anatomy, 24(8), 968-970. Kollias Professional Experience • 06/2021-present: Deputy Chair for the department of Pharmacology. St. George's University • 0/6/21-present: Faculty advisor for BIZMED St. George's University School of Medicine • 01/2021-present: Content manager for the department of Pharmacology. St. George's University • 08/2018-present: Instructor for the department of Pharmacology. St. George's University

Year/ Term	Course Title	Units	Professor/ Faculty	Highest Qualification Earned and Discipline of Study	Appointment (Regular/ Adjunct/PT/ Limited Term)	Expertise ⁷ (qualifications, funding, honours, awards, research, innovation and scholarly record, etc.)
						• 08/2018-present: Hippocrates College Director. St. George's University Publication Richard Isaiah Tubbs, James C. Barton III , Caroline C. Watson , Theofanis Kollias , Robert J. Ward , Marios Loukas , Nicholas M. Barbaro , Aaron A. Cohen-Gadol. A novel method for sciatic nerve decompression: Cadaveric feasibility study with potential application to patients with piriformis syndrome. Translational Research in Anatomy 1 (2015) 40e43 Billey Awards Best Researcher Award for Research on "Knowledge Attitudes and Practices of Stroke among patients attending GPHC Medical Clinic" Publications Aishwarya Singh, Rohit Mishra, Alvin Billey Cardiac Lesions in Sudden Death: Insights from autopsy and histopathological analysis. Int J Acad Med Pharm 47009/jamp.2023.5.5.308.
	MEDSCI 420: Basic Principles of Medicine III	1.0	Kerry Mitchell, Ph.D. Associate Professor, Public Health & Preventive	Ph.D. Biological Sciences Ph.D. Public Health	Regular	Mitchell Administrative • Dean of Students, Assistant Dean 2021 – present • SOM Honors Selective I & II, Co-Director 2021 – present • SGU Iota Epsilon Alpha (IEA), Faculty Advisor 2021 - present • St. George's University Institutional Review

Year/ Term	Course Title	Units	Professor/ Faculty	Highest Qualification Earned and Discipline of Study	Appointment (Regular/ Adjunct/PT/ Limited Term)	Expertise ⁷ (qualifications, funding, honours, awards, research, innovation and scholarly record, etc.)
			Lauren Orlando, Ph.D., MSc Assistant Professor, Epidemiology			• Board, Vice Chair 2020 - present • St. George's University Institutional Review Board, Secretary 2019 – 2020 • St. George's University Institutional Review Board, non-executive member 2018 – 2019 • Department of Public Health and Preventive Medicine Admissions and Graduate Committee, member 2018 – present • Department of Public Health and Preventive Medicine Research and Scholarly Activity Committee, member 2018 – present Professional <u>Review Editor 2021 – present</u> • Editorial Board of Soil Pollution and Remediation, Frontiers in Soils Science, Lausanne Switzerland; ISSN:2673-8619 (Online) <u>Ad-Hoc Journal Reviewer 2017 – present</u> • Environmental Science and Pollution Research, Springer Berlin Heidelberg; ISSN: 0944-1344 (Print), 1614-7499 (Online) • Bragantia Revista de Ciências Agronômicas, Instituto Agronômico de Campinas; ISSN: 0006-8705 (Print) / 1678-4499 (Online) <u>Consultant 2020 – present</u> • The Grenada National Ecosystem Assessment; Caribbean Natural Resources Institute <u>Thesis Advisor 2014 – present</u> Publications • Mitchell, K., Moreno-Jimenez, E., Jones, R., Zheng, L., Trakal, L., Hough, R., & Beesley, L. (2020). Mobility of arsenic, chromium and copper

Year/ Term	Course Title	Units	Professor/ Faculty	Highest Qualification Earned and Discipline of Study	Appointment (Regular/ Adjunct/PT/ Limited Term)	Expertise ⁷ (qualifications, funding, honours, awards, research, innovation and scholarly record, etc.)
						arising from soil application of stabilised aggregates made from contaminated wood ash. <i>Journal of Hazardous Materials</i>, 393(122479), 1–10. https://doi.org/10.1016/j.jhazmat.2020.122479 • Mitchell, K., Mendoza-González, C. V., Ramos-Gómez, M. S., Yamamoto-Flores, L., Guerrero-Barrera, A. L., Macias-Medrano, R., & Avelar-González, F. J. (2020). The effect of low-temperature biochar and its non-pyrolyzed composted biosolids source on the geochemical fractionation of Pb and Cd in calcareous river sediments. <i>Environmental Earth Sciences</i>, 79(7), 1–8. https://doi.org/10.1007/s12665-020-08908-5 • Ray, E., & Mitchell, K. (2019). Environmental Atrazine Exposure and Endocrine Health: Implications for Rural Communities in Midwestern United States. <i>Public Health - Topics, Themes and Trends</i>, 11(4), 37–53; corresponding author • Flores de la Torre, J. A., Mitchell, K., Ramos Gómez, M. S., Guerrero Barrera, A. L., Yamamoto Flores, L., & Avelar González, F. J. (2018). Effect of plant growth on Pb and Zn geoaccumulation in 300-year-old mine tailings of Zacatecas, México. <i>Environmental Earth Sciences</i>, 77(10), 0. https://doi.org/10.1007/s12665-018-7563-7 • Mitchell, K., Trakal, L., Sillerova, H., Avelar-González, F. J., Guerrero-Barrera, A. L., Hough, R., & Beesley, L. (2018). Mobility of As, Cr and Cu in a contaminated grassland soil in response to diverse organic amendments; a sequential column

Year/ Term	Course Title	Units	Professor/ Faculty	Highest Qualification Earned and Discipline of Study	Appointment (Regular/ Adjunct/PT/ Limited Term)	Expertise ⁷ (qualifications, funding, honours, awards, research, innovation and scholarly record, etc.)
						leaching experiment. Applied Geochemistry, 88, 95–102. https://doi.org/10.1016/j.apgeochem.2017.05.020 • Trakal, L., Raya-Moreno, I., Mitchell, K., & Beesley, L. (2017). Stabilization of metal(loid)s in two contaminated agricultural soils: Comparing biochar to its non-pyrolysed source material. Chemosphere, 181, 150–159. https://doi.org/10.1016/j.chemosphere.2017.04.064 Presentations • Bogollagama, M., Khan, T., Forde, M., Compton, S., Mendes, J., Edwards, O., & Mitchell, K. corresponding author (2021). Nutrient concentrations in surface and subterranean water sources in the Southern Region of Grenada. Caribbean Science Symposium on Water Magazine, 21–22. • Dirienzo, N., Mitchell, K., Forde, M., Rainham, D., & Villeneuve, P. J. (2021). Temporal trends in ambient fine particulate matter air pollution, and the impacts of COVID-19 on this pollution in Grenada, West Indies. 4th Life Sciences Day - Carleton University, Ottawa. • Khan, T., & Mitchell, K. corresponding author (2021). Evaluation of the Association between Maternal Exposure to Indoor Air Pollutants and Low Birth Weight. 65th Annual Health Research Conference, Virtual.

Year/ Term	Course Title	Units	Professor/ Faculty	Highest Qualification Earned and Discipline of Study	Appointment (Regular/ Adjunct/PT/ Limited Term)	Expertise ⁷ (qualifications, funding, honours, awards, research, innovation and scholarly record, etc.)
						• Mitchell, K. (2021a). Air Pollution - A Public Health Emergency? Seminario de Investigación MCBQ- Universidad Autónoma de San Luis Potosi, San Luis Potosi, Mexico - Virtual. • Mitchell, K. (2021b). Efectos del Cambio Climático en la Salud Comunitaria. Webinar de Organizacion Dominicana de Estudiantes de Medicina (ODEM) & One Health Lessons, Virtual. • Mitchell, K., Avelar-González, F. J., Guerrero-Barrera, A. L., Ramos-Gómez, M. S., & Yamamoto-Flores, L. (2021). Evaluating the potential mobility of Cd in contaminated calcareous sediments amended with biosolids and biochar. SETAC Europe 31st Annual Meeting - 2021 - Global Challenges. An Emergency for Environmental Sciences - Abstract Book, 202. • Mitchell, K., Edwards, O., Forde, M., Punch, B., Khan, T., & Bogollagama, S. (2021). Priority setting for occupational carcinogen exposure among doctors. 65th Annual Health Research Conference. • Mitchell, K., Forde, M., Smith, M., Villeneuve, P., & Dirienzo, N. (2020, November). Preliminary monitoring of ambient particulate matter mass concentrations in Grenada. Virtual Public Health Conference - Relevance, Creativity & Innovation, Grenada; Virtual. • Flores de la Torre, J. A., Mitchell, K., Ramos-Gomez, M. S., Yamamoto-Flores, L., Peña-Cabriales, J. J., Guerrero-Barrera, A. L., & Avelar-González, F. J. (2017). Effect of Cortaderia Selloana and Sporobolus airoides on the geoaccumulation

Year/ Term	Course Title	Units	Professor/ Faculty	Highest Qualification Earned and Discipline of Study	Appointment (Regular/ Adjunct/PT/ Limited Term)	Expertise ⁷ (qualifications, funding, honours, awards, research, innovation and scholarly record, etc.)
						index of Pb. 14th International Phytotechnologies Conference, Montreal. • Mark-George, I., Sealy, H., Mc Lawrence, J., Mitchell, K., & Enoe, J. (2017, October). The public health impacts of the influx of Sargassum seaweed on the residents of Soubise, Grenada in 2015. Phi Zeta Research Emphasis and Research Day, St. George's University. • Mitchell, K., Avelar-González, F., Guerrero-Barrera, A., Ramos-Gómez, M., & Yamamoto-Flores, L. (2017, October). Fractionation of Pb in contaminated calcareous sediments amended with biosolids and biochar. Phi Zeta Research Emphasis and Research Day, St. George's University, St. George's University. Orlando Presentations • RISE for Equity: Reflect, Inspire, Strengthen & Empower 2024, Mayo Clinic, Washington D.C. (August 2024) • European Public Health Conference, Dublin, Ireland (November 2023) • Caribbean Public Health Agency (CARPHA) Annual Health Research Conference, Nassau, Bahamas (April 2023) • Consortium of Universities for Global Health Conference, Washington, D.C. (April 2023) • St. George's University 20th Research Day, True Blue, Grenada (March 2023)

Year/ Term	Course Title	Units	Professor/ Faculty	Highest Qualification Earned and Discipline of Study	Appointment (Regular/ Adjunct/PT/ Limited Term)	Expertise ⁷ (qualifications, funding, honours, awards, research, innovation and scholarly record, etc.)
						• CRCP2020+ Caribbean Regional Conference of Psychology, St. Croix (November 2021) • ISANA 30th International Education Association Conference, Melbourne, Australia (December 2019) • Council for Education in the Commonwealth (CEC) Annual Conference, True Blue, Grenada (May 2019) • ISANA 29th International Education Association Conference, Sydney, Australia (December 2018) Publications • Prince, M. A., Orlando, L., Prince, E., & Fasanmi, A. (2023, December). 1397. What were the Birth Outcomes of Infants Born to Zika Positive Mothers in Developing Countries? Open Forum Infectious Diseases, 10(2). https://doi.org/10.1093/ofid/ofad500.1234 • Landon, B., Thomas, E.D., Orlando, L., Evans, R. L., Murray, T., Mohammed, L., Noel, J., Isaac, R. & Waechter, R. (2023). Spare the rod, spoil the child: The process of shifting • intergenerational beliefs and behaviors around corporal punishment. Frontiers in Public Health, 11. https://doi.org/10.3389/fpubh.2023.1127687 • Chitterman, A., Palanichami, D.K., La, A., Adedara, V., Orlando, L., Keku, E.O., & Fasanmi, A. (2023). Evaluation of the effectiveness of ivermectin in chemoprophylaxis and treatment of COVID-19 patients: A narrative review. International Public Health Journal, 15(1), 57-67.

Year/ Term	Course Title	Units	Professor/ Faculty	Highest Qualification Earned and Discipline of Study	Appointment (Regular/ Adjunct/PT/ Limited Term)	Expertise ⁷ (qualifications, funding, honours, awards, research, innovation and scholarly record, etc.)
						• Palmer, K., Adedara, V., Ogunmoyin, T., Kuteyi, A., Palanichami, D.K., La, A., Orlando, L., Fasanmi, A., & Keku, E. O. (2023). Elective surgical procedures in the COVID-19 era. <i>International Public Health Journal</i>, 15(1), 91-99. • Eigel, B.A., La, A., Palanichami, D.K., St Cyr, G., Orlando, L., Fasanmi, A., & Keku, E.O. (2023). Dengue vaccine development and safety: What went wrong? <i>International Public Health Journal</i>, 15(1), 101-115. • Waechter, R., Evans, R., Fernandes, M., Bailey, B., Holmes, S., Murray, T., Isaac, R., Punch, B., Cudjoe, N., Orlando, L., & Landon, B. (2022, May). A community-based responsive caregiving program improves neurodevelopment in two-year old children in a middle-income country, Grenada, West Indies. <i>Psychosocial Intervention</i>, 31(2), 97-107. https://doi.org/10.5093/pi2022a6 • Orlando, L., & Frame, T. (2021). Assessment of implementation of the Spotlight Initiative to end gender-based violence in six Caribbean countries during the COVID-19 pandemic. <i>Caribbean Journal of Psychology</i>, 13(2), 161-191.
4/B SGU	MEDSCI 450: Principles of Clinical Medicine 2	2.5	Anna Cyrus-Murden, M.D., MPH Assistant Professor, Clinical Skills	M.D., MPH	Regular	Cyrus-Murden Administrative • 2017 – Pres Deputy Chair of Clinical Skills, St. George’s University • 2018 – Pres Director of Simulation Center, St. George’s University Departmental Service • Pathology Review Committee

Year/ Term	Course Title	Units	Professor/ Faculty	Highest Qualification Earned and Discipline of Study	Appointment (Regular/ Adjunct/PT/ Limited Term)	Expertise ⁷ (qualifications, funding, honours, awards, research, innovation and scholarly record, etc.)
			Assistant Dean of Simulation Morona Sukhoo-Pertab, MBBS Lecturer, Clinical Skills Assistant Dean, Clinical Studies	MBBS		• BPM 1 review Committee • Clinical Skills Faculty Search Committee • Clinical Skills Curriculum Sub-Committee University University Service • Focus Group on Simulation Activities (Chair) • Focus Group on Curriculum Management, Design, Review/Content Monitoring, Evaluation and Comparability • Focus group on Physical Examination and OSCE • Focus Group on Curriculum Reform • Focus Group on 'Flipped Classroom' • SGU Senate – Clinical Division • SGU Curriculum Committee • SGU Judicial Advisor • Committee for Technology based Teaching and Learning • Joint Curriculum Coordinating Committee • Candidates Selection Committee Workshops • USMLE Subcommittee Professional Memberships • Member, Society for Simulation in Healthcare • Member, Directors of Clinical Skills • Member, American Association of Clinical Anatomists Presentations Local/Regional • Feb 2020 Featured Speaker - Grenada General Hospital Internship Program Interns' Graduation, Grenada • Feb 2020 "Clinical Skills in Grenada", Clinical

Year/ Term	Course Title	Units	Professor/ Faculty	Highest Qualification Earned and Discipline of Study	Appointment (Regular/ Adjunct/PT/ Limited Term)	Expertise ⁷ (qualifications, funding, honours, awards, research, innovation and scholarly record, etc.)
						Meetings, St. George's University, Grenada • Sept 2019 "Technologies in the Healthcare Industry", Rotaract Career Day Speech, Grenada • Feb 2019 Featured Speaker - Grenada General Hospital Internship Program Interns' Graduation, Grenada International • Oct 2020 "Online Clinical Evaluation Exercise (OCEX)", Clinical Meetings, St. George's University, Grenada (Online) Sukhoo-Pertab Licenses and Certifications • 2022 Strategic Leadership in Healthcare, Doane University, MicoMasters Program • 2021 Health Informatics and Technology in Decision Making, Doane University, MicoMasters Program • 2021 Healthcare Organization and Delivery Modes, Doane University, MicoMasters Program • 2021 Basic Biomedical Research Certification, Collaborative Institutional Training Initiative (CITI) • 2020 Defeating Malaria from the Genes to the Globe, Harvard University, Online Learning Initiative Services and Memberships • 2021 BPM3 Course Evaluator, St. George's University

Year/ Term	Course Title	Units	Professor/ Faculty	Highest Qualification Earned and Discipline of Study	Appointment (Regular/ Adjunct/PT/ Limited Term)	Expertise ⁷ (qualifications, funding, honours, awards, research, innovation and scholarly record, etc.)
						• 2020 CAAM Accreditation Working Group on Educational Database, St. George's University • 2019 – Present Basic Sciences Curriculum Subcommittee, St. George's University • 2019 – Present Committee for Academic Performance and Professional (CAPPS) Pre-Clinical Sciences • 2016 – 2019 Pediatric Club, St. George's University Role: Volunteer medical doctor at various centers/schools to screen and examine patients. Assisted pre-clinical medical students in history taking and physical examination skills • 2016 – 2019 Academic Advisor, St. George's University Role: Provide counselling and guidance on academic status, academic outcomes and alternative options for post-exam medical students in Term 4 identified by the APRC • 2014 – present Sparkle Grenada Children's Foundation Inc Non-governmental organization. Secretary and Project Leader "Back to School"

- b) As applicable, discuss and/or explain the role and approximate percentage of adjunct/part-time faculty/limited term appointments used in the delivery of the program, including plans to ensure the sustainability of the program and the quality of the student experience;

The majority of the proposed program, 75 per cent as demonstrated in the table above, will be delivered by full-time regular faculty members (of varying ranks). Full-time staff, principally as laboratory instructors, make up the remaining 25 per cent. The percentage of part-time faculty/limited term appointments used in the delivery of the program is negligible but may occur due to unexpected absences.

- c) Describe the provision of supervision of experiential learning opportunities, if applicable;

This is a regular program therefore students will require no supervision for any work-integrated learning opportunities (i.e., field placement or co-op). Students will participate in several experiential learning opportunities (EL) at UW throughout the proposed program and will be supervised by the faculty member and/or lab technicians, as applicable.

While at SGU, students will have opportunities to observe and practice communication skills in actual healthcare settings during visits to local hospitals and community health centers. Additionally, student-led organizations provide platforms for demonstration and supervised hands-on practice on various basic medical procedures. Students also engage in research-oriented coursework, including group presentations, article reviews, and critiques. These activities help develop foundational research skills and critical analytical abilities, preparing students for more advanced research opportunities in the medical program.

- d) Describe the administrative unit's planned use of existing human, physical and financial resources, including implications for other existing programs or support units at the university;

Resources: HR, Faculty

The delivery of the first two years of the proposed program requires access to four courses and faculty members from the Faculty of Health (Health), one from the Faculty of Arts (Arts), and the remainder (19) from Science. The courses in the 2B term mirror those taught at SGU and NU to ensure students who progress have achieved the same course learning outcomes (CLOs). These courses, developed by SGU, will draw on the expertise of the Faculty areas at the UW to deliver content and assess student achievement. Any needs that arise for an additional instructor to deliver the proposed program will be supported by Science.

Resources: HR, Administrative

Students in the proposed program require an advisor who will liaise with the SGU program administrators. The advisor will act as a liaison between the two institutions to support the students' progression throughout the program (see 2.5(f) for additional information about administrative resourcing).

Resources: Facilities/Space

The proposed program, in alignment with the partnership agreement, requires dedicated and private office space for any BMSci program staff for daily use. Science will also use existing laboratory and classroom space for delivery of the curriculum. Science does not require any additional space, equipment or upgrades to the existing space to support these requirements.

- e) Provide evidence that there are adequate resources to sustain the quality of scholarship and research activities produced by students, including library support (a report from the Library should be prepared and included), information technology support, laboratory access and space; and

Library

Liaison librarians are specialists in their discipline and able to provide insight into research strategies, literature reviews and related areas. The Library provides a high level of instructional, research, and collections support to both the undergraduate and graduate programs in Science. Librarians also have expertise in scholarly communication (including copyright, licensing and open access) and research data management. Further involvement of the Library in this area helps to improve student research skills and support achievement of degree level expectations.

Liaison Librarians are available to answer reference questions from faculty members and students via telephone or email to support research and scholarly activities. Additionally, faculty and students can schedule one-on-one consultations with Liaison Librarians to discuss research strategies and techniques for graduate theses, coursework, and article publications. Students are encouraged to make use of the teaching, learning, research support services, and expertise the Library offers.

In accordance with the UW's Indigenization efforts, the Library is promoting and collecting research and resources that celebrate and explore Indigenous ways of knowing and doing. For instance, the biology librarian is a member of the Library's Indigenous research committee, which has authored an Indigenous research guide that will be reviewed annually. They also maintain an Indigenous science and ways of knowing section in the biology research guide. The Liaison Librarian for Physics, Astronomy and related disciplines provide course-based instruction through classroom sessions to incorporate a more systematic, program wide approach to increase skills related to information research, evaluation, and use throughout the Physics and Astronomy curricula.

The Library purchases and subscribes to a number of resources relevant to the science disciplines. Ongoing Library subscriptions include Oxford Handbooks and Reference, Springer, and Taylor & Francis ebook collections; the BioOne, CAB Direct, OVID Medline and Embase, Reaxys, SciFinder-n, and Web of Science databases; the ASM Protocols, Colloquium Life Sciences, Jove (Basic and Advanced Biology, and Chemistry collections), and Springer Nature Experiments digital libraries; and Scopus, SPIE Digital Library, IEEE, and MathSciNet. Access is also provided to journals from publishers such as the American Chemical Society (ACS), Canadian Science Publishing (CSP), Elsevier, the National Research Council of Canada (NRC), Nature, the Society for Freshwater Science Wiley, the American Physical Society, the Institute of Physics, and the American Institute of Physics.

OMNI, the library catalogue shared by Ontario universities, allows users to discover and request materials from 16 universities directly through the catalogue. In addition to the local collection, the UW Library partners with other Ontario and Canadian universities to further expand access to physics and astronomy collections. Such collaborations include the libraries of the University of Guelph (UG) and Wilfrid Laurier University (WLU), the 10 other Ontario institutions that

make up the OCUL consortium Collaborative Futures initiative and the Canadian Research Knowledge Network (CRKN).

Laboratory Facilities

There are no specific lab equipment needs to meet the PLOs for the proposed program. The existing facilities are sufficient to meet the PLOs for the proposed program. The teaching labs managed by the four Science departments have undergone a significant reorganization and improvement with the opening of the Science Teaching Complex (STC), which provided its first scheduled lectures and labs in the Winter 2016 term. Students have access to updated facilities and lockers for use during labs.

The STC is a 20,000 square metre (215,000 sq. ft.) building and includes a range of facilities:

- Below grade: five 150-seat classrooms;
- Main level: study and seating area for (50); 450-seat classroom; student society and club space; a small food outlet;
- Level two: Science Undergraduate Office; study and seating area for (25); upper entrance to 450-seat classroom;
- Level three: five undergraduate teaching labs and related support facilities;
- Level four: five undergraduate teaching labs and related support facilities; and
- Level five: one undergraduate teaching lab and support facility.

Biology lectures are held in many locations across campus including the STC, Biology 1, Biology 2, and Math, Arts, and Engineering buildings. The core Biology laboratory spaces are six labs in the STC, five in Biology 2, and three in Biology 1. All lab spaces have a capacity of 32 to 34 students with the exception of one smaller lab in Biology 1 with a capacity of 24 students. Various labs are equipped to run courses in microbiology (including Biohazard level 2 spaces in Biology 1 and the STC), physiology, cell and molecular biology, zoology, plant sciences, and to provide support for ecology and field courses. The Biology Research laboratories are located in the Biology 1, Biology 2 and part of the Earth Sciences and Chemistry buildings, plus one laboratory in the Quantum-Nano Centre. Teaching laboratories are in Biology 1 and 2, and the new STC.

Computer Facilities

Science provides computer support through the Science Computing Help Desk, which is staffed daily from 9 am to 4 pm. The university site licenses many software packages (e.g., Office 365, Adobe Acrobat) and makes some available free or at substantial discounts to students and faculty members. There are three computing labs, each outfitted with audio-visual podiums, projectors, and chalk/dry-erase boards.

Computing Lab	Facilities
C2-160	• 35 workstations

Computing Lab	Facilities
	• Not typically booked for courses • available for open use during normal business hours when not booked for courses
PHY-342	• 20 workstations • Not typically booked for courses • available 24/7 when not booked for courses

- f) If necessary, provide evidence of additional institutional resource commitments to support the program in step with its ongoing implementation.

Currently the proposed program is undergoing a financial viability analysis in consultation with IAP.

What is evident by the partnership agreement is that the proposed program will be administered jointly by the UW and SGU. Faculty expertise and courses are required from Science, Health, and Arts to support the delivery of the proposed program. Science is the UW's administrative lead in the partnership agreement with SGU and will provide the administrative support for the proposed program. At this time there are no plans for any other institution to be involved in offering the proposed program. In fact, according to the non-compete clause in the agreement, SGU shall not directly or indirectly establish a Doctor of Medicine (M.D.) track involving an Early Assurance program to SGU's M.D. degree program with any university in Ontario, other than with the UW.

The UW and SGU will share the responsibility for planning, management, and administrative aspects of the proposed program. As indicated above, this structure centers on the appointment of representatives or appointed designates (known as Partnership Managers) at both institutions. Partnership Managers will be responsible for implementing the structure and for revising as needed for the continued administration of the proposed program. This will be assumed under the responsibilities of the Associate Dean initially and re-evaluated regularly.

A "Joint Steering Committee" will meet quarterly to discuss issues arising from the operation of the proposed program, including recruitment, financial performance, fees and other related matters. SGU and the UW will define the attendees and terms of reference within three months of the date of the agreement. Each institution is entitled to replace any of its representatives on the Joint Steering Committee from time to time.

Where the formation of a separate section is required to account for the students in the BMSci program, the sessional instructor fee will be paid by Science to cover that additional section(s). In addition, UW faculty members will support the build of a new course (PHYS105: Introduction to Physics for Health Care Professions) and the update to existing courses, if applicable (see [Appendix B](#) – Program Map for a visual representation of the courses and associated Faculty/Departments).

2.6 Resources for graduate programs only (QAF 2.1.2.7)

Not applicable for this application.

2.7 Quality and other indicators (QAF 2.1.2.8)

As is evidenced in the table above (2.5 Resources), faculty members in Science, Health and Arts are committed to the intellectual quality of the student experience. Faculty members' qualifications, funding, honours, awards, research, innovation and scholarly record demonstrate the strength of the collective faculty expertise and commitment to remaining current and innovative.

As per [Policy 76 – Faculty Appointments](#) and the definitions of the appointment categories (tenured or permanent, probationary, definite-term) and appointment intensities (full-time, part-time, fractional load) at the UW, and the rigors of the tenure and teaching stream expectations, the tenure, permanence and promotion procedures, and professional conduct expectations specified in [Policy 77 -- Tenure and Promotion of Faculty Members](#), the collective faculty members are a strong community of scholars supporting the university's commitment to developing intellectual resources and traditions for the modern university. In alignment with Policy 77, "faculty members [are] effective and committed teachers and scholars, constantly striving to expand and communicate their knowledge, ideas and understanding for the benefit of society" (Introduction).

At SGU in the SOM, for each rank, the faculty member is expected to display an appropriate level and combination of evidence as relevant to the rank applied. The weighting of activities varies depending on the primary area of focus. The more senior the rank, the higher the expectation in terms of evidence that will be required to be provided for promotion to that rank.

It is not expected that a faculty member will demonstrate achievement of all the specified examples/standards, but that their achievement will be at a level/standard commensurate with the rank of their appointment/promotion and activities. For example, a faculty member in the Educator track with a primary focus on teaching who has a substantial service contribution as an Assistant Dean or a Chair of a Department, would reasonably be expected to have less evidence of contribution to the scholarship component.

For all tracks, the requirements are:

- Primary focus area as per the stipulations of the track (Education, Research, etc.).
- Distinction in primary focus area.
- Secondary contributions to academic and clinical mission of SGU.

The diversity of SGU faculty in terms of their backgrounds and educational training means there is a natural level of variation in levels of qualifications and experience. Generally, faculty in the Teaching tracks will have different expectations and associated standards with respect to their teaching and pedagogical contributions, compared to

faculty in the Investigator track. For all tracks, there is a secondary expectation of contributions to other fields, including scholarly activity, administration and service to the university community, as appropriate to the faculty members' seniority and teaching responsibilities as defined in their letter of appointment, and as defined by the associated promotions criteria for their track.

This secondary expectation includes contribution to the administrative and committee services that support the educational mission of the SOM and SGU. All scholarly activities of the applicant must carry an SGU affiliation to be counted towards fulfilling the specified promotion requirements.

In the School of Arts and Sciences, SGU strives to maintain the highest standards of teaching, research, and service; therefore, it is essential that the faculty be composed of individuals with high personal and professional qualifications. Effective teaching is the most prized quality in members of the faculty. The primary criteria for judging the fitness of a faculty member for rank or promotion are academic degree, length and effectiveness of teaching, and knowledge and understanding of important problems in the field. In addition, professional activities, research, and participation in university life are considered. The faculty members at SGU are encouraged to engage in scholarly and creative work.

In general, a terminal degree appropriate to the candidate's field of expertise will be required. In some cases, after taking into account the specific nature of the faculty member's academic discipline, equivalent outstanding achievement may be substituted. The specific Educational Standards for each academic rank are as follows:

- Demonstrator: An earned Bachelor's Degree with special administrative responsibilities.
- Instructor: An earned Master's Degree, or equivalent in appropriate field of study.
- Assistant Professor: An earned doctorate, or equivalent in appropriate field of study, or all degree requirements completed and the degree pending.
- Associate Professor: An earned doctorate or equivalent in appropriate field of study.
- Full Professor: An earned doctorate or equivalent in appropriate field of study.

Appendix A – Summary of PLOs and **UDLEs** Mapped to Courses and Assessment Methods

UDLEs							Communication Skills	Depth & Breadth	Application of Knowledge	Application of Knowledge	Knowledge of Methodologies	Knowledge of Methodologies	Autonomy & Professional Capacity	Communication Skills	Depth & Breadth
							Autonomy & Professional Capacity	Knowledge of Methodologies	Awareness of Limits of Knowledge	Awareness of Limits of Knowledge	Application of Knowledge	Application of Knowledge	Professional Capacity	Autonomy & Professional Capacity	Awareness of Limits of Knowledge
Year/ Term		Program Objective					PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8	PLO9
		To provide a multidisciplinary program with theoretical and applied courses in the health sciences, liberal/communication arts and science.	To teach students the significance of approaching clinical reasoning with a sensitivity and responsiveness to a diverse patient population.	To provide students with opportunities to engage in an intellectual curiosity for new knowledge, guidelines, standards, technologies, products, services and resources that improve outcomes for patients.	To provide a program where students develop the self-evaluation skills and passion for life-long learning.	To provide students with experiential learning opportunities to gain the communication, professional and ethical skills to support collaborative and trusting relationships with patients, families and the healthcare team.	Apply communication tools and techniques to engage in a professional and respectful manner with various audiences and mediums.	Describe the etiology, pathogenesis, structural and molecular alterations as they relate to the signs, symptoms, laboratory results, imaging investigations and causes of common and important diseases.	Incorporate biological factors, such as aging, genetic and epigenetic, nutritional, molecular reactivity, and their effects on human health.	Incorporate the psycho-socio-cultural factors, such as behavior, psychological, cultural, environmental, economic, geographical, religious, and their effects on human health.	Apply scientific health information in clinical reasoning.	Evaluate scientific studies and evidence-based therapeutic strategies to determine the best options for the prevention, treatment and palliation of disease.	Adhere to ethical behaviour that respects diversity and patient autonomy, and act in accordance with ethical codes of conduct, following patient privacy and informed consent procedures.	Commit to self-evaluation and life-long learning by investigating and evaluating professional practices, engaging in professional development and seeking professional networking and mentorship opportunities to improve patient care and maintain a healthy professional identity.	Assess healthcare systems, resources, services and patient care.
1/A Courses	CHEM120: General Chemistry 1	X Q/T, EXM		X ONLN, A					X Q/T, EXM						
	CHEM120L: General Chemistry Laboratory 1	X A, EXM				X RPT, A, LB			X RPT, EXM						
	PSYCH101: Introductory Psychology	X EXM	X A, RSCH		X A, RSCH		X EXM			X EXM	X EXM				X A, RSCH
	PHYS105: Introduction to Physics for Health Care Professions (new)	X Q/T, EXM		X Q/T, EXM				X Q/T, EXM			X Q/T, EXM				
	HLTH101: Introduction to Health 1		X A, PRES, EXM	X A&P, A, EXM		X A, PRES				X A, PRES, EXM	X A&P, A, PRES, EXM			X A&P, A, PRES	X A, PRES, EXM
	BIOL130: Introductory Cell Biology	X ONLN		X A					X Q/T, EXM						
	BIOL130L: Cell Biology Laboratory	X Q/T				X RPT, A			X LB						
1/B Courses	CHEM123: General Chemistry 2	X Q/T, EXM		X A&P, ONLN				X A&P, Q/T, EXM	X ONLN, Q/T, EXM						
	CHEM123L: General Chemistry Laboratory 2	X A, RPT				X LB, RPT, EXM		X A, LB, RPT, EXM	X A, LB, RPT, EXM						
	KIN146: Introduction to Human Nutrition	X Q/T, A	X A						X Q/T, A		X A				
	HLTH 204: Quantitative Approaches to Health Science	X EXM		X LB, A		X LB					X EXM	X LB, A			

UDLEs							Communication Skills Autonomy & Professional Capacity	Depth & Breadth Knowledge of Methodologies Communication Skills Experiential Learning	Application of Knowledge Awareness of Limits of Knowledge	Application of Knowledge Awareness of Limits of Knowledge	Knowledge of Methodologies Application of Knowledge	Knowledge of Methodologies Application of Knowledge Experiential Learning	Autonomy & Professional Capacity Diversity	Communication Skills Autonomy & Professional Capacity	Depth & Breadth Awareness of Limits of Knowledge Diversity
Year/ Term		Program Objective					PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8	PLO9
		To provide a multidisciplinary program with theoretical and applied courses in the health sciences, liberal/communication arts and science.	To teach students the significance of approaching clinical reasoning with a sensitivity and responsiveness to a diverse patient population.	To provide students with opportunities to engage in an intellectual curiosity for new knowledge, guidelines, standards, technologies, products, services and resources that improve outcomes for	To provide a program where students develop the self-evaluation skills and passion for life-long	To provide students with experiential learning opportunities to gain the communication, professional and ethical skills to support collaborative and trusting relationships with	Apply communication tools and techniques to engage in a professional and respectful manner with various audiences and mediums.	Describe the etiology, pathogenesis, structural and molecular alterations as they relate to the signs, symptoms, laboratory results, imaging investigations and causes of common and important diseases.	Incorporate biological factors, such as aging, genetic and epigenetic, nutritional, molecular reactivity, and their effects on human health.	Incorporate the psycho-socio-cultural factors, such as behavior, psychological, cultural, environmental, economic, geographical, religious, and their effects on human health.	Apply scientific health information in clinical reasoning.	Evaluate scientific studies and evidence-based therapeutic strategies to determine the best options for the prevention, treatment and palliation of disease.	Adhere to ethical behaviour that respects diversity and patient autonomy, and act in accordance with ethical codes of conduct, following patient privacy and informed consent procedures.	Commit to self-evaluation and life-long learning by investigating and evaluating professional practices, engaging in professional development and seeking professional networking and mentorship opportunities to improve patient care and maintain a healthy professional identity.	Assess healthcare systems, resources, services and patient care.
2/A Courses	HLTH107: Sociology of Activity, Health, and Well-Being	X Q/T, A&P			X A&P, A		X A&P, A			X A&P, A		X A, Q/T			X A&P, A
	BIOL201: Human Anatomy	X Q/T, A, EXM		X A&P, A					X A&P, Q/T, A		X EXM				
	BIOL239: Genetics	X Q/T, A, EXM		X A&P, A					X A&P, Q/T, A		X EXM				
	CHEM237: Introductory Biochemistry	X Q/T, EXM		X Q/T, EXM				X Q/T, EXM			X EXM				
	CHEM266: Basic Organic Chemistry 1	X A, Q/T, EXM		X A					X A, Q/T, EXM		X A, EXM				
	CHEM266L: Organic Chemistry Laboratory	X Q/T, EXM				X LB, A, RPT			X Q/T, EXM		X LB, A, RPT				
	Communication for Health Professions I		X A&P, Q/T, A		X A&P, A	X A&P, A	X A&P, A				X Q/T, A	X A		X A&P	
	BIOL240: Fundamentals of Microbiology	X Q/T, EXM		X Q/T, EXM				X Q/T, EXM			X EXM				
	BIOL 240L: Fundamental Microbiology Lab	X Q/T, LB				X A&P, RPT, LB, A		X RPT, LB, A			X Q/T, LB				
	BIOL 273: Principles of Human Physiology	X A, Q/T, EXM		X A, EXM					X A, Q/T, EXM				X A, Q/T, EXM		
	Learning Strategies for Preprofessional Programs			X A, A&P	X A, A&P	X A, A&P	X A, A&P							X A, A&P	X A, A&P
	MEDSCI270: Biochemistry	X Q/T, A		X A				X Q/T, A	X Q/T, A						

UDLEs							Communication Skills Autonomy & Professional Capacity	Depth & Breadth Knowledge of Methodologies Communication Skills Experiential Learning	Application of Knowledge Awareness of Limits of Knowledge	Application of Knowledge Awareness of Limits of Knowledge	Knowledge of Methodologies Application of Knowledge	Knowledge of Methodologies Application of Knowledge Experiential Learning	Autonomy & Professional Capacity Diversity	Communication Skills Autonomy & Professional Capacity	Depth & Breadth Awareness of Limits of Knowledge Diversity
Year/ Term		Program Objective					PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8	PLO9
		To provide a multidisciplinary program with theoretical and applied courses in the health sciences, liberal/communication arts and science.	To teach students the significance of approaching clinical reasoning with a sensitivity and responsiveness to a diverse patient population.	To provide students with opportunities to engage in an intellectual curiosity for new knowledge, guidelines, standards, technologies, products, services and resources that improve outcomes for	To provide a program where students develop the self-evaluation skills and passion for life-long	To provide students with experiential learning opportunities to gain the communication, professional and ethical skills to support collaborative and trusting relationships with	Apply communication tools and techniques to engage in a professional and respectful manner with various audiences and mediums.	Describe the etiology, pathogenesis, structural and molecular alterations as they relate to the signs, symptoms, laboratory results, imaging investigations and causes of common and important diseases.	Incorporate biological factors, such as aging, genetic and epigenetic, nutritional, molecular reactivity, and their effects on human health.	Incorporate the psycho-socio-cultural factors, such as behavior, psychological, cultural, environmental, economic, geographical, religious, and their effects on human health.	Apply scientific health information in clinical reasoning.	Evaluate scientific studies and evidence-based therapeutic strategies to determine the best options for the prevention, treatment and palliation of disease.	Adhere to ethical behaviour that respects diversity and patient autonomy, and act in accordance with ethical codes of conduct, following patient privacy and informed consent procedures.	Commit to self-evaluation and life-long learning by investigating and evaluating professional practices, engaging in professional development and seeking professional networking and mentorship opportunities to improve patient care and maintain a healthy professional identity.	Assess healthcare systems, resources, services and patient care.
2/B Courses	MEDSCI280: Introduction to Psychopathology	X Q/T, EXM	X EXM						X EXM	X Q/T, EXM		X EXM			X EXM
	MEDSCI203: Communication for Health Professions II		X A&P, A		X A&P, A		X A&P, A				X A&P, A			X A&P, A	
	MEDSCI260: Human Anatomy	X A&P, Q/T, EXM		X EXM					X Q/T, EXM				X A&P		X Q/T, EXM
	MEDSCI250: Physiology	X A&P, Q/T, A, EXM		X A&P, A					X Q/T, A, EXM				X A&P		X Q/T, A, EXM
	MEDSCI290: Molecular Biology	X Q/T, EXM		X EXM				X EXM	X EXM						
3/A Courses at SGU	MEDSCI300: Basic Principles of Medicine I	X LB, Q/T, EXM		X LB, EXM				X LB	X Q/T, EXM			X EXM			X LB, Q/T, EXM
3/B Courses at SGU	MEDSCI350: Basic Principles of Medicine II	X A&P, LB, Q/T, EXM		X LB, Q/T, EXM		X A&P, LB		X LB, EXM	X LB, EXM			X Q/T, EXM			X A&P, LB, Q/T, EXM
4A Courses at SGU	MEDSCI400: Principles of Clinical Medicine 1		X A&P, LB, A	X A&P, LB, A, EXM	X A&P, LB, A	X A&P, LB, A						X EXM	X A&P, LB, A	X A&P, LB	X A&P, LB, A, EXM
	MEDSCI420: Basic Principles of Medicine III	X Q/T, EXM		X EXM		X Q/T, EXM			X Q/T, EXM			X Q/T, EXM	X Q/T, EXM		

UDLEs							Communication Skills	Depth & Breadth Knowledge of Methodologies	Application of Knowledge	Application of Knowledge	Knowledge of Methodologies	Knowledge of Methodologies	Autonomy & Professional Capacity	Communication Skills	Depth & Breadth
Year/ Term		Program Objective					PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8	PLO9
		To provide a multidisciplinary program with theoretical and applied courses in the health sciences, liberal/communication arts and science.	To teach students the significance of approaching clinical reasoning with a sensitivity and responsiveness to a diverse patient population.	To provide students with opportunities to engage in an intellectual curiosity for new knowledge, guidelines, standards, technologies, products, services and resources that improve outcomes for	To provide a program where students develop the self-evaluation skills and passion for life-long	To provide students with experiential learning opportunities to gain the communication, professional and ethical skills to support collaborative and trusting relationships with	Apply communication tools and techniques to engage in a professional and respectful manner with various audiences and mediums.	Describe the etiology, pathogenesis, structural and molecular alterations as they relate to the signs, symptoms, laboratory results, imaging investigations and causes of common and important diseases.	Incorporate biological factors, such as aging, genetic and epigenetic, nutritional, molecular reactivity, and their effects on human health.	Incorporate the psycho-socio-cultural factors, such as behavior, psychological, cultural, environmental, economic, geographical, religious, and their effects on human health.	Apply scientific health information in clinical reasoning.	Evaluate scientific studies and evidence-based therapeutic strategies to determine the best options for the prevention, treatment and palliation of disease.	Adhere to ethical behaviour that respects diversity and patient autonomy, and act in accordance with ethical codes of conduct, following patient privacy and informed consent procedures.	Commit to self-evaluation and life-long learning by investigating and evaluating professional practices, engaging in professional development and seeking professional networking and mentorship opportunities to improve patient care and maintain a healthy professional identity.	Assess healthcare systems, resources, services and patient care.
4/B Courses at SGU	MEDSCI450: Principles of Clinical Medicine 2		X A&P, LB, F, PRES	X A&P, LB, F, A, PRES, EXM	X A&P, LB, F	X A&P, LB, F		X LB, F, A, EXM				X F, A, PRES, EXM		X F, A, PRES, EXM	X F, A, PRES, EXM

Assessment Methods:

Assignments/ arguments/policy briefs (A)

Exams (EXM)

Field (F)

Online Engagement (ONLN)

Presentations (PRES)

Quizzes/Tests (Q/T)

Research/data interpretation/synthesis/visualization (RSCH)

Technical reports/plans (RPT)

Appendix B – Program Maps

6YR Track									
		5YR Track							
				Doctor of Medicine (SGU)					
Bachelor or Medical Sciences (UW)									
Delivered at the University of Waterloo (*content/assessments provided by SGU)				Delivered at St. George’s University					
1A Term (Fall) Standard UW Term	1B Term (Winter) Standard UW Term	2A Term (Fall) Standard UW Term	*2B Term (Winter) 16 weeks	3A Term (Fall) 17 weeks	3B Term (Winter) 18 weeks	4A Term (Fall) 24 weeks	4B Term (Winter) 18 weeks	YR 3 42 weeks Core Rotations	YR 4 38 weeks Sub-Internships and Electives
CHEM 120: General Chemistry 1 Equivalent: CHEM 122 (SGU)	CHEM 123: General Chemistry 2 Equivalent: CHEM 124 (SGU)	CHEM 237: Introductory Biochemistry	MEDSCI 270: Biochemistry Equivalent: CHEM 450 (SGU)	MEDSCI 300: Basic Principles of Medicine I 17 credits Foundation to Medicine (6 weeks) Musculoskeletal System (4 weeks) Cardiovascular, Pulmonary and Renal Systems (7 weeks)	MEDSCI 350: Basic Principles of Medicine II 17 credits Endocrinology and Reproduction (3 weeks) Digestion and Metabolism (5 weeks) Nervous System and Behavioral Sciences (10 weeks)	MEDSCI 420: Basic Principles of Medicine III 8 credits over 6 weeks	MEDSCI 450: Principles of Clinical Medicine 2 19 credits	Internal Medicine 12 weeks	Family Medicine 4-6 weeks
CHEM 120L: General Chemistry Laboratory 1 Equivalent: CHEM 123 (SGU)	CHEM 123L: General Chemistry Laboratory 2 Equivalent: CHEM 125 (SGU)	CHEM 266: Basic Organic Chemistry 1 Equivalent: CHEM 222 (SGU)	MEDSCI 280: Introduction to Psychopathology Equivalent: PSYC 411 (SGU)			Surgery 12 weeks		Subinternship (Psychiatry, OB/GYN, Internal Medicine, Pediatrics, or Surgery)	
PSYCH 101: Introductory Psychology Equivalent: PHYC 201 (SGU)	KIN 146: Introduction to Human Nutrition Equivalent: NUTR 201 (SGU)	CHEM 266L: Organic Chemistry Laboratory Equivalent: CHEM 223 (SGU)	MEDSCI 203: Communication for Health Professions II Equivalent: PCLN 303 (SGU)			Pediatrics 6 weeks		Medicine Elective 4 weeks	
PHYS 105: Introduction to Physics for the Health Care Professions (new) Equivalent: PHYS 200 (SGU)	HLTH 204: Quantitative Approaches to Health Science Equivalent: MATH 220 (SGU)	MEDSCI 202: Communication for Health Professions I Equivalent: PCLN 302 (SGU)	MEDSCI 260: Human Anatomy Equivalent: BIOL 460 (SGU)			Obstetrics/Gynecology 6 weeks		Additional Electives 24-26 weeks	
HLTH 101: Introduction to Health 1 Equivalent: PUBH 302 (SGU)	HLTH 107: Sociology of Activity, Health, and Well-Being Equivalent: URC	BIOL 240: Fundamentals of Microbiology Equivalent: BIOL 401 (SGU)	MEDSCI 250: Physiology Equivalent: BIOL 441 (SGU)			Psychiatry 6 weeks			
BIOL 130: Introductory Cell Biology	BIOL 201: Human Anatomy Equivalent: BIOL 101 (SGU)	BIOL 240L: Fundamental Microbiology Lab	MEDSCI 290: Molecular Biology Equivalent: BIOL 321 (SGU)						
BIOL 130L: Cell Biology Laboratory	BIOL 239: Genetics Equivalent: BIOL 320 (SGU)	BIOL 273: Principles of Human Physiology Equivalent: BIOL 202 (SGU)							
		MEDSCI 200: Learning Strategies for Preprofessional Programs (11 wks) Equivalencies: PCLN 301 (SGU)							
Chemistry	Physics		Psychology	Health Sciences		Biology		Student Success Office	Medicine (SGU)

6YR Track

6YR Track											
				Doctor of Medicine (SGU)							
Bachelor or Medical Sciences (UW)											
Delivered at the University of Waterloo (*content/assessments provided by SGU)				Delivered at St. George’s University							
1A Term (Fall) Standard UW Term	1B Term (Winter) Standard UW Term	2A Term (Fall) Standard UW Term	*2B Term (Winter) 16 weeks	3A Term (Fall) 17 weeks	3B Term (Winter) 18 weeks	4A Term (Fall) 24 weeks	4B Term (Winter) 18 weeks	YR 3 42 weeks Core Rotations	YR 4 38 weeks Sub-Internships and Electives		
CHEM 120: General Chemistry 1 Equivalent: CHEM 122 (SGU)	CHEM 123: General Chemistry 2 Equivalent: CHEM 124 (SGU)	CHEM 237: Introductory Biochemistry	MEDSCI 270: Biochemistry Equivalent: CHEM 450 (SGU)	MEDSCI 300: Basic Principles of Medicine I 17 credits Foundation to Medicine (6 weeks) Musculoskeletal System (4 weeks) Cardiovascular, Pulmonary and Renal Systems (7 weeks)	MEDSCI 350: Basic Principles of Medicine II 17 credits Endocrinology and Reproduction (3 weeks) Digestion and Metabolism (5 weeks) Nervous System and Behavioral Sciences (10 weeks)	MEDSCI 420: Basic Principles of Medicine III 8 credits over 6 weeks	MEDSCI 450: Principles of Clinical Medicine 2 19 credits	Internal Medicine 12 weeks	Family Medicine 4-6 weeks		
CHEM 120L: General Chemistry Laboratory 1 Equivalent: CHEM 123 (SGU)	CHEM 123L: General Chemistry Laboratory 2 Equivalent: CHEM 125 (SGU)	CHEM 266: Basic Organic Chemistry 1 Equivalent: CHEM 222 (SGU)	MEDSCI 280: Introduction to Psychopathology Equivalent: PSYC 411 (SGU)					Surgery 12 weeks	Subinternship (Psychiatry, OB/GYN, Internal Medicine, Pediatrics, or Surgery)		
PSYCH 101: Introductory Psychology Equivalent: PHYC 201 (SGU)	KIN 146: Introduction to Human Nutrition Equivalent: NUTR 201 (SGU)	CHEM 266L: Organic Chemistry Laboratory Equivalent: CHEM 223 (SGU)	MEDSCI 203: Communication for Health Professions II Equivalent: PCLN 303 (SGU)					Pediatrics 6 weeks	Medicine Elective 4 weeks		
PHYS 105: Introduction to Physics for the Health Care Professions (new) Equivalent: PHYS 200 (SGU)	HLTH 204: Quantitative Approaches to Health Science Equivalent: MATH 220 (SGU)	MEDSCI 202: Communication for Health Professions I Equivalent: PCLN 302 (SGU)	MEDSCI 260: Human Anatomy Equivalent: BIOL 460 (SGU)					Obstetrics/Gynecology 6 weeks	Additional Electives 24-26 weeks		
HLTH 101: Introduction to Health 1 Equivalent: PUBH 302 (SGU)	HLTH 107: Sociology of Activity, Health, and Well-Being	BIOL 240: Fundamentals of Microbiology Equivalent: BIOL 401 (SGU)	MEDSCI 250: Physiology Equivalent: BIOL 441 (SGU)					Psychiatry 6 weeks			
BIOL 130: Introductory Cell Biology	BIOL 201: Human Anatomy Equivalent: BIOL 101 (SGU)	BIOL 240L: Fundamental Microbiology Lab	MEDSCI 290: Molecular Biology Equivalent: BIOL 321 (SGU)								
BIOL 130L: Cell Biology Laboratory	BIOL 239: Genetics Equivalent: BIOL 320 (SGU)	BIOL 273: Principles of Human Physiology Equivalent: BIOL 202 (SGU)									
		MEDSCI 200: Learning Strategies for Preprofessional Programs (11 wks) Equivalencies: PCLN 301 (SGU)									
Bachelor or Medical Sciences (UW)						Shared Curriculum between two credentials				Doctor of Medicine (SGU)	

5YR Track

5YR Track								
		Doctor of Medicine (SGU)						
Bachelor or Medical Sciences (UW)								
Delivered at the University of Waterloo (*content/assessments provided by SGU)		Delivered at St. George’s University						
2A Term (Fall) Standard UW Term	*2B Term (Winter) 16 weeks	3A Term (Fall) 17 weeks	3B Term (Winter) 18 weeks	4A Term (Fall) 24 weeks	4B Term (Winter) 18 weeks	YR 3 42 weeks Core Rotations	YR 4 38 weeks Sub-Internships and Electives	
CHEM 237: Introductory Biochemistry	MEDSCI 270: Biochemistry Equivalent: CHEM 450 (SGU)	MEDSCI 300: Basic Principles of Medicine I 17 credits Foundation to Medicine (6 weeks) Musculoskeletal System (4 weeks) Cardiovascular, Pulmonary and Renal Systems (7 weeks)	MEDSCI 350: Basic Principles of Medicine II 17 credits Endocrinology and Reproduction (3 weeks) Digestion and Metabolism (5 weeks) Nervous System and Behavioral Sciences (10 weeks)	MEDSCI 420: Basic Principles of Medicine III 8 credits over 6 weeks	MEDSCI 450: Principles of Clinical Medicine 2 19 credits	Internal Medicine 12 weeks	Family Medicine 4-6 weeks	
CHEM 266: Basic Organic Chemistry 1 Equivalent: CHEM 222 (SGU)	MEDSCI 280: Introduction to Psychopathology Equivalent: PSYC 411 (SGU)			MEDSCI 400: Principles of Clinical Medicine 1 21 credits over 18 weeks		Surgery 12 weeks	Subinternship (Psychiatry, OB/GYN, Internal Medicine, Pediatrics, or Surgery)	
CHEM 266L: Organic Chemistry Laboratory Equivalent: CHEM 223 (SGU)	MEDSCI 203: Communication for Health Professions II Equivalent: PCLN 303 (SGU)					Pediatrics 6 weeks	Medicine Elective 4 weeks	
MEDSCI 202: Communication for Health Professions I Equivalent: PCLN 302 (SGU)	MEDSCI 260: Human Anatomy Equivalent: BIOL 460 (SGU)					Obstetrics/Gynecology 6 weeks	Additional Electives 24-26 weeks	
BIOL 240: Fundamentals of Microbiology Equivalent: BIOL 401 (SGU)	MEDSCI 250: Physiology Equivalent: BIOL 441 (SGU)					Psychiatry 6 weeks		
BIOL 240L: Fundamental Microbiology Lab	MEDSCI 290: Molecular Biology Equivalent: BIOL 321 (SGU)							
BIOL 273: Principles of Human Physiology Equivalent: BIOL 202 (SGU)								
MEDSCI200: Learning Strategies for Preprofessional Programs (11 wks) Equivalencies: PCLN 301 (SGU)								
Bachelor or Medical Sciences (UW)						Shared Curriculum between two credentials		

Appendix C – Residency and Practicing Pathways for Canadians

To return to Canada to practice medicine after graduating from SGU School of Medicine (SoM), Canadian students have two main pathways, the Canadian Residency Pathway (CaRMS) and the United States (U.S.) Residency Pathway through the National Resident Matching Program (NRMP).

CaRMS

Canadians and Canadian permanent residents (PRs) can apply to the Canadian Residency Matching Service (CaRMS) after graduating from SGU and participate in the Canadian Match process. There are a few key points to consider:

- The CaRMS timeline overlaps with the U.S. National Residency Match Program (NRMP), and the number of spots available for International Medical Graduates (IMGs) in Canada is limited¹⁰.
- If a student matches to a residency position in Canada, they are automatically withdrawn from the U.S. match.

To be eligible to apply for Canadian residency programs, Canadian citizens and PRs must

- Complete the licensing exams
 - Medical Council of Canada Qualifying Exam Part 1 (MCCQE1), and
 - National Assessment Collaboration Objective Structured Clinical Examination (NAC OSCE).
- Apply for Canadian Residency through
 - CaRMS, decisions are based on exam results and application materials.

Pathway to Canada

Canadian residency typically takes three to five years, depending on the specialty. After completing residency, graduates can apply for licensing through the medical regulatory authority ([MRA](#)) for the province they want to practice. For instance, graduates apply to the College of Physicians and Surgeons of Ontario ([CPSO](#)) to practice in Ontario.

U.S. Residency Pathway - NRMP

For SGU graduates following the U.S. pathway through the NRMP, the steps to return to Canada and practice medicine are as follows:

- Complete U.S. Licensing Exams,
 - USMLE Step 1 (during medical school), and
 - USMLE Step 2 CK (during medical school).

¹⁰ This means that while students can apply to both the Canadian and U.S. matches, most SGU Canadian students end up matching in the U.S. due to more opportunities available. In recent years, the CaRMS match took place after the NRMP, meaning Canadian students who matched in U.S. residencies were automatically withdrawn from the CaRMS process. However, CaRMS has now moved back to being a week before the NRMP, which allows Canadian students to apply to both programs. If they match in Canada, they are automatically withdrawn from the U.S. match. That said, the majority of SGU Canadian graduates successfully match in U.S. residencies. Over the past five years, 94 per cent of Canadian graduates from SGU have secured U.S. residency positions (Average of 2020, 2021, 2022, 2023, and 2024 residency placement rates. Residency placement rate is defined as the total number of Canadian students/graduates who obtained a U.S. residency divided by the total number of Canadian students/graduates who applied to a U.S. residency program in a given year as of October 2024).

- The Occupational English Test (OET) (as part of the application process).
- Apply for U.S. Residency
 - Through the National Residency Matching Program (NRMP) based on their exam results and application materials.

Residency in the U.S. typically takes three to five years, depending on the specialty. During this time graduates must complete USMLE Step 3 to proceed with their residency. For those who match in the U.S. and complete residency training there, Canadian graduates can pursue licensing in Canada through the reciprocity of training agreement between the U.S. and Canada.

After completing U.S. residency, graduates have three pathways to practice medicine in Canada.

- Sit the Royal College exams if they wish to further specialize.
- Match directly into a subspecialty for the Postgraduate Year Four (PGY4) entry residency training programs, if applicable.
- Apply for certification through the College of Family Physicians of Canada.

If a graduate is board-certified in the U.S. after completing their residency, they can apply for independent licensure in Canada. There are streamlined pathways for U.S. trained (board certified) physicians.

- Verify credentials through Physiciansapply.ca (Medical Council of Canada).
- Apply for licensure through the provincial College of Physicians and Surgeons (e.g., College of Physicians and Surgeons of Ontario).

If a graduate is not board-certified in the U.S. after completing their residency, they will be required to

- Verify credentials through Physiciansapply.ca (Medical Council of Canada).
- Pass the Medical Council of Canada Qualifying Exams Part 1 and 2.
- Pass the National Assessment Collaboration Objective Structured Clinical Examination (NAC OSCE).
- Apply for licensure through the MRA for the province they want to practice.

Unmatched

For those who remain unmatched in either the CaRMS or NRMP processes, SGU has several support systems in place. The Office of Career Guidance (OCG) provides immediate outreach to any student who remains unmatched, offering guidance and support to explore other options. The Supplemental Offer and Acceptance Program (SOAP) provides a uniform process for programs to offer unfilled positions to eligible unmatched or partially matched applicants (during Match week). This offers additional opportunities for residency placement.

Graduates can leverage the SGU network for potential opportunities outside of the formal match programs. For those who do not match in the current year, SGU encourage students to build their residency resumes through clinical research placements within our extensive clinical network. Additionally, SGU offers tuition-free programs such as the Master of Public Health ([MPH](#)) and Master of Science ([MSc](#)) which can enhance their candidacy for future

residency matches. Students who are unmatched in the first year may have another opportunity to enter the match in subsequent years, both in Canada and the U.S..

UNIVERSITY OF **WATERLOO**



NEW PROGRAM PROPOSAL BACHELOR OF MEDICAL SCIENCES

**Submitted to the
Ontario Universities Council on Quality Assurance**

VOLUME II – FACULTY CURRICULA VITAE

DECEMBER 2024

TABLE OF CONTENTS

Contents

Summary of Faculty Qualifications..... 3

Curricula Vitae 9

Summary of Faculty Qualifications

Faculty members at the University of Waterloo (UW) in the Departments of Biology, Chemistry, Kinesiology and Health Sciences, Physics and Astronomy, and Psychology and the School of Public Health Sciences and in the School of Medicine (SoM) at St. George's University (SGU) serve in critical roles as researchers, scholars, educators and occupy important roles in academic and professional societies and contribute to service-related activities at their respective institutions. As evidenced by the CVs, the faculty members have strong publication records and receive speaking invitations to national and international conferences to present their research. Most supervise graduate students and publish frequently with graduate student co-authors. Many serve, have served, and have chaired national grant panels, including NSERC, and are members of editorial boards for national and international journals. Many serve as executives of professional societies.

Supervisory Experience

All research faculty members at UW supervise graduate students and faculty members at SGU supervise students commensurate with the stage in their career. It is also interesting to note that several of the teaching-intensive colleagues at UW serve as co-supervisors for graduate students.

Undergraduate	Master's	Doctorate	Postdoctoral Fellows
Ashok Chaurasia	Ashok Chaurasia	Ashok Chaurasia	Ken Stark
Mary Maj	Thorsten Dieckmann	Thorsten Dieckmann	
Kerry Mitchell	Laura Lemieux	Laura Lemieux	
Josh Neufeld	Jaqueline MacDonald	Josh Neufeld	
Michelle Ogrodnik	Josh Neufeld	Ken Stark	
Ken Stark	Michelle Ogrodnik	Diane Williams	
Subramanya Upadhya	Ken Stark		
Paul Wehr	Diane Williams		

Research and Scholarship

Faculty frequently review grants for the Triagency (NSERC & CIHR) as well as for other countries (USA, Switzerland, Belgium, France) and have served on Triagency grant review committees. Faculty have received research grants and awards from NSERC, the Ontario Centre for Excellence, the Government of Alberta, the Canadian Institutes of Health Research (CIHR), Health Canada, the Network for Aging Research (NAR), the UW LITE Seed Grant, the Staebler Insurance OER Fellow Grant, the Canada Foundation for Innovation, the John R. Evans Leaders Fund, the Ontario Research Foundation, the Climate Action and Awareness Fund (CAAF), the AMTD Global Talent Postdoctoral Fellowship, eCampus Ontario Virtual Learning Strategy (VLS) Grant, and The Institute for the Advancement of Food and Nutrition Sciences (IAFNS).

Faculty are editors, managing editors, co-editors and peer-reviewers for peer reviewed journals, such as *Biochemistry*, *Developmental & Comparative Frontiers in Microbiology*, *Experimental & Clinical Psychopharmacology*, *Frontiers in Nutrition Methodology*, *Frontiers Microbes*, *Hydrobiologia*, *Immunology*, *Innate Immunity*, *ISME*, *Journal of American Chemical Society*, *Journal of Developmental and Physical Disabilities*, *Journal of Hazardous Materials*, *Journal of Molecular Biology*, *Journal of Nutrition*, *Journal of Phycology*, *Lipids*, *Microorganisms*, *Molecular Biosystems*, *Northeastern Naturalist*, *Psychosocial Intervention*, *Physiotherapy Canada*, *Plant Microbe Interactions*, *PLoS ONE*, *Toxicology in Vitro*, and *Webmed Central*.

They are widely published with books and monographs and book chapters, for example, Learning the landscape: Using journal clubs to introduce graduate students and early-career researchers to SoTL in *Becoming a SoTL scholar* (Ogrodnik) and Deficiency disorders of components of PDH: E2, E3 and E3BP deficiencies in *Alpha lipoic acid: Energy production, antioxidant activity and health effects* (Maj et al.), in peer-reviewed journals, such as, *Annals of Anatomy-Anatomischer Anzeiger*, *Applied and Environmental Microbiology*, *Applied Surface Science*, *Amyloid*, *Biochemistry*, *BMC Biotechnology*, *Canadian Journal of Microbiology*, *Caribbean Journal of Psychology*, *Clinical Anatomy*, *Current Microbiology*, *Environmental Earth Sciences*, *Environmental Science and Pollution Research*, *Frontiers in Public Health*, *Frontiers in Sleep*, *Frontiers in Soils Science*, *Gastroenterology*, *Indian Journal of Clinical Biochemistry*, *Indian Journal of Physiology Pharmacology*, *International Journal of e-Healthcare Information Systems*, *International Public Health Journal*, *Journal of Chemical Education*, *Journal of Plant Pathology*, *Journal of Pediatric Gastroenterology and Nutrition*, *Medical Education*, *Microbiological Research*, *Nature Geoscience*, *Soil Pollution and Remediation*, *Soft Matter*, *South East Asian Journal of Medical Education*, *The Spine Journal*, *Tetrahedron*, and *Physiological and Molecular Plant Pathology*.

Awards and Recognition

Within the UW, excellence is recognized with an Outstanding Faculty Performance Award (Neufeld and Dayeh); the University of Waterloo Distinguished Teaching Award (DTA) (Dayeh); the Applied Health Sciences Teaching Award (Chaurasia); the Excellence in Science Teaching Award (Goll, Idziak, and Neufeld); the WUSA Excellence in Undergraduate Teaching Award (Ingram); the Ontario Undergraduate Student Alliance Teaching Award (OUSA) (Neufeld); the Biology Jack Carlson Teaching Award (Dayeh and Lemieux); the Online Teaching Award (Neufeld); the Gold Level Green Lab Certification, and the Undergraduate Organic Chemistry Teaching Lab and Staff Enhancement Experience (SEE) Canada Grant (Racicot); as a Tier 2 CIHR Canada Research Chair (Stark); and the Online Course Design Award (Wehr).

Professional Certification in Advanced Medicine

SGU faculty are committed educators and practicing professionals. They undertake continuing medical education (CME) to ensure students are engaging with faculty members who are abreast of new and/or emerging technologies, techniques and clinical practices. Faculty undertake certification in

- Advanced Cardiovascular Life Support, Pediatric Advanced Life Support, Basic Life Support Instructor, Advanced Cardiovascular Life Support Instructor, Point of Care Ultrasound (Andrew);

- How to use scenarios to simulate invasive care and the management of a ventilated patient due to COVID-19, Clinical Management of COVID-19 and Psychosocial support for caregivers (Cyrus-Murden);
- Advancing Cervical Screening in Grenada, New Developments in Genetics and Clinical Applications of Genomics (Maj);
- Postgraduate Certificate in Applied Biostatistics, The Harvard Clinical and Translational Science Center, RCR Basic Course Basic Sciences (Medical) – RCR, CITI Program, Environmental Risk Assessment, SETAC Latin America, Colombia, Geographic Information Systems (GIS) Management, IPICYT, Mexico, Protecting Human Research Participants, National Institutes of Health (NIH) Office of Extramural Research, Effective Project Planning and Evaluation in Health Research, St. George's University, Grenada, Environmental Impact Assessment, San Luis Potosí Institute of Scientific Research and Technology, Mexico, Scientific Writing, The National Council of Science and Technology, Mexico, and Toxicology and Ecotoxicology of Nanomaterials, National Academy of Environmental Sciences, Mexico (Mitchell);
- Master Trainer for Foundations Gender Based Violence Programme - UN Women, Practitioner Initiated Testing and Counseling - GrenCHAP, Gottman Couples Therapy Level 1 Training - Gottman Institute, Conscious Discipline Coach - REACH Grenada, Certified Domestic Violence & Sexual Assault Victim Counselor (60 Hours) - PEACE for Families, and Certified in First Aid and CPR, Lifeguard, and Swim Instructor (Orlando); and
- Strategic Leadership in Healthcare, Informatics and Technology in Decision Making, and Healthcare Organization and Delivery Modes - Doane University, MicoMasters Program, Basic Biomedical Research Certification - Collaborative Institutional Training Initiative (CITI), Defeating Malaria from the Genes to the Globe - Harvard University, Online Learning Initiative, and Basic Life Support (BLS) - American Heart Association (Sukhoo-Pertab).

Institutional Service

Faculty members are involved in critical administrative roles

- on student appeals committees (Lemieux), hiring panels (Lemieux), and curriculum committees (Lemieux);
- as a member on the Clinical Tutor Coordinator Committee, the Faculty Development Committee, the Chair of the Year 1 Clinical Tutor Hiring Committee, and the Supplemental Academic Support Committee (Andrew);
- as a Co-op Liaison Officer and a member of the Department of Biology EDI Committee (Bording-Jorgensen);
- as the Deputy Chair of Clinical Skills, the Director of Simulation Center, a member of the Pathology Review Committee, the Clinical Skills Faculty Search Committee, and the Clinical Skills Curriculum Sub-Committee (Cyrus-Murden);
- as a Board Member of the Survey Research Centre of Department of Statistics and Actuarial Science (for the Department and the University), as a member of the AHS Information Systems and Technology Committee, the Departmental Research Graduate

Programs Committee, the Departmental Research Graduate Programs Admission Committee, and as the Health Faculty Council Chair (Chaurasia);

- as the Deputy Chair for the department of Pharmacology, the Faculty advisor for BIZMED, the content manager for the department of Pharmacology, the Director of Hippocrates College; and a member of the Clinical Research Society (Kollias);
- as the Associate Chair, Graduate Studies and Research and as an Advisor in the Biochemistry Program (Dieckmann);
- a member of the SOM Subcommittee for Promotions Chair, the Chair of the SOM Judiciary Committee, a member of the Curriculum Committee and the Faculty Affairs Committee, and a Faculty Advisor for Women in Medicine (Maj);
- as a member of the Departmental Undergraduate Curriculum Committee and the Departmental Safety Committee (Goll);
- a committee member of: Faculty Affairs, Judicial Affairs, Health and Safety, Committee for Academic Progress and Professional Standards, and Admissions School of Medicine, the Chair for: the Subcommittee for Curriculum Development, the Faculty Development Committee, the Faculty Development Committee School of Medicine, and the Clinical Tutor Fellowship Management Committee, the Faculty Supervisor - Health Fairs, the Faculty Volunteer - Admissions Outreach Events, the Faculty Advisor for Surgery Club, Anesthesiology Club, and Diagnostics in Medicine, the Chief Proctor for National Board of Medical Examiners (NBME) exams in Year 1 and Year 2, and member of the search committee for Anatomical Sciences, Physiology, and Introduction to Clinical Medicine (Marshall);
- as the Chair of the Biology EDI Committee (Gurska);
- the Faculty Advisor for the SGU Iota Epsilon Alpha (IEA), the Vice Chair and Secretary for St. George's University Institutional Review Board, a member of the Department of Public Health and Preventive Medicine Admissions and Graduate Committee, and a member of the Department of Public Health and Preventive Medicine Research and Scholarly Activity Committee (Mitchell);
- as the Associate Dean of Science for Experiential Education and Computing (Idziak);
- as a member of the CAAM Accreditation Working Group on Educational Database, the Basic Sciences Curriculum Subcommittee, the Committee for Academic Performance and Professional (CAPPS) Pre-Clinical Sciences, and the Pediatric Club, and an Academic Advisor (Sukhoo-Pertab);
- as the proposal lead for the Dean's Undergraduate Teaching Initiative (Ingram);
- as a member of the Departmental Curriculum Committee and the Bio Med Curriculum Committee (MacDonald);
- as the University Research Chair, a member of the PhD thesis defence chair pool committee and member of the Role of the Principal Investigator (PI) Working Group, the proposal developer for the Waterloo Centre for Microbial Research, a member of the Merit Committee, Executive Committee, Microbiology lecturer hiring committee, and Task Force on Principles for Institutional Partnerships (Neufeld);

- as a Teaching Fellow (Kinesiology and Health Sciences), the faculty representative on the Dean's Advisory Committee on Health and Wellbeing, and the Faculty Facilitator with the Centre for Teaching Excellence (CTE) (Ogrodnik);
- as a member of the Faculty of Science Indigenization Working Group and the Faculty of Science COVID-19 Safety Plan Review Group, and assisted the Chemistry Outreach Coordinator to organize Chemistry Outreach Laboratory Days with high school students from the Waterloo region (Racicot);
- as a member of the International Life Sciences Institute - Omega 3 methodology and reporting best practices working group, the University Tenure and Promotion Advisory Committee, the Annual Performance Review Committee, and the Gap Analysis Working Group (Stark);
- as a member of the Annual Performance Review Committee and Board member of the Faculty Association (FAUW), the Faculty Relations Committee, and the Policy Development Committee, and the Chair of the Lecturer's Committee (FAUW subcommittee), (Wehr); and
- as a member of the FAUW Lecturer's Committee, the Faculty Undergraduate Studies Committee, the Undergraduate Operations Committee, the School Executive Committee, and the Accreditation and Program Evaluation Team, and the Associate Director – Undergraduate Studies (Williams).

Faculty are also distinguished scholars in their fields and receive speaking invitations for conferences, professional bodies, internal and external special events, from media (print and digital) and other educational institutions (please see CVs for an extensive list of conferences and speaking invitations).

Teaching

Faculty members are at the forefront of didactic developments such as simulation, active learning approaches, flipped classrooms and electronic technology. They engage in professional development opportunities with Coursera, the Outdoor Learning School & Store (4 Seasons of Indigenous Learning), the Centre for Teaching and Learning, the Waterloo Assessment Institute, complete certificates in university teaching and in emerging professional techniques, develop XR based teaching tools, and receive teaching-specific research grants from the respective institution and external funding agencies.

Community Service: External Professional Bodies

Numerous members of the departments play important roles in a variety of scientific societies. Faculty maintain professional affiliations with the

- Farncombe Family Digestive Health Research Institute, Microbiome Canada, Canadian Association of Gastroenterology, Centre for Excellence in Gastrointestinal Inflammation and Immunology Research Group, Women and Children's Health Research Institute, and American Society for Microbiology (Bording-Jorgensen);
- Society for Simulation in Healthcare and Directors of Clinical Skills (Cyrus-Murden);
- SETAC Education and In Vitro Biology (Dayeh);

- Canadian Society of Biological, Molecular and Cellular Biology, United Mitochondrial Disease Foundation, and Society for the Study of Inborn Errors of Metabolism (Maj);
- American Chemical Society and RNA Society (Dieckmann);
- American Association of Clinical Anatomists (AACA) (Andrew, Cyrus-Murden);
- Open Consortium of University Biology Educators and the Society for the Advancement of Biology Education Research (Gurska);
- Grenada Public Health Association and Society of Environmental Toxicology and Chemistry (Mitchell);
- Canadian Society for Microbiologists - Strategic planning committee member and Co-Chair of Education and Awards Committee, International Society for Microbial Ecology (ISME), and Scholarships and Fellowships Selection Committee for Evolution and Ecology (NSERC) (Neufeld);
- GrenCHAP, Grenada Spotlight Initiative Civil Society National Reference Group (CS-NRG), and Saving Brains Grenada (Orlando); and
- International Lipidomics Society and International Society for the Study of Fatty Acids and Lipids (ISSFAL) (Stark).

Faculty have received awards of excellence in recognition of research and service from their respective professional societies. Notably Vivian Dayeh is recognized with a Service Award and President's Award from the Society for In Vitro Biology (SIVB), Alvin Billey is recognized with the Best Researcher Award for Research on "Knowledge Attitudes and Practices of Stroke among patients attending GPHC Medical Clinic" and Josh Neufeld with the Service to the Society Award by the International Society for Microbial Ecology (ISME).

Curricula Vitae

Andrew, Kevlian

Billey, Alvin

Bording-Jorgensen, Michael

Chaurasia, Ashok

Cyrus-Murden, Anna

Dayeh, Vivian

Dieckmann, Thorsten

Duxbury, Cheryl

Goll, Julie

Gurska, Jola

Idziak, Stefan

Ingram, Laura

Kollias, Theofanis

Lemieux, Laura

MacDonald, Jacqueline

Maj, Mary

Marshall, Eward

Mitchell, Kerry

Neufeld, Josh

Ogrodnik, Michelle

Orlando, Lauren

Paul, Janine

Racicot, Leanne

Seeds, Pamela

Stark, Ken D.

Stathopoulos, Sue

Sukhoo-Pertab, Morona

Upadhya, Subramanya

Wehr, Paul

Williams, Diane E.

Kevlian Andrew



Home Address

Calliste,
St. George, Grenada, W.I.

Contact Information

Phone: 473-405-3508
Email: kandrew4@sgu.edu

Biographical Data

Date of Birth: October 19, 1993
Place of Birth: St. George's, Grenada
Citizenship: Grenadian

Education

12/14 BSc.	St. George's University School of Medicine, Grenada, W. I., Medical Science
4/18 M.D.	St. George's University School of Medicine, Grenada, W. I., Cum laude
5/20 MBA	St. George's University School of Medicine, St. George, Grenada, Multi-Sector Health Management
1/21-Present	Institute of Health Professions, Massachusetts General Hospital Certificate, Health Professions Teaching and Learning

Academic Appointments

Jun '18 – Sep '20	Teaching Fellow, Anatomical Sciences, St. George's University • Facilitating ITI sessions (interactive lecture sessions) with students • Facilitating small group discussion sessions with students • Providing ultrasound instruction to students
Oct 2020 – Present	Clinical Instructor, Anatomical Sciences, St. George's University • Lecturing in SOM BPM 1 & 2, and Undergrad Courses • Writing USMLE style MCQs • Running facilitator training sessions • Coordinating small group sessions with students and facilitators • Running wet lab sessions • Dissecting cadaveric specimen

Certifications

2019 - Present	Advanced Cardiovascular Life Support (AHA)
2019 - 2021	Pediatric Advanced Life Support (AHA)
2019 - Present	Basic Life Support Instructor (AHA)
2019 - Present	Advanced Cardiovascular Life Support Instructor (AHA)
2019	Point of Care Ultrasound (SGU)
Spring 2020	Diversity and Inclusion in Teaching and Learning (DES - LEAD)
Spring 2020	Facilitating Engagement in Small Groups Online (DES - LEAD)
Spring 2021	Foundations in Instructional Design (DES-LEAD)

Administrative Appointments

2020-2021	Associate Course Director, Anatomy & Physiology 1 (BIOL 101)
11/20 - Present	Assistant Year 1 Clinical Tutor Coordinator, St. George's University
2021-Present	Course Director, Anatomy & Physiology 1 (BIOL 101)

University Service

11/20 - Present	Member, Clinical Tutor Coordinator Committee
4/21 - Present	Member, Faculty Development Committee
4/21 – Present	Chair, Year 1 Clinical Tutor Hiring Committee
8/21 - Present	Member, Supplemental Academic Support Committee

Professional Organizations

2020 - Present	Member, American Association of Clinical Anatomists (AACA)

Research Experience

7/20 - Present	MSRI Faculty Advisor

Publications

Andrew K, Iwanaga J, Loukas M, et al. Does the Venus de Milo have a Spinal Deformity?. *Cureus*. 2018; 10(8): e3219. doi:10.7759/cureus.3219

Andrew K, Iwanaga J, Loukas M, et al. A Variant Origin of the Carotid Sinus Nerve. *Cureus*. 2018; 10(6): e2883. doi:10.7759/cureus.2883

Extracurricular Activities

Present	Learn-to-Swim Coach

Curriculum Vitae

Personal

Name: Alvin Christopher Billey
D.O.B: 16th February, 1989
Nationality: Guyanese
Marital Status: Married
Address: Frequente, St.George's, Grenada
Tel #: +14734216869 (Grenada) +5926541317 (Guyana)
Email Address: alvin_billey@hotmail.com
abilley@sgu.edu

Education

St. Agnes Primary (1995-2001)
St. Stanislaus College (2001-2006)
University of Guyana (2007-2015)

Qualifications

- **Caribbean Secondary Education Certificate (CSEC) – General Proficiency**

<i>April-June 2006</i>	Mathematics	Grade One (1)
	English Language	Grade One (1)
	English Literature	Grade Two (2)
	Chemistry	Grade Two (2)
	Biology	Grade Two (2)
	Information Technology	Grade Two (2)
	Physics	Grade Two (2)
	Geography	Grade Three (3)

- **University of Guyana**

<i>September 2007- 2009</i>	Diploma in Computer Science.
September 2009 – 2010	Bachelor of Science (General Biology) (Prerequisite for Entry to Medical School).
<i>September 2010-2015</i>	Bachelor of Medicine, Bachelor of Surgery (MBBS).

- **United States Medical Licensing Exam (USMLE) Step 1**
July 2019

- *Occupational English Test (OET)*
August 2021

- *United States Medical Licensing Exam (USMLE) Step 2 CK*
September 2021

Personal Skills and Abilities

Good Teamwork capabilities.

Quick Problem Resolutions.

Maintaining Professionalism while working under pressure.

Excellent Organizational and Communicational Skills.

Voluntary Work

Guyana Red Cross Society First Aid

University of Guyana Medical Student's Association Annual Health Fair

Achievements

Best Researcher Award for Research on "Knowledge Attitudes and Practices of Stroke among patients attending GPHC Medical Clinic";

Work Experience

February, 2016 – January 2017	Intern Doctor at Georgetown Public Hospital Corporation. Rotations in Pediatrics, Obstetrics and Gynecology, General Surgery and subdepartments, Internal Medicine
March 2017 – October 2017	Medical Doctor in Department of Urology at Georgetown Public Hospital Corporation.
October 2017 – September 2021	Year 2 Clinical Tutor, Department of Pathology, St George's University, Grenada.

References

- Dr. SHIVAYOGI R. BHUSNURMATH
MBBS, MD (PATH), FAMS, F.R.C. PATH (LON)
CHAIR AND PROFESSOR OF PATHOLOGY
DEAN, ACADEMIC AFFAIRS
- Dr. Emanuel Cummings DVM, DipEd, MSc
Dean of The University of Guyana Faculty of Health Sciences, School of
Medicine; Email: emanuel.cummings@uog.edu.gy Telephone: 592-660-5606
- Dr. Dalgleish Joseph
MBBS, FCOS Pediatric Surgery
Email: dalgleishjosephmd@yahoo.com Telephone: 592 - 624 -7735
- Dr Mark Atwell
MBBS
Email: mark.atwell122@gmail.com Telephone: 592- 626-3535

MICHAEL BORDING-JORGENSEN, Ph. D

mbording@uwaterloo.ca

PERSONAL INFORMATION

• Office:

276A Biology 1

Department of Biology

University of Waterloo, ON, Canada N2L 3G1

• Home:

401-595 King Street West

Hamilton, ON L8P 1C3

CURRENT POSITION

- Department of Biology, University of Waterloo

Assistant Professor – Teaching Stream

EDUCATION

- PhD in Physiology - 2018

Department of Physiology, Faculty of Medicine and Dentistry.

University of Alberta, Edmonton, Canada. Funding: Department of Physiology.

Supervisor: Dr. Eytan Wine

Thesis title: Characterizing the Role of the NLRP3 Inflammasome During *Citrobacter rodentium* Infection

Techniques applied: *C. rodentium* infection model (WT and Caspase 1^{-/-}), Peritoneal macrophage isolation, ELISA, Transwell infection model, organoid isolation (human and mouse), microscopy (Immunofluorescent and Live-cell imaging), western blot, qPCR, and cell culture

- BSc Major Biological Sciences, Minor Physical Sciences - 2012

University of Alberta, Edmonton

FUNDING

- Canadian Institute for Health Research Post Doctoral Fellowship (Declined, 2024)

Project: Elucidating the role of host and bacterial proteolytic activity in inflammatory bowel disease

- Farncombe Family Digestive Health Research Institute Postdoctoral Fellowship (2023)

Project: Therapeutic effects of new-generation anti-proteolytic probiotics in colitis

- Weston Family Foundation Proof-of-Principle LOI 2021

Project Title: Dietary fibers: feeding the microbiome, or fueling inflammation in diseases of dysbiosis

Principle Applicant: Dr. Heather Armstrong

Role: Co-Applicant

- Postdoctoral Fellowship November 2020-2022

Funding Agency: Mitacs Elevate and W. Garfield Weston Foundation

Project Title: Fibre in Children with Inflammatory Bowel Diseases: Feeding Our Microbes vs. Fuelling Inflammation

PROFESSIONAL AWARDS

- Canadian Digestive Disease Week Poster of Distinction – Canadian Association of Gastroenterology – 2024
- Farncombe Family Digestive Health Research Institute Research Day Poster Award - 2023
- Canadian Digestive Disease Week Poster of Distinction – Canadian Association of Gastroenterology – 2023
- Canadian Digestive Disease Week Poster of Distinction – Canadian Association of Gastroenterology - 2022
- Division of Gastroenterology Top Poster Award - 2021
- Mitacs Elevate Post-Doctoral Fellowship -2020-2022
- Graduate Student Teaching Award from Faculty of Medicine and Dentistry -2018

- Department of Physiology Oral Presentation Award (Student choice) - 2017
- Faculty of Medicine and Dentistry 75th Graduate Student Scholarship - 2017
- Department of Physiology Graduate Studentship - 2016
- Professional Development Award - 2015
- Department of Physiology Top Poster Award - 2015
- Division of Gastroenterology Top Poster Award - 2014
- AHFMR IBD Consortium Graduate Studentship – 2013

WORK AND RESEARCH EXPERIENCE

- April 2023 – July 2024

Postdoctoral Fellow

Project: Therapeutic effects of new-generation anti-proteolytic probiotics in colitis

Department of Medicine, McMaster University

Postdoctoral Fellow 2018-2020

Supervisor: Elena Verdu

- November 2020-April 2023

Postdoctoral Fellow

Department of Pediatrics, University of Alberta

Project: Role of Short Chain Fatty Acids in the Pathogenicity of Pathobionts in Pediatric IBD

Supervisor: Eytan Wine

- November 2018 – November 2020

Postdoctoral Fellow

Project: Molecular serotyping for the detection of STEC

Department of Laboratory Medicine and Pathology, University of Alberta

Supervisor: Linda Chui

- January 2013 – October 2018

PhD in Physiology

Project: Characterizing the Role of the NLRP3 Inflammasome During *Citrobacter rodentium* Infection

Department of Physiology, University of Alberta

Supervisor: Eytan Wine

- September 2012 – December 31, 2012

Bio 499 Undergraduate Research Project

Project: Intestinal Epithelial Cell Extrusion in Pediatric IBD

Department of Biological Sciences, University of Alberta

Supervisors: Eytan Wine and Deenaz Zaidi (PhD Student)

PROFESSIONAL DEVELOPMENT

- Scientific Communication Advances Research Excellence Workshop 2022

- Centre for Teaching and Learning courses

Assessment of Learning

Learning Objectives

Specialized Support and Disability Services

How Can the Library Assist You as a Teaching Assistant/Primary Instructor and Your Students?

Using Technology to Improve Communication in Large Classrooms

Effective Grading Practices in Biology

Assisting Students with Mental Wellness

Teaching Effectively in the Lab

Giving Effective Feedback to Your Students Attendance

Graduate Student Perspectives on Teaching – Scenarios You May Face as an Instructor

Code of Student Behaviour

- Graduate Teaching and Learning Level 1 course:

Length: 15 hours (2015)

Series of seminars and workshops designed by the Faculty of Graduate Studies and Research (FGSR) at University of Alberta to provide pedagogic strategies to promote effective learning.

- Graduate Teaching and Learning Level 3 course:

Length: 2 months (2016)

Project-based course designed by the Faculty of Graduate Studies and Research (FGSR) University of Alberta to provide the fundamentals in teaching for higher education.

TEACHING EXPERIENCE

- Lecturer Fall 2024 – University of Waterloo

BIOL 273 – Human Physiology I

- Teaching assistant:

Sept 2017 – Dec 2017 - Faculty of Medicine and Dentistry- University of Alberta.

MMI 133- Medical Microbiology for Healthcare Professionals

Jan 2017- Apr 2017 - Faculty of Medicine and Dentistry- University of Alberta.

MMI 351- Mechanisms of Bacterial Pathogenesis

Lectures given on *Helicobacter pylori* and *Listeria monocytogenes*

Sept 2016- Dec 2016 - Faculty of Medicine and Dentistry- University of Alberta.

MMI 133- Medical Microbiology for Healthcare Professionals

Lecture given on Infections of the lower Gastrointestinal tract

- Invited lectures:

Apr 2022- Faculty of Medicine and Dentistry- University of Alberta.

MMI 445: Intestinal Microbiota and the Immune System

MMI 445: Microbiome-Associated Diseases

Apr 2021- Faculty of Medicine and Dentistry- University of Alberta.

MMI 445: Intestinal Microbiota and the Immune System

Apr 2020 - Faculty of Medicine and Dentistry- University of Alberta.

MMI 445: Intestinal Microbiota and the Immune System

Apr 2019 - Faculty of Medicine and Dentistry- University of Alberta.

MMI 445: Intestinal Microbiota and the Immune System

Apr 2017 - Faculty of Medicine and Dentistry- University of Alberta.

MMI 445: Intestinal Microbiota and the Immune System

- Mentoring:

May 2023 – Apr 2024

Project: In vitro assessment of different media on proteolytic activity of *Pseudomonas aeruginosa*, *Enterococcus faecalis*, and *Phocaeicola vulgatus*

Student: Luke Cammalleri

May-Aug 2022 - University of Alberta; Summer Student supervision

Project: *B. fragilis* as a pathobiont in pediatric IBD

Student: Trina Gartke

Sept 2021-Apr 2022 – University of Alberta, Medical Laboratory Science Thesis Project

Project: Characterizing *Bacteroides fragilis* as a potential pathobiont in pediatric IBD

Student: Kita Chea

May-Aug 2021 - University of Alberta; Summer Student supervision

Project: SCFA and pathobionts from IBD patients

Student: Trina Gartke

May-Aug 2020 - University of Alberta; Summer Student supervision

Project: Validation of shiga-toxin from stool using novel immunoassay

Student: Hannah Tyrrell

May-Aug 2019 - University of Alberta; Summer Student supervision

Project: Biofilm formation of non-O157 STEC

Student: Taryn Stokowski

May - Aug 2017 - University of Alberta; Summer Student supervision

Project: Assessing the role of the inflammasome in epithelial cells during bacterial infection

Student: Emma Zwaigenbaum

Sept 2016 - Apr 2017 - University of Alberta

PHYSL 467: Physiology Honours Thesis Project

Project: Determining the role of NLRP3 inflammasome in colonic epithelial cells during bacterial infection.

Student: Vivian Fung

Summer 2016 - University of Alberta

Project: Assessing Inflammasome Activation by Isolated Intestinal Anaerobic Bacteria

Student: Ghazal Danesh

Summer 2015 - University of Alberta

Project: Enhanced Elimination of Enteric Pathogens by Macrophages by NLRP3 Activation

Student: Ghazal Danesh

EVENT ORGANIZATION

- Department of Physiology Research Day - 2016

PROFESSIONAL AFFILIATIONS

- Farncombe Family Digestive Health Research Institute
- Microbiome Canada
- Review Board Member for Microorganisms, MDPI
- Reviewer Member for Frontiers Microbes and Innate Immunity
- Canadian Association of Gastroenterology

- Centre of Excellence in Gastrointestinal Inflammation and Immunology Research Group
- Women and Children's Health Research Institute
- Alberta Provincial Pediatric Enteric Infection Team (APPETITE)
- One Health Consortium
- Inflammatory Bowel Diseases Consortium
- American Society for Microbiology

SCIENTIFIC WRITING

- CEGIR Chronicles April 2017
- CEGIR Chronicles January 2017

UNIVERSITY SERVICE

- Biology Library Representative
- Co-op Liaison Officer
- Department of Biology EDI Committee

VOLUNTEER WORK

- Farncombe Journal Club Organizer
- Telus World of Science booth highlighting 2SLGBTQ+ involved in Research
- Pediatric Research Advisory Committee PDF Representative (2022-2023)
- Organizer for CEGIR Research Rounds 2021-2023
- Summer 2016 – Red Deer College Science Camp

Presentation on Careers in Science for kids aged 12-15

PENDING ARTICLES

1. **Bording-Jorgensen M**, Cheng C, Wickenberg M, Arjomand Fard N, Armstrong H, La Pointe P, Wine E. Inflammasome Activation by ATP Induces Mitochondrial ROS Generation in Macrophages. *Manuscript submitted to Cell Reports*.
2. Valcheva R, Armstrong H, Kovic O, **Bording-Jorgensen M**, Veniamin S, Pérez-Muñoz ME, Haskey N, Silva M, Peerani F, Wong K, Kao DH, Van Zanten SV, Halloran BP, Kroeker KI, Gibson D, Wine E, Gänzle M, Walter J, Dieleman LA. Double Blind Placebo-Controlled Trial for the Prevention of Ulcerative Colitis Relapses by B-Fructan prebiotics: Efficacy and Mechanistic Analysis. Presubmission in BioRx Jan 2022. *Pending submission to Gastroenterology*.
3. **Bording-Jorgensen M**, Gartke T, Chea K, Cheng C, Armstrong H, Wine E. Role of Short-chain Fatty Acids in the Pathogenesis of Pathobionts in Inflammatory Bowel Diseases. *Manuscript in preparation; Cell Host and Microbe*.
4. Mahmood R, **Bording-Jorgensen M**, Jeanson T, Bernstein CN, Santer D, Armstrong H. Utilizing an explant model of patient-derived intestinal biopsies to examine disease response in inflammatory bowel diseases and progression to colorectal cancer. *Manuscript in preparation; Gastroenterology*.
5. Saurette M, MacDonald T, Pan W, O'Neil DD, Alipour M, Beggs MR, **Bording-Jorgensen M**, Wine E, Dimke H, Alexander T. Phosphate source determines route of intestinal absorption, organic transcellular vs. inorganic paracellular. *Manuscript under review in Nephrology Dialysis Transplantation*.

PEER-REVIEWED ARTICLES (Trainees Underlined)

1. Piper H*, **Bording-Jorgensen M***, Zhang Z, Suarez Suarez R, Armstrong H, Wine E, Silverman J. Evaluation of the gastrointestinal tract of infants with short-bowel disease after surgical resection. * **co-first author**. *Journal of Pediatric Gastroenterology and Nutrition*. 2024 June 26.
2. Arjomand Fard N, **Bording-Jorgensen M**, Wine E. A Potential Role for Gut Microbes in Mediating Effects of Omega-3 Fatty Acids in IBD. *Current Microbiology*. 2023 Sept 11.
3. Heather K Armstrong, Norah Vincent, Charles Bernstein, **Michael Bording-Jorgensen**, Simona Veniamin, Juan Jovel, Shamsia Sobhan, Mahmoud Torabi, Eytan Wine, Wael El-Matary. *Gut microbiome*

composition and metabolic changes are correlated with sleep efficiency and disease phenotype in pediatric inflammatory bowel disease. Journal of Sleep Medicine and Disorders. 2023 Aug 18.

4. Samuel Adefisoye Lawal, Athalia Voisin, Hana Olof, **Michael Bording-Jorgensen**, Heather Armstrong. *Diversity of the microbiota communities found in the various regions of the intestinal tract in healthy individuals and inflammatory bowel diseases. Frontiers in Microbiology.* 2023 August 4.

5. Heather K. Armstrong, **Michael Bording-Jorgensen**, Deanna M. Santer, Zhengxiao Zhang, Rosica Valcheva, Aja M. Rieger, Justin Sung-Ho Kim, Stephanie I. Dijk, Ramsha Mahmood, Olamide Ogungbola, Juan Jovel, France Moreau, Hayley Gorman, Robyn Dickner, Jeremy Jerasi, Inderdeep K. Mander, Dawson Lafleur, Alexandra Petrova, Terri-Lyn Jeanson, Andrew Mason, Consolato M. Sergi, Arie Levine, Kris Chadee, David Armstrong, Sarah Rauscher, Charles N. Bernstein, Matthew W. Carroll, Hien Q. Huynh, Jens Walter, Karen L. Madsen, Levinus A. Dieleman, Eytan Wine. *Unfermented β -fructan fibers fuel inflammation in select inflammatory bowel disease patients. Gastroenterology.* 2022 Sept 20; S0016-5085(22)01150-7. doi: 10.1053/j.gastro.2022.09.034. PMID: 36183751.

6. Juan Jovel, Aissata Nimaga, Tracy Jordan, Sandra O'Keefe, Jordan Patterson, Aducio Thiesen, Naomi Hotte, **Michael Bording-Jorgensen**, Sudip Subedi, Jessica Hamilton, Eric J. Carpenter, Béatrice Lauga, Shokrollah Elahi, Karen L. Madsen, Gane Ka-Shu Wong, Andrew L. Mason. *Metagenomics Versus Metatranscriptomics of the Murine Gut Microbiome for Assessing Microbial Metabolism During Inflammation.* Front Microbiol. 2022 Feb 3; 13:829378. doi: 10.3389/fmicb.2022.829378. PMID: 35185850; PMCID: PMC8851394

7. **Michael Bording-Jorgensen**, Brendon Parsons, Colin Lloyd, Jonas Szelewicki, Binal Shah-Gandhi, Angela Ma, Linda Chui. *Molecular Detection of Non-O157 Shiga toxin-Producing Escherichia coli (STEC) Directly from Stool Using Real-time Multiplex PCR Assays.* Microorganisms 2022, 10, 329. <https://doi.org/10.3390/microorganisms10020329>

8. **Michael Bording-Jorgensen**, Heather Armstrong, Madison Wickenberg, Paul Lapointe, Eytan Wine. *Macrophages and Epithelial Cells Mutually Interact Through NLRP3 to Clear Infection and Enhance the Gastrointestinal Barrier.* Immuno. 2022, 2(1), 1325. <https://doi.org/10.3390/immuno2010002>

9. **Michael Bording-Jorgensen**, Hannah Tyrrell, Colin Lloyd, Linda Chui. *Comparison of Common Enrichment Broths Used in Diagnostic Laboratories for Shiga Toxin-Producing Escherichia coli.* Microorganisms 2021, 9, 503. <https://doi.org/10.3390/microorganisms9030503>

10. Heather Armstrong, **Michael Bording-Jorgensen**, Eytan Wine. *The multifaceted roles of diet, microbes, and metabolites in cancer.* Cancers 2021, 13, 767. <https://doi.org/10.3390/cancers13040767>.

11. **Michael Bording-Jorgensen**, Brendon D. Parsons, Gillian A.M. Tarr, Binal Shah-Gandhi, Colin Lloyd, Linda Chui. *Association of Ct values from Real-Time PCR with Culture in Microbiological Clearance Samples for Shiga toxin-producing Escherichia coli*. Microorganisms. 2020 Nov 10. 10.3390/microorganisms8111801
12. Heather Armstrong*, **Michael Bording-Jorgensen***, Richard Chan, Eytan Wine. *Nigericin Promotes NLRP3-Independent Bacterial Killing in Macrophages*. Front Immunol. 2019 Oct 1. doi: 10.3389/fimmu.2019.02296. *co-first author
13. Heather Armstrong, Misagh Alipour, Rosica Valcheva, **Michael Bording-Jorgensen**, Juan Jovel, Deenaz Zaidi, Prachi Shah, Yuefei Lou, Cory Ebeling, Andrew L. Mason, Dawson Lafleur, Jeremy Jerasi, Gane K.-S. Wong, Karen Madsen, Matthew Carroll, Hien Q. Huynh, Levinus A. Dieleman, Eytan Wine. *Host Immunoglobulin G Selectively Identifies Pathobionts in Pediatric Inflammatory Bowel Diseases*. Microbiome. 2019 Jan 3;7(1). doi: 10.1186/s40168-018-0604-3
14. Heather Armstrong, **Michael Bording-Jorgensen**, Stephanie Dijk, Eytan Wine. *The Complex Interplay between Chronic Inflammation, the Microbiome, and Cancer: Understanding Disease Progression and What We Can Do to Prevent It*. Cancers. 2018 Mar 20;10(3). pii: E83. doi: 10.3390/cancers10030083
15. **Michael Bording-Jorgensen**, Misagh Alipour, Ghazal Danesh, Eytan Wine: *Inflammasome Activation by ATP Enhances Citrobacter rodentium Clearance through ROS Generation*. Cell Physiol Biochem 01/2017; doi:10.1159/000455988
16. Chad J Roy, Kenneth Warwick Nickerson, Juan Jovel, Ka-Shu Gane, Wong, Sandra O 'keefe, Jordan Patterson, **Michael Bording-Jorgensen**, Weiwei Wang, Andrew L Mason, Kenneth G Warren: *Cerebrospinal Fluid in a Small Cohort of Patients with Multiple Sclerosis Was Generally Free of Microbial DNA*. Frontiers in Cellular and Infection Microbiology. 02/2017; 6(6). doi:10.3389/fcimb.2016.00198
17. Wael Elhenawy, **Michael Bording-Jorgensen**, Ezequiel Valguarnera, M. Florencia Haurat, Eytan Wine, Mario F. Feldman: *LPS Remodeling Triggers Formation of Outer Membrane Vesicles in Salmonella*. mBio 09/2016; 7(4)., doi:10.1128/mBio.00940-16
18. Deenaz Zaidi, **Michael Bording-Jorgensen**, Hien Q. Huynh, Matthew W. Carroll, Jean Francois Turcotte, Consolato Sergi, Julia Liu, Eytan Wine: *Increased Epithelial Gap Density in the Non-Inflamed Duodenum of Children with Inflammatory Bowel Diseases*. Journal of Pediatric Gastroenterology and Nutrition. 02/2016; doi:10.1097/MPG.0000000000001182

19. Misagh Alipour, Yuefei Lou, Daniel Zimmerman, **Michael Bording-Jorgensen**, Consolato Sergi, Julia J Liu, Eytan Wine: *A Balanced IL-1 β Activity Is Required for Host Response to Citrobacter Rodentium Infection*. PLoS ONE 12/2013; 8(12). doi:10.1371/journal.pone.0080656

PUBLISHED ABSTRACTS

1. M. Bording-Jorgensen, K. Chea, T. Gartke, C. Cheng, H. Armstrong, E. Wine. Effects of Short-Chain Fatty Acids on Epithelial and Macrophage Response to *Bacteroides fragilis*. Canadian Digestive Disease Week, Journal of the Canadian Association of Gastroenterology 2023. ***Poster of Distinction.**
2. M. Bording-Jorgensen, T. Gartke, H. Armstrong, E. Wine. Impact of Short Chain Fatty Acids on Pathogenicity of Commensal Bacteria in Pediatric Inflammatory Bowel Diseases. Canadian Digestive Disease Week, Journal of the Canadian Association of Gastroenterology 2022. ***Poster of Distinction.**
3. M. Bording-Jorgensen, H. Armstrong, E. Wine. ATP-Induced Inflammasome Activation Generates Mitochondrial ROS Production in Macrophages. Canadian Digestive Disease Week, Journal of the Canadian Association of Gastroenterology. 2021
4. S. Dijk, M. Lawley, M. Bording-Jorgensen, D. Zaidi, M. Carroll, H. Huynh, H. Armstrong, E. Wine. Interactions Between Diet and the Microbiome in Pediatric Inflammatory Bowel Diseases (Published Abstract). Journal of the Canadian Association of Gastroenterology, S2, p149-150, doi: <https://doi.org/10.1093/jcag/gwz006.073>. 2019.
5. M. Bording-Jorgensen, H. Armstrong, E. Zwaigenbaum, E. Wine. Macrophage-activated inflammasome mediates recovery of intestinal epithelial cells during infection. Canadian Digestive Disease Week, Toronto, ON. Journal of the Canadian Association of Gastroenterology.
6. M. Bording-Jorgensen, H. Armstrong, E. Zwaigenbaum, E. Wine. Inflammasome activation in macrophages promotes epithelial cell recovery during *Citrobacter rodentium* infection. 4th International Symposium on Pediatric Inflammatory Bowel Disease, Barcelona Spain. ePOSTER Presentation. Journal of Pediatric Gastroenterology and Nutrition 2017;65(Suppl 1): S11.
7. M. Bording-Jorgensen, H. Armstrong, E. Wine. Inflammasome activation increases macrophage migration through epithelial barrier during *Citrobacter rodentium* infection. Canadian Digestive Disease Week, Banff, AB, Canada. Canadian Journal of Gastroenterology 2017.

8. M. Bording-Jorgensen, M. Alipour, G. Danesh, E. Wine. ATP-Induced Inflammasome Activation Increases Bacterial Clearance through ROS Production. Canadian Digestive Disease Week. 2016, Montreal, QC, Canada. Canadian Journal of Gastroenterology 2016; A83.
9. M. Bording-Jorgensen, M. Alipour, E. Wine. Enhanced enteric pathogen killing by inflammasome-activated macrophages. Canadian Digestive Disease Week, Banff, AB, Canada. Canadian Journal of Gastroenterology 2015.
10. D Zaidi, M. Bording-Jorgensen, HQ Huynh, M Carroll, E Wine. Broken fences; epithelial gaps & microbes in pediatric inflammatory bowel diseases. Canadian Digestive Disease Week. 2015, Banff, AB, Canada. POSTER OF DISTINCTION. Canadian Journal of Gastroenterology 2015; 29:124A.
11. M. Bording-Jorgensen, M. Alipour, E. Wine. Enhanced enteric pathogen killing by inflammasome activated macrophages. Canadian Digestive Disease Week, Banff, AB, Canada. Canadian Journal of Gastroenterology 2015;29:198A.
12. D. Zaidi, M. Bording-Jorgensen, Y. Liu, J. Liu, E. Wine. Intestinal epithelial cell extrusion and microbial virulence are altered in pediatric inflammatory bowel diseases. Digestive Disease Week, Chicago, IL, USA. Gastroenterology 2014;146: S781.
13. D. Zaidi, M. Bording-Jorgensen, Y. Lou, P. Koleva, L. Dieleman, J. Liu, E. Wine. Alterations in intestinal epithelial cell extrusion and microbial virulence in pediatric inflammatory bowel diseases. Canadian Digestive Disease Week, Toronto, ON, Canada. Canadian Journal of Gastroenterology 2014
14. M. Alipour, Y. Lou, M. Bording-Jorgensen, D. Zimmerman, C. Sergi, JJ. Liu, E. Wine. A Balanced IL-1 β Activity is Required for Host Response to Citrobacter rodentium Infection. Canadian Digestive Disease Week, Toronto, ON, Canada. Canadian Journal of Gastroenterology 2014.
15. M. Bording-Jorgensen, R. Chan, M. Alipour, Y. Lou, E. Wine. IL1 β Mediates NLRP3 Effects on Macrophages by Augmenting Killing of Citrobacter rodentium. Canadian Digestive Disease Week, Toronto, ON, Canada. Canadian Journal of Gastroenterology 2014.

ORAL PRESENTATIONS

1. M. Bording-Jorgensen, H. Armstrong, E. Wine. Elucidating the Pathogenic Potential of Pathobionts in IBD in Response to Varied SCFA Composition. Division of Gastroenterology Research Day. April 2021
2. M. Bording-Jorgensen, B Parsons, J Szelewicki, C Lloyd, L Chui. Molecular detection of non-O157 shiga-toxin producing Escherichia coli (STEC) directly from stool using real-time multiplex PCR assays. CACMID. April 2019.

3. S. Dijk, M. Lawley, M. Bording-Jorgensen, D. Zaidi, M. Carroll, H. Huynh, H. Armstrong, E. Wine. Interactions Between Diet and the Microbiome in Pediatric Inflammatory Bowel Diseases. Canadian Digestive Disease Week, Canadian Association of Gastroenterology. February 2019
4. M. Bording-Jorgensen, H. Armstrong, E. Wine. Inflammasome activation increases macrophage migration through epithelial barrier during *Citrobacter rodentium* infection. Physiology Research Day. April 2017.
5. E Zwaigenbaum, M Bording-Jorgensen, H Armstrong, E Wine. Factors secreted from infected epithelial cells promote *Citrobacter rodentium* clearance by macrophages. Women and Children's Health Research Institute Research Day, Edmonton, Alberta, Canada. November 2017
6. M. Bording-Jorgensen, R. Chan, M. Alipour, Y. Lou, E. Wine. IL-1 β Mediates NLRP3 Effects on Macrophages by Augmenting Killing of *Citrobacter rodentium*. GI topics and Research oral presentation. February 2014.
7. M. Bording-Jorgensen, M. Alipour, E. Wine. Enhanced *C. rodentium* killing by inflammasome activated macrophages. Women and Children's Health Research Institute. November 2014.
8. M. Bording-Jorgensen, R. Chan, Y. Lou, E. Wine. Characterizing the role of IL-1 β in macrophage handling during *Citrobacter rodentium* infection. Alberta Digestive Disease Summit Presentation. June 2013.

POSTER PRESENTATIONS

1. M. Bording-Jorgensen, A. Hann, A. Badenas Santiago, K. Jackson, P. Bercik, H.J. Galipeau, E.F. Verdu. Characterizing Microbial Proeolytic Activity in *IL10*^{-/-} Mice. Farncombe Family Digestive Health Research Institute Research Day 2023. ***Poster Award.**
2. M. Bording-Jorgensen, K. Chea, T. Gartke, C. Cheng, H. Armstrong, E. Wine. Effects of Short-Chain Fatty Acids on Epithelial and Macrophage Response to *Bacteroides fragilis*.. Canadian Digestive Disease Week, Journal of the Canadian Association of Gastroenterology 2023. ***Poster of Distinction.**
3. M. Bording-Jorgensen, T. Gartke, K. Chea, H. Armstrong, E. Wine. Effects of Short-Chain Fatty Acids on Pathobiont Pathogenicity in Pediatric Inflammatory Bowel Diseases. ASM-Microbe 2022, Washington D.C.
4. M. Bording-Jorgensen, T. Gartke, H. Armstrong, E. Wine. Impact of Short Chain Fatty Acids on Pathogenicity of Commensal Bacteria in Pediatric Inflammatory Bowel Diseases. CDDW 2022. ***Poster of Distinction.**

5. K. Chea, M. Bording-Jorgensen, T. Gartke, H. Armstrong, E. Wine. Characterizing *Bacteroides fragilis* as a Potential Pathobiont in Individuals with Inflammatory Bowel Diseases. GI Research Day, 2022.
6. M. Bording-Jorgensen, H. Armstrong, E. Wine. Role of SCFA in the Pathogenic Potential of Pathobionts in IBD. IMPACTT. June 2021
7. M. Bording-Jorgensen, H. Armstrong, E. Wine. ATP-Induced Inflammasome Activation Generates Mitochondrial ROS Production in Macrophages. Canadian Digestive Disease Week, Canadian Association of Gastroenterology. 2021
8. S. Dijk, M. Lawley, M. Bording-Jorgensen, D. Zaidi, M. Carroll, H. Huynh, H. Armstrong, E. Wine. Interactions Between Diet and the Microbiome in Pediatric Inflammatory Bowel Diseases. Canadian Digestive Disease Week, Canadian Association of Gastroenterology. 2019
9. M. Bording-Jorgensen, H. Armstrong, E. Zwaigenbaum, E. Wine. Macrophage-activated inflammasome mediates recovery of intestinal epithelial cells during infection. Canadian Digestive Disease Week, Canadian Association of Gastroenterology. 2018
10. Dijk, S., Lawley, M., Bording-Jorgensen, M., Zaidi, D., Carroll, M., Huynh, H., Armstrong, H., Wine, E. Dietary and Microbial Interactions in Pediatric Inflammatory Bowel Diseases. Women & Children's Health Research Institute Research Day, University of Alberta. 2018
11. Dijk, S., Lawley, M., Zaidi, D., Bording-Jorgensen, M., Carroll, M., Huynh, H., Armstrong, H., Wine, E. Mechanisms of Dietary, Microbial, and Metabolic Markers of Disease in Pediatric Inflammatory Bowel Diseases. G.I. Research Day, University of Alberta. Winner of Best Luminal Poster Presentation 2018
12. S. Dijk, M. Lawley, M. Bording-Jorgensen, D. Zaidi, M. Carroll, H. Huynh, H. Armstrong, E. Wine. Diet, Metabolite, and Microbiome Effects in Pediatric Inflammatory Bowel Diseases. Physiology Research Day, University of Alberta. 2018.
13. S. Dijk, M. Lawley, M. Bording-Jorgensen, D. Zaidi, M. Carroll, H. Huynh, H. Armstrong, E. Wine. Dietary and Microbial Interactions in Pediatric Inflammatory Bowel Diseases. Pediatric Research Day, University of Alberta. Winner of Runner-up Best Graduate Student Poster Presentation. 2018.
14. M. Bording-Jorgensen, H. Armstrong, E. Zwaigenbaum, E. Wine. Inflammasome activation promotes epithelial cell recovery during *Citrobacter rodentium* infection. Pediatric Inflammatory Bowel Disease. Barcelona, Spain. September 2017.

15. M. Bording-Jorgensen, H. Armstrong, E. Zwaigenbaum, E. Wine. Recovery of intestinal epithelial cells involves pathogen clearance mediated by macrophage-activated inflammasome. Innate Immunity, Freiburg Germany. September 2017.
16. M. Bording-Jorgensen, H. Armstrong, E. Wine. Inflammasome activation increases macrophage migration through epithelial barrier during *Citrobacter rodentium* infection. Canadian Digestive Disease Week, Banff 2017.
17. M. Bording-Jorgensen, H. Armstrong, E. Wine. Inflammasome activation increases macrophage migration through epithelial barrier during *Citrobacter rodentium* infection. Division of Gastroenterology Research Day, University of Alberta. 2017.
18. P Shah, H Armstrong, M Bording-Jorgensen, E Wine. *Burkholderia cepacia* as an invasive pathogen in the gut of pediatric IBD patients. *WCHRI Research Day, Edmonton, Alberta, Canada*.
19. M. Bording-Jorgensen, M. Alipour, G. Danesh, E. Wine. ATP-induced inflammasome activation increases bacterial clearance through ROS production. Infectious Diseases Conference, University of Alberta 2016.
20. M. Bording-Jorgensen, M. Alipour, G. Danesh, E. Wine. ATP-induced inflammasome activation increases bacterial clearance through ROS production. Gastroenterology Research Day, University of Alberta 2016.
21. G. Danesh, M. Bording-Jorgensen, D. Zaidi, M. Alipour, E. Wine. *Bacteria isolated from terminal ileum washings of pediatric Crohn disease patients activate the NLRP3 inflammasome. World Congress of Pediatric Gastroenterology, Hepatology and Nutrition, Montreal QC, Canada. 2016.*
22. M. Bording-Jorgensen, M. Alipour, G. Danesh, E. Wine. ATP-induced inflammasome activation increases bacterial clearance through ROS production. Physiology Research Day, University of Alberta 2016.
23. M. Bording-Jorgensen, M. Alipour, G. Danesh, E. Wine. ATP-Induced Inflammasome Activation Increases Bacterial Clearance through ROS Production. *Canadian Digestive Disease Week. 2016, Montreal, QC, Canada.*
24. G. Danesh, M. Bording-Jorgensen, D. Zaidi, M. Alipour, E. Wine. Bacteria isolated from terminal ileum washings of pediatric Crohn disease patients activate the NLRP3 inflammasome. *Faculty of Medicine & Dentistry Summer Students' Research Day; WCHRI Research Day, Edmonton, AB, Canada.*
25. M. Bording-Jorgensen, M. Alipour, E. Wine. Enhanced enteric pathogen killing by inflammasome-activated macrophages. *Canadian Digestive Disease Week. 2015, Banff, AB, Canada. Canadian Journal of Gastroenterology 2015; 29:198A.*

26. M. Bording-Jorgensen, M. Alipour, E. Wine. *Enhanced enteric pathogen killing by inflammasome activated macrophages*. Department of Physiology Research Day, University of Alberta. Best Poster Award.
27. M. Bording-Jorgensen, R. Chan, M. Alipour, Y. Lou, E. Wine. IL-1 β Mediates NLRP3 Effects on Macrophages by Augmenting Killing of *Citrobacter rodentium*. GI topics and Research oral presentation. February 7, 2014.
28. M. Bording-Jorgensen, R. Chan, M. Alipour, Y. Lou, E. Wine. IL-1 β Mediates NLRP3 Effects on Macrophages by Augmenting Killing of *Citrobacter rodentium*. *Canadian Digestive Disease Week*. February 10, 2014.
29. D. Zaidi, M. Bording-Jorgensen, Y. Liu, J. Liu, E. Wine. Intestinal epithelial cell extrusion and microbial virulence are altered in pediatric inflammatory bowel diseases. Digestive Disease Week May 2014.
30. D. Zaidi, M. Bording-Jorgensen, H. Huynh, J. Liu, E. Wine. Intestinal epithelial cell extrusion and microbial virulence are altered in pediatric inflammatory bowel diseases. Canadian Student Health Research Forum, 2014, Winnipeg, Canada.
31. M Bording-Jorgensen, M Alipour, E Wine. *Macrophage Killing of Citrobacter rodentium Intensified by NLRP3 Inflammasome Activation*. Gastroenterology Research Day, University of Alberta. Best Poster Award.
32. M. Bording-Jorgensen, M. Alipour, E. Wine. Macrophage killing of *Citrobacter rodentium* intensified by NLRP3 inflammasome activation. Banff Conference on Infectious Diseases, June 2014.
33. M. Bording-Jorgensen, M. Alipour, E. Wine. Enhanced enteric pathogen killing by inflammasome-activated macrophages. Keystone Symposium on Molecular and Cellular Biology. Lake Tahoe, April 2014.
34. D. Zaidi, M. Bording-Jorgensen, H. Q. Huynh, M. Carroll, E. Wine. Broken fences; epithelial gaps and microbes in inflammatory bowel diseases. WCHRI Research Day, 2014, Edmonton, Canada.
35. D. Zaidi, M. Bording-Jorgensen, H. Q. Huynh, J. Liu, E. Wine. Intestinal epithelial cell extrusion and microbial virulence are altered in pediatric inflammatory bowel diseases. International Conference of Cellvizio Users (ICCU), 2014, Opio Provence, France.
36. D. Zaidi, M. Bording-Jorgensen, J. Liu, E. Wine. Intestinal epithelial cell extrusion in pediatric IBD: a key to unravelling disease prognosis and pathogenesis. Alberta Digestive Disease Summit, 2013, Lake Louise, Canada

37. M. Bording-Jorgensen, R. Chan, M. Alipour, Y. Lou, E. Wine. Characterizing the role of IL-1 β in macrophage handling during *Citrobacter rodentium* infection. WCHRI. November 6, 2013.
38. M. Bording-Jorgensen, R. Chan, M. Alipour, Y. Lou, E. Wine. Characterizing the role of IL-1 β in macrophage handling during *Citrobacter rodentium* infection. The Snyder Institute, AIHS & Gairdner Symposium on Chronic Inflammatory Diseases. November 14, 2013.
39. D. Zaidi, M. Bording-Jorgensen, J. Liu, E. Wine. Intestinal epithelial cell extrusion in pediatric inflammatory bowel diseases (IBD): a key to unravelling disease prognosis and pathogenesis. Gairdner Symposium for Chronic Inflammatory Diseases, University of Calgary, 2013, Canada.

REFERENCES

1. Dr. Eytan Wine
Professor, University of Alberta
wine@ualberta.ca, (780) 248-5494
2. Dr. Linda Chui
Professor, University of Alberta
linda.chui@albertaprecisionlabs.ca, (780) 407-8951
3. Dr. Heather Armstrong
Assistant Professor, University of Manitoba
heather.armstrong@umanitoba.ca, 204-789-3815
4. Dr. Judy Gnarpe (teaching reference)
Faculty Service Officer, University of Alberta
jgnarpe@ualberta.ca, (780) 492-2302

NAME/DATE: Ashok Chaurasia / 01 December 2023

CONTACT INFORMATION:

200 Univ. Avenue West – LHN 1721
 School of Public Health Sciences (SPHS)
 University of Waterloo (UW)
 Waterloo, ON N2L 3G1, Canada
a4chaura@uwaterloo.ca
 Tel.: (519) 888-4567, ext: 48093

DEGREES RECEIVED:

<u>Degree</u>	<u>Institution</u>	<u>Years</u>
Ph.D. in Statistics	University of Connecticut - Storrs	2008 – 2013
M.S. in Statistics	University of Texas - San Antonio	2007 – 2008
B.S. in Statistics (Honours)	University of Texas - San Antonio	2004 – 2007
B.S. in Mathematics (Honours)	University of Texas - San Antonio	2004 – 2007

EMPLOYMENT HISTORY:

<u>Date</u>	<u>Position</u>	<u>Institution</u>
01 July 2021 – Present	Associate Professor	SPHS, UW
2015 – Present	Assistant Professor	SPHS, UW
2013 – 2015	IRTA Postdoctoral Fellow	NICHD, National Institutes of Health (NIH)
2012 – 2013	Solo Instructor	Statistics, University of Connecticut
2009 – 2013	Research Assistant	University of Connecticut Health Center
2009 – 2010	Contract Researcher	Statistics, University of Connecticut
2008 – 2013	Teaching Assistant	Statistics, University of Connecticut
2007 – 2008	Research Assistant	Statistics, University of Texas - San Antonio
2007 – 2008	Teaching Assistant	Statistics, University of Texas - San Antonio
2005 – 2007	Math Lab Supervisor	Mathematics, University of Texas - San Antonio
2005 – 2006	Tutor	Tomas Rivera Center, University of Texas - San Antonio
2002 – 2005	Tutor/Note-taker	disAbility Support Services, San Antonio College
2002 – 2003	Tutor	Mathematics, San Antonio College

ACADEMIC AWARDS AND DISTINCTIONS:

- 2023 Nominated for the 2023 Faculty of Health Mid-Career Graduate Mentorship Award.
- 2022 Applied Health Sciences Teaching Award Co-recipient, University of Waterloo.
- 2017-2018 Nominated for Applied Health Sciences Teaching Award, University of Waterloo.
- 2014 Young Researcher Travel Award for *Ordered Data Analysis, Models, and Health Research Models: An International Conference*.
- 2013
 - National Science Foundation (NSF) Travel Grant (USD 1250).
Awarded for attending the International Indian Statistical Association (IISA) 2013 Conference in Chennai, India. Reluctantly had to decline the offer due to visa renewal timeline for international travel.
 - Student Travel Award for *Tenth International Conference on Health Policy Statistics*
 - Poster Competition Award, *ASA CT Chapter Mini-Conference*.
 - Elected Member of Phi Kappa Phi, Connecticut chapter.
- 2011
 - Student Travel Award for *Ninth International Conference on Health Policy Statistics*.
 - Doctoral Dissertation Fellowship Award, University of Connecticut.
- 2008 SAS Student Ambassador
- 2006 – 2007
 - The Great Conversational Scholarship from the Honors College of University of Texas at San Antonio (UTSA). Fall 2006 and Spring 2007.
 - The Jerry and Mary Keating Scholarship from the College of Business of the University of Texas at San Antonio, Fall 2006.
 - National Dean List 2006.
- 2001 – 2005
 - Presidents List, University of Texas at San Antonio. Fall 2005.
 - The Presidential Scholarship from the College of Science of the University of Texas at San Antonio, Fall 2005.
 - The Texas Public Education Grant for International Students, University of Texas at San Antonio, Fall 2005.
 - National Dean List (2003 and 2004).
 - Presidents Honors List, San Antonio College; Fall 2001, Spring 2002, Spring 2003, and Fall 2003.
 - Honours List, San Antonio College, Fall 2002.
- 1997 Certificate for outstanding performance in Gulf Mathematics Olympiad.

SCHOLARLY AND PROFESSIONAL ACTIVITIES:

- a) **Grant Referee**
2018 and earlier (1):
 Israel Science Foundation
- b) **Journal Referee (number)**
2023 (3):
 Journal of Affective Disorders (1)
 Preventive Medicine Reports (2)
2021 (2):
 Journal of Computational and Graphical Statistics (1)
 British Journal of Cancer (1)
2020 (2):
 Journal of Computational and Graphical Statistics (1)
 British Journal of Cancer (1)
2019 (2):
 Preventative Medicine Reports (1)
 Scientific Reports (1)
2018 and earlier (14):
 System Science and Control Engineering (1)
 Health Promotion and Chronic Disease Prevention in Canada (1)
 Statistics in Medicine (7)
 Biometrics (1)
 International Statistical Review (1)
 Artificial Intelligence in Medicine (1)
 Pharmaceutical Statistics (1)
 Health Psychology (1)
 Methodology: European Journal of Research Methods for the Behavioral and Social Sciences (1).
- c) **Invited Session Chair**
2018 and earlier:
- 10th International Conference on Health Policy Statistics (ICHPS). Missing Data, Chicago, Illinois, USA, 2013.
 - Joint Statistical Meeting (JSM). Health Policy Statistics Section: Causal Inference in Health Policy Statistics, Montreal, Canada, 2013.

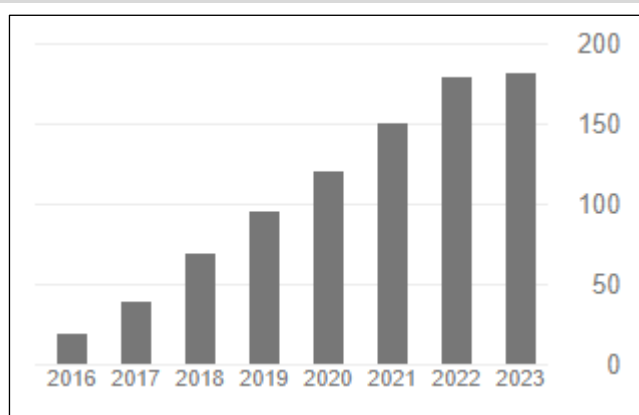
PUBLICATIONS:

Notes:

- *denotes publication with supervised student.
- Order of author names in publications **DOES NOT REFLECT** an ordering by contribution.
- As a preference, students are given lead authorship in papers to advance their careers.
- My contribution in collaborative papers with department students and faculty span a wide range of roles which include, but is not limited to, concept conception, objective formulation, statistics/analytical lead, communications of findings, draft edits and editorial comments during draft preparation.

Publication Metrics

	All	Since 2018
Citations:	881	802
h-index:	15	14
i10-index:	23	23

**a) Refereed Journals:****2023 [3]**

1. **A. Chaurasia**, E. Kim, K.D. King, S. Gonneville, S.A. Edwards, O. Douglas, J. C. Kwong, G. Mecredy, J. Walker, M. Cooke (2023). Exploring vaccine hesitancy towards COVID-19 vaccine among Métis Nation of Ontario citizens using latent class analysis. In *17TH VACCINE CONGRESS P*, vol. 2.
2. K.D. King, H. Khan, S. Gonneville, S.A. Edwards, **A. Chaurasia**, O. Douglas, J. C. Kwong, G. Mecredy, J. Walker, M. Cooke (2023). Confidence, complacency and collective responsibility were important factors for COVID-19 vaccination among Métis Nation of Ontario Citizens. In *17TH VACCINE CONGRESS P*, vol. 2.
3. T. Shields, M. Cooke, O. Douglas, K.D. King, S. Gonneville, S.A. Edwards, **A. Chaurasia**, J.C. Kwong, G. Mecredy, J. Walker. Perspectives on Vaccination Among Métis Nation of Ontario Citizens Who Remain Unvaccinated. In *17TH VACCINE CONGRESS P*, vol. 2.

2022 [7]

4. **Ashok Chaurasia**. (2022). Model-Modified BIC as a competitor of BIC variants for model selection in regression and order selection in time series. *Communications in Statistics – Theory and Methods*.
5. *Keshini Madara Marasinghe, **Ashok Chaurasia**, Maisha Adil, Qian Yue Liu, Teeyaa Ibrahim Nur, Mark Oremus. (2022). The impact of assistive devices on community-dwelling older adults and their informal caregivers: a systematic review. *BMC Geriatrics*, 22 (1).

6. Amanda Doggett, **Ashok Chaurasia**, Jean-Philippe Chaput, Scott T Leatherdale. (2022). Learning from missing data: examining nonreporting patterns of height, weight, and BMI among Canadian youth. *International Journal of Obesity*, 22 (1).
7. Somkene Igboanugo, **Ashok Chaurasia**, Philip L Bigelow, John G Mielke. (2022). Biological Embedding of Psychosocial Stressors Within a Sample of Canadian Firefighters: An Exploratory Analysis. *Journal of Occupational and Environmental Medicine*.
8. Braden K. Tompke, **Ashok Chaurasia**, Christopher Perlman, Kathy N Speechley, Mark A Ferro. (2022). Initial validation of the global assessment of severity of illness. *Health Services and Outcomes Research Methodology*.
9. Sheri Hosseini, **Ashok Chaurasia**, Mark Oremus (2022). Association between Religious Participation and Executive Function in Middle-and Older-aged Adults: A Cross-Sectional Analysis of the Canadian Longitudinal Study on Aging. *International Journal for the Psychology of Religion*.
10. S. Mirabi, **A. Chaurasia**, M. Oremus. The association between religiosity, spirituality, and breast cancer screening: A cross-sectional analysis of Alberta's Tomorrow Project. *Preventive medicine reports*.

2021 [7]

11. **Ashok Chaurasia**. Combining rules for F- and Beta-statistics from multiply-imputed data. *Econometrics and Statistics – Part B: Statistics*.
12. ***S. Aboueid**, S. Meyers, J.M. Wallace, **A. Chaurasia**. (2021). Latent Classes Association with Intention to Use a Symptom Checker for Self-Triage. *PLOS ONE* 16(11), e0259547.
13. S. Hosseini, **A. Chaurasia**, M. Oremus. (2021). Exploring the association between religious participation and executive function in middle- and old-aged adults using data from the Canadian Longitudinal Study on Aging. *Aging, Neuropsychology, and Cognition*, 1-18.
14. ***S. Aboueid**, S. Meyers, J.M. Wallace, S. Mahajan, **A. Chaurasia**. (2021). Young adults' perspectives on the use of symptom checkers for self-triage and self-diagnosis: qualitative study. *JMIR Public Health Surveillance* 7(1):e22637. doi: 10.2196/22637.
15. ***S. Aboueid**, S. Meyers, J.M. Wallace, S. Mahajan, **A. Chaurasia**. (2021). Use of symptom checkers for COVID-19 related symptoms among young adults: a qualitative study. *BMJ Innovations*, 7(2).
16. K.E. Burns, **A. Chaurasia**, V. Carson, S.T. Leatherdale. (2021). A quasi-experimental examination of how changes in school-level intramurals are associated with physical activity among a sample of Canadian secondary school students from the COMPASS study. *SSM-Population Health*, 100805.
17. K.E. Burns, **A. Chaurasia**, V. Carson, S.T. Leatherdale. (2021). Examining if changes in the type of school-based intramural programs affect youth physical activity over Time: A natural experiment evaluation. *International Journal of Environmental Research and Public Health* 18 (5), 2752.

2020 [4]

18. ***N. Hammami, A. Chaurasia, P. Bigelow, S.T. Leatherdale.** (2020). Exploring gender differences in the longitudinal association between bullying and risk behaviours with body mass index among COMPASS youth in Canada. *Preventative Medicine* (139), 106188.
19. ***N. Hammami, A. Chaurasia, P. Bigelow, S.T. Leatherdale.** (2020). Original quantitative research - gender differences in the longitudinal association between multilevel latent classes of chronic disease risk behaviours and body mass index in adolescents. *Health Promotion and Chronic Disease Prevention in Canada: Research, Policy and Practice*, 40(9), 259.
20. M. Gilfoye, J. Garcia, **A. Chaurasia**, M. Oremus. (2020). Perceived susceptibility to developing cancer and screening for colorectal and prostate cancer: A longitudinal analysis of Alberta's Tomorrow Project. *Journal of Medical Screening* 28(2), 148-157.
21. S.E. Majowicz, D. Panagiotoglou, M. Taylor, M.R. Gohari, G.G. Kaplan, **A. Chaurasia**, ... & E. Galanis (2020). Determining the long-term health burden and risk of sequelae for 14 foodborne infections in British Columbia, Canada: protocol for a retrospective population-based cohort study. *BMJ Open*, 10(8), e036560.

2019 [5]

22. ***S. Aboueid, R.H. Liu, B.N. Desta, A. Chaurasia, S. Ebrahim.** (2019). The use of artificially intelligent self-diagnosing digital platforms by the general public: Scoping review. *JMIR Medical Informatics* 7 (2). e13445.
23. ***N. Hammami, A. Chaurasia, P. Bigelow, S.T. Leatherdale.** (2019). A gender-stratified, multilevel latent class assessment of chronic disease risk behaviours' association with body mass index among youth in the COMPASS study. *Preventative Medicine* (126), 105758.
24. K. Versteeg, P. Bigelow, A.M. Dale, **A. Chaurasia.** (2019). Utilizing construction safety leading and lagging indicators to measure project safety performance: A case study. *Safety Science* (120), 411-421.
25. M. Gilfoye, J. Garcia, **A. Chaurasia**, M. Oremus. (2019). Perceived susceptibility to developing cancer and mammography screening behaviour: a cross-sectional analysis of Alberta's Tomorrow Project. *Public Health* (177), 135-142.
26. R. E. Laxer, J. A. Dubin, R. C. Brownson, M. Cooke, **A. Chaurasia**, S. T. Leatherdale. (2019). Noncomprehensive and intermittent obesity-related school programs and policies may not work: Evidence from the COMPASS. *Journal of School Health.*

2018 and earlier [20]

27. A.G. Cole, **A. Chaurasia**, R.D. Kennedy, S.T. Leatherdale. (2018). Identifying behavioural characteristics of tobacco product and e-cigarette use clusters: A repeat cross-sectional analysis. *Addictive Behaviors* (90), 77-84.
28. K. Godin, D. Hammond, **A. Chaurasia**, S.T. Leatherdale. (2018). Examining changes in school vending machine beverage availability and sugar-sweetened beverage intake among Canadian adolescents participating in the COMPASS study: A longitudinal assessment of provincial school nutrition policy compliance and effectiveness. *International Journal of Behavioral Nutrition and Physical Activity*. 15(1), 121.
29. C. McArthur, J. Hirdes, **A. Chaurasia**, K. Berg, L. Giangregorio. (2018). Quality Changes after Implementation of an Episode of Care Model with Strict Criteria for Physical Therapy in Ontario's Long-Term Care Homes. *Health Services Research*. 53 (6), 4863-4885.
30. K. Godin, **A. Chaurasia**, D. Hammond, S.T. Leatherdale. (2018). Examining associations between school food environment characteristics and sugar-sweetened beverage consumption among Canadian secondary-school students in the COMPASS study. *Public Health Nutrition*, 1-13.
31. K. Godin, **A. Chaurasia**, D. Hammond, S.T. Leatherdale. (2018). Food purchasing behaviours and sugar-sweetened beverage consumption among Canadian secondary school students in the COMPASS study. *Journal of Nutrition Education and Behavior*.
32. A.G. Cole, R.D. Kennedy, **A. Chaurasia**, S.T. Leatherdale. (2018). Exploring the predictive validity of the susceptibility to smoking construct for tobacco cigarettes, alternative tobacco products, and e-cigarettes. *Nicotine & Tobacco Research*.
33. R.E. Laxer, M. Cooke, J.A. Dubin, R.C. Brownson, **A. Chaurasia**, S.T. Leatherdale. (2018). Behavioural patterns only predict concurrent BMI status and not BMI trajectories in a sample of youth in Ontario, Canada. *PLOS-ONE*. 13(1), e0190405.
34. **A. Chaurasia**, D. Liu, P. Albert. (2017). Pattern-mixture models with incomplete informative cluster size: Application to a repeated pregnancy study. *Journal of Royal Statistical Society: Series C* 67, 255-273.
35. S. Hosseini, **A. Chaurasia**, M. Cooke, M. Oremus. (2017). The Effect of Religion and Spirituality on Cognitive Function: A Systematic Review. *The Gerontologist*, <https://doi.org/10.1093/geront/gnx024>
36. F. O'Brien, B.G. Simons-Morton, **A. Chaurasia**, D. Haynie, D. Liu. (2017). Post-high school changes in tobacco and marijuana use in the United States. *Substance Use and Misuse*, 1-10.
37. R.E. Laxer, M. Cooke, J. Dubin, R.C. Brownson, **A. Chaurasia**, S.T. Leatherdale. (2017). Clustering of modifiable behaviours and their association with overweight and obesity among a large sample of youth in the COMPASS study. *BMC Public Health* 17(102).
38. S. Hosseini, **A. Chaurasia**, M. Cooke, M. Oremus. (2016). Effect of religious involvement on cognition from a life-course perspective: protocol for a systematic review and meta-analysis. *BMJ Open* 6(9).
39. K. Sapra, **A. Chaurasia**, K. Ahrens, J. Hutcheon. (2016). Reconstructing a pregnancy cohort to study racial disparities in preterm birth. *Paediatric and Perinatal Epidemiology*. <http://onlinelibrary.wiley.com/doi/10.1111/ppe.12322/abstract>

40. K. Li, D. Liu, D. Haynie, B. Gee, **A. Chaurasia**, D.C. Seo, I. Ronald, B.G. Simons-Morton. (2016). Individual, social, and environmental influences on the transitions in physical activity among emerging adults. *BMC Public Health* 16(1), 682.
41. B.G. Simons-Morton, D. Haynie, D. Liu, **A. Chaurasia**, K. Li, H. Ralph. (2016). The effect of residential, school, work status, and social influence on the prevalence of alcohol use among emerging adults. *Journal of Studies on Alcohol and Drugs* 77(1), 121-132.
42. L. Lipsky, D. Haynie, D. Liu, K. Li, **A. Chaurasia**, T.R. Nansel, B. Gee, B.G. Simons-Morton. (2015). Adolescent trajectories of eating behaviors in a nationally-representative U.S. cohort. *International Journal of Behavioral Nutrition and Physical Activity* 12(1), 138-149.
43. **A. Chaurasia**, and O. Harel. (2015). Partial F-tests with Multiply Imputed Data in the Linear Regression framework via coefficient of determination. *Statistics in Medicine* 34(3), 432–443.
44. M. Cote, A. Kenny, J. Dussetschleger, D. Farr, **A. Chaurasia**, and M. Cherniack. (2014). Reference values for physical performance measures in the aging working population. *Human Factors: The Journal of the Human Factors and Ergonomics Society* 56(1), 228–242.
45. **A. Chaurasia**, and O. Harel. (2013). Model selection rates of information based criteria. *The Electronic Journal of Statistics* 7, 2762–2793.
46. **A. Chaurasia**, and O. Harel. (2012). Using AIC in multiple linear regression framework with multiply imputed data. *Health Services and Outcomes Research Methodology* 12(2–3), 219–233.

b) **Refereed Conference Proceedings:**

- none

c) **Books and Book Chapters:**

- none

d) **Technical and Consulting Reports:**

- none

e) **Other Publications:**

1. **A. Chaurasia**. (2009). SAS® Macros Tool Kit for Graphical Representation of Complex Data. Proceedings of the 2009 SAS® Global Forum (SGF) Conference (contributed paper #203).

MEDIA:**Print**

- 02 December 2021 **Chaurasia, Ashok**. Interview by Eugenia Xenos Anderson.
Improving perceptions of emerging technologies can help ease strain on health-care systems.
Waterloo News, Waterloo, Ontario, Canada.
<https://uwaterloo.ca/news/media/improving-perceptions-emerging-technologies-can-help-ease>
- 05 August 2020 **Chaurasia, Ashok**. Interview by Eugenia Xenos Anderson.
Bullying is linked to increased BMI, new study shows.
Waterloo News, Waterloo, Ontario, Canada.
uwaterloo.ca/news/news/bullying-linked-increased-bmi-new-study-shows
- 15 June 2017 **Chaurasia, Ashok**. Interview by Apery Kirakalaprathapan.
The Statistics Behind Everyday Science.
Canadian Society of Epidemiology and Biostatistics (CSEB).
cseb.ca/statistics-behind-everyday-science

PRESENTATION TO SCHOLARLY GROUPS:

① A. Chaurasia was presenter and first/lead/senior author of the work

* joint work with supervised student (shown in bold)

a) Invited**2023 [3]**

1. **A. Chaurasia**, E. Kim, K.D. King, S. Gonneville, S.A. Edwards, O. Douglas, J. C. Kwong, G. Mecredy, J. Walker, M. Cooke. Exploring vaccine hesitancy towards COVID-19 vaccine among Métis Nation of Ontario citizens using latent class analysis. Sept. 28, 2023. 17th Vaccine Congress, Scotland. (Poster) [in-person]

I led and co-designed the statistical analysis plan for this work whose content is used in this presentation/poster. Community member was the presenter.

2. K.D. King, H. Khan, S. Gonneville, S.A. Edwards, **A. Chaurasia**, O. Douglas, J. C. Kwong, G. Mecredy, J. Walker, M. Cooke. Confidence, complacency and collective responsibility were important factors for COVID-19 vaccination among Métis Nation of Ontario Citizens. Sept. 28, 2023. 17th Vaccine Congress, Scotland. (Poster) [in-person]

I led and co-designed the statistical analysis plan for this work whose content is used in this presentation/poster. Community member was the presenter.

3. T. Shields, M. Cooke, O. Douglas, K.D. King, S. Gonneville, S.A. Edwards, **A. Chaurasia**, J.C. Kwong, G. Mecredy, J. Walker. Perspectives on Vaccination Among Métis Nation of Ontario Citizens Who Remain Unvaccinated. Sept. 28, 2023. 17th Vaccine Congress, Scotland. (Poster) [in-person]

2022 [3]

4. ① **A. Chaurasia**. (2021). Model-Modified BIC as a competitor of BIC variants for model selection in regression and order selection in time series. Dec. 09, 2022. Department of Mathematical Sciences, University of Texas at Dallas. San Antonio, Texas, USA. (invited talk) [Online]
5. ① **A. Chaurasia**. (2022). Combining rules for F- and Beta-statistics from multiply-imputed data. 08 April 2022. Department of Statistics and Management Science, University of Texas at San Antonio. San Antonio, Texas, USA. (invited talk) [Online]
6. ① **A. Chaurasia**. (2022). Multiple Imputation: Old and New Combining Rules for Statistical Inference. 28 January 2022. Toronto Data Workshop, University of Toronto, Ontario, Canada. (invited talk)

2021 [6]

7. ① **A. Chaurasia**. (2021). Combining rules for F- and Beta-statistics from multiply-imputed data. 05 November 2021. Methodology Symposium by Statistics Canada, Ottawa, Canada. (invited poster) [Online]
8. ① **A. Chaurasia**. (2021). Model selection rates of information based criteria. 22 September 2021. Department of Public Health Sciences, University of Waterloo, Waterloo, Canada. (Guest Lecture) [Online]
9. ① **A. Chaurasia**. (2021). Combining rules for F- and Beta-statistics from multiply-imputed data. 15 July 2021. Department of Statistics and Actuarial Science Seminar, University of Waterloo, Waterloo, Canada. (invited talk) [Online]
10. ① **A. Chaurasia**. (2021). Combining rules for F- and Beta-statistics from multiply-imputed data. 26 June 2021. 4th international Conference on Econometrics and Statistics (EcoSta), Hong Kong, Hong Kong. (invited talk) [Online]
11. ① **A. Chaurasia**. (2021). Model-Modified BIC as a competitor of BIC variants for model selection in regression and order selection in time series. June 09, 2021. Department of Statistics, University of Haifa, Haifa, Israel. (invited talk) [Online]
12. ① **A. Chaurasia**. (2021). Power and sample size calculation for model selection criteria of AIC and BIC. 20 May 2021. ReproducibiliTea, University of Waterloo, Waterloo, Canada. (invited talk) [Online]

2020 [1]

13. ① **A. Chaurasia**. (2020). Statistical Analysis of academic success in college: A consulting perspective. November 18, 2020. Statistics Department, University of Connecticut, Storrs, CT, USA. (invited talk) [Online]

2019 [2]

14. ① **A. Chaurasia**. (2019). Assessment of mercury exposure levels in Indigenous communities via a new combining rule for non-normal tests statistics from multiple imputed Data. *Seminar speaker at the department of Production & Quantitative Methods of the Indian Institute of Management (Ahmedabad)*. July 17, 2019. Ahmedabad, Gujarat, India. (Presentation/Talk).
15. ① **A. Chaurasia**. (2019) Application of multiple imputation to assess mercury exposure levels in Indigenous communities. *Seminar speaker at the Department of Decision Sciences and*

Information Systems of the Indian Institute of Management (Visakhapatnam). June 19, 2019. Visakhapatnam, Andhra Pradesh, India. (Presentation/Talk).

2018 and earlier [7]

16. ① **A. Chaurasia**. Statistics in Global Health. Canadian Coalition for Global Health Research. Nov. 16, 2016, University of Waterloo, ON, Canada. (invited talk)
17. ① **A. Chaurasia**. General linear mixed models with incomplete informative cluster size: a pattern mixture model approach with application in a consecutive pregnancy study. July 21, 2016, IIT, Gujarat, India. (Talk).
18. ① **A. Chaurasia**. Did I miss anything important? Application of multiple imputation in the NEXT generation health study. April 27, 2015, University of Waterloo, ON, Canada. (Talk).
19. ① **A. Chaurasia**. Introduction to Statistics. April 27, 2015, University of Waterloo, ON, Canada. (Talk).
20. ① **A. Chaurasia**. Pattern Mixture Model with unobserved informative cluster size: Application to the Repeated Pregnancy Study. April 17, 2015, University at Albany SUNY, NY, USA. (Talk).
21. ① **A. Chaurasia**. Model selection rate of information based criteria. March 8, 2014, UT-Dallas, TX, USA. Ordered Data Analysis, Models, and Health Research Models: An International Conference in Honor of H.N. Nagaraja for his 60th Birthday. (Talk).
22. ① **A. Chaurasia**. Model Selection with multiply imputed data when the imputation model is unknown but Fixed. May 2012, University of Connecticut, Storrs, CT, USA. Modern Modeling Methods (M3). (Talk).

b) Contributed:

2018 and earlier [7]

1. ① **A. Chaurasia**. Combining Rules for F-Tests from imputed data. July 30, 2018, Vancouver, BC, Canada. *Joint Statistical Meetings*. (Poster).
2. ① **A. Chaurasia**. Linear Mixed Model with unobserved informative cluster size: Application to the Repeated Pregnancy Study. March 16, 2015, Miami, FL, USA. *ENAR*. (Talk).
3. ① **A. Chaurasia**. Model Selection with incomplete data using adjusted variance. Oct. 9, 2013, Chicago, IL, USA. *10th International Conference on Health Policy Statistics (ICHPS)*. (Poster).
4. ① **A. Chaurasia**. F-tests for incomplete data in the multiple regression setup. April 27, 2013, University of Connecticut, Storrs, CT, USA. *27th New England Statistics Symposium (NESS)*. (Poster).
5. ① **A. Chaurasia**. F-tests for incomplete data in the multiple regression setup. Aug. 6, 2013, Montreal, Canada. *Joint Statistical Meetings (JSM): Health Policy Statistics section*. (Talk).
6. ① **A. Chaurasia**. F-tests with incomplete data. March 27, 2013 (Bristol-Myers Squibb) Wallingford, CT, USA. *Eleventh Annual ASA CT Chapter Mini-Conference*. (Poster).
7. ① **A. Chaurasia**. Using AIC in multiple linear regression framework with multiply imputed data. October 2011, Cleveland, OH, USA. *9th International Conference on Health Policy Statistics (ICHPS)*. (Poster).

c) Student Talks, Presentations, Posters:

† A. Chaurasia serves as coauthor for significant contributions to the work

* A. Chaurasia supervised the student

2021 [1]

1. † Kirsten Ming, **A. Chaurasia**, S. Mock, M. Oremus. The Association between religious participation and social isolation in middle- and older- aged adults: A longitudinal Analysis of the Canadian Longitudinal Study on Aging (CLSA). *Canadian Society of Epidemiology and Biostatistics (CSEB)*. Virtual Conference. June 1-3, 2021.

2019 [2]

2. *† **S. Aboueid**, R. Liu, B.N. Desta, **A. Chaurasia**, S. Ebrahim. (2019). Leveraging self-diagnosing digital platforms to drive value in healthcare. Centre for Health Services and Policy Research, Vancouver.
3. *† **S. Aboueid**, R. Liu, B.N. Desta, **A. Chaurasia**, S. Ebrahim. (2019). What is known about the use of artificially-intelligent self-diagnosing digital platforms? A scoping review. Canadian Association of Health Services and Policy Research, Halifax.

2018 and earlier

4. *† **N. Hammami**, **A. Chaurasia**, P. Bigelow, S.T. Leatherdale. Chronic disease risk behaviours and their association with Body Mass Index among a large sample of youth. Presented at the *Canadian Association for Health Services and Policy Research*, Montréal, Québec. May 2018. (Poster).
5. *† **N. Hammami**, S. Leatherdale, P. Bigelow, **A. Chaurasia**. An examination of youth's chronic disease risk behaviours and their associations with obesity: Cross-sectional Analyses. *Canadian Student Health Research Forum*, Winnipeg, Manitoba, June 6-7, 2017. (Poster).
6. *† **N. Hammami**, S. Leatherdale, P. Bigelow, **A. Chaurasia**. An examination of youth's chronic disease risk behaviours and their associations with obesity: Cross-sectional analyses. *Canadian Nutrition Society*, Montréal, Québec, May 25-27, 2017. (Poster).
7. † C. McArthur, J. Hirdes J, **A. Chaurasia**, K. Berg, L. Giangregorio. Evaluating the effect of a rehabilitation policy and service change on facility-level activity of daily living and fall quality indicators in Ontario long-term care homes. *Ontario Physiotherapy Association's Annual Conference*. Toronto, Ontario. April 13, 2018. (Poster).
8. † S. Packull-McCormick, M. Ratelle, J. Napenas, ***F. Tang**, **A. Chaurasia**, H. Swanson, B. Laird. Human biomonitoring in northern Canada: Associations among contaminant and nutrient biomarkers. *14th International Conference on Mercury as a Global Pollutant*. Kraków (Cracow), Lesser Poland, Poland. September 8-13, 2019. (Poster).
9. † L. Fung, **A. Chaurasia**, M. Ratelle, K. Skinner, H. Swanson, B. Laird. Internal and External Exposure Analysis of Mercury Amongst the Dene and Métis Communities of Northwest Territories. *Global Water Futures (GWF) Inaugural Annual Science Meeting 2018*. McMaster University (Hamilton, ON) and Six Nations of the Grand River (Ohsweken, ON). June 06, 2018. (Poster).
10. *† **N. Hammami**, S. Leatherdale, P. Bigelow, **A. Chaurasia**. An examination of youth's chronic disease risk behaviours and their associations with obesity: Cross-sectional analyses. *International Society of Behavioral Nutrition and Physical Activity*, Victoria, British Columbia, Canada, June 7-10, 2017. (Poster).
11. † C. McArthur, J. Hirdes, **A. Chaurasia**, K. Berg, L. Giangregorio. Evaluating the effect of a rehabilitation policy and service change on facility-level activity of daily living and fall quality

- indicators in Ontario long-term care homes. Ontario Long-term Care Clinicians Conference. October 21, 2017 in Toronto, Ontario (Poster).
12. † C. McArthur, J. Hirdes J, **A. Chaurasia**, K. Berg, L. Giangregorio. Evaluating the effect of a rehabilitation policy and service change on facility-level activity of daily living and fall quality indicators in Ontario long-term care homes. Ontario Physiotherapy Association's Annual Conference. Toronto, Ontario. April 13, 2018. (Poster).
 13. † C. McArthur, J. Hirdes J, **A. Chaurasia**, K. Berg, L. Giangregorio. Evaluating the effect of a rehabilitation policy and service change on facility-level activity of daily living and fall quality indicators in Ontario long-term care homes. Canadian interRAI Conference. Calgary, Alberta. May 17, 2018. (ORAL).
 14. † C. McArthur, J. Hirdes, **A. Chaurasia**, K. Berg, L. Giangregorio. Evaluating the effect of a rehabilitation policy and service change on facility-level activity of daily living and fall quality indicators in Ontario long-term care homes. Walrus Talks. October 5, 2017 in Hamilton, Ontario (Poster).
 15. † M. Gilfoyle, **A. Chaurasia**, J. Garcia, M. Oremus. Cancer screening and perceived susceptibility of developing cancer: A cross-sectional analysis of the Alberta Tomorrow Project. 2017 CSEB conference. May 31, 2017 in Banff, Alberta (Poster).
 16. † S. Mirabi, **A. Chaurasia**, J. Garcia, M. Oremus. Religion/Spirituality and cancer screening in the Alberta Tomorrow Project: An Exploratory Analysis of Baseline Data. June 1, 2017 in Banff, Alberta (Poster).
 17. † A.G. Cole, R. Kennedy, **A. Chaurasia**, S.T. Leatherdale. Evaluating the susceptibility construct for cigarette, e-cigarette, and any tobacco or e-cigarette use among Ontario youth. Public Health 2017, annual CPHA conference, Halifax, NS. June, 2017. (Oral presentation).
 18. † A.G. Cole, R. Kennedy, **A. Chaurasia**, S.T. Leatherdale. Identifying students susceptible to using tobacco products and e-cigarettes: An evaluation of current measures. Society for Research on Nicotine and Tobacco Annual Meeting, Florence, Italy. March 10, 2017. (Poster).
 19. † A.G. Cole, R. Kennedy, **A. Chaurasia**, S.T. Leatherdale. Identifying behavioural clusters of tobacco product and e-cigarettes use: A repeat cross-sectional analysis. Society for Research on Nicotine and Tobacco Annual Meeting, Florence, Italy. March 10, 2017. (Poster).

PRESENTATION TO PROFESSIONAL GROUPS

2018 and earlier [4]

- a) **Invited:**
 1. **A. Chaurasia.** Hypothesis Tests for one and two populations. March 20, 2012, *Department of Allied Health Sciences, University of Connecticut, Storrs, CT, USA.* (Guest lecture).
 2. **A. Chaurasia.** Propensity Scores. January 2012, (University of Connecticut Health Center) East Hartford, CT, USA. *Center for Public Health and Health Policy (CPHHP) Brown Bag Methodology Sessions.* (Talk).
- b) **Contributed:**
 1. **A. Chaurasia.** SAS® macros tool kit for graphical representation of complex data. March 2009, Washington, DC, USA. *SAS Global Forum.* (Poster).
 2. **A. Chaurasia.** Time series analysis of the J-17 Well in Bexar County, Texas. March 2007, San Rafael, CA, USA. *National Conference of Undergraduate Research (NCUR).* (Talk).

OTHER PRESENTATIONS:**a) Invited:****2020**

① **A. Chaurasia.** (2020). Career advice and opportunities in Statistics and Biostatistics. *University of Waterloo Chapter of Canadian Society of Epidemiology and Biostatistics (UW-CSEB).* October 14, 2020. University of Waterloo, ON, Canada. (invited talk) [Online]

2019

① **A. Chaurasia.** (2019). Careers opportunities in Epidemiology and Biostatistics. Panelist for *University of Waterloo Chapter of Canadian Society of Epidemiology and Biostatistics (UW-CSEB).* November 19, 2019. University of Waterloo, ON, Canada. (invited)

RESEARCH GRANTS AND CONTRACTS:**a) External:**

Grant: SPHIFR Grant (2022 – 2023).

Names of Researcher(s): **John Mielke (PI)**; Co-applicant: Phil Bigelow, **Ashok Chaurasia**, Lara Sigurdson;

Agency: Supporting Health in First Responders grant programme, Government of Alberta

\$ Amount: CAD 63,218.07

Short Title: Can adverse childhood experiences affect how stress-buffering cognitive resources develop in firefighters?

Status: **Applied 13 June 2022.**

Grant: Project Grant (2022 – 2023).

Names of Researcher(s): **John Mielke (PI)**; Co-applicant: Phil Bigelow, **Ashok Chaurasia**, B. Gohar

Agency: Supporting Health in First Responders grant programme, Government of Alberta

\$ Amount: CAD 56,898.01

Short Title: Can traumatic events across the lifespan affect cardiovascular and metabolic health in first responders?

Status: **Received and current active.**

Grant: Operating Grant: Emerging COVID-19 Research Gaps & Priorities - Indigenous Health Research (2021 – 2022).

Names of Researcher(s): **Martin Cooke (PI)**; Co-applicants: **Ashok Chaurasia**, S. Edwards, S. Gonneville, K. King, J. Kwong, G. Mecredy, J. Walker

Agency: CIHR

\$ Amount: CAD 181,960

Short Title: What impacts COVID-19 vaccine uptake in Métis Citizens in Ontario? A population-based data linkage study.

Status: Applied 15 April 2021. **Received 30 June 2021.**

Grant: NSERC Discovery Grant (2018 – 2024).

Names of Researcher(s): **PI: Ashok Chaurasia**

Agency: NSERC

\$ Amount: CAD 92,000 (includes the additional CAD 12,000 for the 1st year)

Short Title: Power calculators for studies with designed missingness.

Status: Applied November 2017. **Received and holding since April, 2018.**

Grant: Project Grant (2018 – 2022).

Names of Researcher(s): **John Mielke (PI)**; Co-I: **Ashok Chaurasia**, Phil Bigelow;

Agency: Occupational Health and Safety

\$ Amount: CAD 43,439.16

Short Title: An exploration of the occupational and psychosocial variables moderating the biological embedding of stress within firefighters.

Status: Applied May 02, 2018. **Received**.

Grant: Project Grant (2018 – 2022).

Names of Researcher(s): **PI: Shannon Majowicz**; PA: Eleni Galanis; Co-applicants: **Ashok Chaurasia**, Scott Leatherdale, Panagiotoglou Dimitra; Collaborators: Richard Cook, Karmali Mohamed, David Patrick.

Agency: CIHR

\$ Amount: CAD 585,224

Short Title: Beyond diarrhea, to disability and death: uncovering the hidden health consequences of foodborne infections.

Status: Applied Sept 2017. **Received**.

Grant: Project Grant (2016 – 2021).

Names of Researcher(s): **PI: Scott Leatherdale**;

Co-applicants: Ashok Chaurasia, Joel Dubin, Ian Janssen, Catherine Sabiston, Paul Veugelers, Guy Faulkner, Robert Mann, Valerie Carson, Tara Elton-Marshall, Kate Storey, Adam Cole, Rachel Laxer.

Agency: CIHR

\$ Amount: CAD 1,578,695

Short Title: Extension of the COMPASS Study: building on our current success shaping the direction of youth health.

Status: Applied Feb 2016. **Received**.

Grant: Project Grant (2016 – 2018).

Names of Researcher(s): **PI: Scott Leatherdale**;

Co-applicants: Ashok Chaurasia, Joel Dubin, Ian Janssen, Catherine Sabiston, Paul Veugelers, Guy Faulkner, S. Haddad, V. Carson, Robert Mann, Tara Elton-Marshall, J. Costello, D. Harrington, S. Milicic, K. Patte, E. Pierard E., MP. Vine.

Agency: Substance Use and Addictions Program (SUAP), Health Canada

\$ Amount: CAD 934,086.00

Short Title: Shaping the direction of youth health across Canada by expanding the COMPASS study to new jurisdictions.

Status: Applied Aug 2016. **Received**.

b) **Internal (2018 and earlier):**

Grant: Catalyst Grant

Names of Researcher(s): **PI: Mark Oremus**,

Co-applicant(s): Ashok Chaurasia, Martin Cooke, Shera Hosseini

Agency: Network for Aging Research (NAR)

\$ Amount: CAD 7,500

Short Title: The Effect of Religious Involvement on Cognition in Middle- to Old-Age Adults

Status: Applied in 2016. **Received in 2017**.

UNDERGRADUATE STUDENT SUPERVISION:**a) As Supervisor (number)**

Current (0):

Completed (2):

Maisha Adil [2023]

Thesis Title: Improved Bayesian Information Criterion (BIC) for Model Selection in Longitudinal Studies

Serhii Peshko (May-August 2022; UW-Ukraine initiative)

GRADUATE STUDENT SUPERVISION:**b) As Supervisor (number)****1. Ph.D. (3)**

Current (0):

Completed (3):

Keshini Madara Marasinghe [2023] (co-supervised with Dr. Mark Oremus)

Thesis Title: The impact of assistive devices on community-dwelling older adults and their informal caregiver

Stephanie Eliana Aboueid [2021]

Thesis Title: The Use of Artificially Intelligent Symptom checkers by University Students – An Exploratory Sequential Mixed Methods Study

Nour Hammami [2019]

*Thesis Title: Gender Differences in Chronic Disease Risk Behaviours and their Association with Body Mass Index: Cross-sectional and Longitudinal Multilevel Analyses among a Large Sample of Youth Improved Bayesian Information Criterion (BIC) for Model Selection in Longitudinal Studies***2. Masters (2)**

Current (1): Madelyn Elliot

Completed (1):

Furong Tang [2019]

*Thesis Title: Relationship between Mercury Concentrations in Hair and Blood in Dene/Metis Communities of the Northwest Territories***c) As Committee Member (number)****1. Ph.D. (8)**

Completed (4):

Amanda Doggett [2022];

Somkene Igboanugo [2022];

Katherine Burns [2021];

Shera Hosseini [2019]

Completed in 2016-2018 (3): Katelyn Godin; Adam Cole; Caitlin McArthur

2. Masters (12)

Current (0):

Completed (4):

Kirsten Alison Ming [2022];

Susan Mirabi [2020];

Yujie Yang [2019];

Braden Kenneth Tompke [2019]

Completed in 2016-2018 (8):

Katelyn Versteeg; Hammad Qazi; Sarah Courtney; Meghan Gilfoyle;
Kyle Rogers; Sarah Aleyan; Alin Cezar Herciu-Ivascu; Jennifer Stefanczyk

d) **External Examiner**

1. Ph.D. (4)

Lijia Wang [2023]

Department of Statistics and Actuarial Science (UW)

Supervisor(s): Dr. Yeying Zhu; Dr. Richard Cook

Fangya Mao [2022]

Department of Statistics and Actuarial Science (UW)

Supervisor: Dr. Richard Cook

Jooyoung Lee [2018]

Department of Statistics and Actuarial Science (UW)

Supervisor: Dr. Richard Cook

Kexin Ji [2018]

Department of Statistics and Actuarial Science (UW)

Supervisor: Dr. Joel Dubin

SERVICE:

a) University

2022

- Chairing UW [5] Ph.D. defences
- Board Member of Survey Research Centre of Department of Statistics and Actuarial Science.

2021

- Board Member of Survey Research Centre of Department of Statistics and Actuarial Science.

2020

- Board Member of Survey Research Centre of Department of Statistics and Actuarial Science.

2019

- Board Member of Survey Research Centre of Department of Statistics and Actuarial Science.

2018 and 2017

- Bibliometrics (AHS rep),
- Board Member of Survey Research Centre of Department of Statistics and Actuarial Science.

b) Faculty

2022

- Board Member of Survey Research Centre of Department of Statistics and Actuarial Science.

2019

- AHS Information Systems and Technology Committee

2018

- AHS Information Systems and Technology Committee

2017

- Professional Graduate Programs Committee
- Professional Graduate Programs Admissions Committee

c) Department

2023

- Research Graduate Programs Committee (incl Awards, Scholarships)
- Research Graduate Programs Admissions Committee
- HLTH Faculty Council Chair
- FAUW Council of Representatives
- Chairing Department Ph.D. defences/proposals/exams

2022

- Chairing Department Ph.D. defences/proposals/exams
- Undergraduate Executive Committee
- Graduate Admissions Task Group
- Graduate Scholarships and Awards Task Group
- Recruitment Task Group
- FAUW Council of Representatives
- Chairing Ph.D. proposals/exams

2021

- Undergraduate Executive Committee
- Graduate Admissions Task Group
- Graduate Scholarships and Awards Task Group
- Chairing Ph.D. proposals/exams

2020

- Undergraduate Executive Committee
- Recruitment Team
- Recruitment Task Group

2019

- Graduate Research Program Committee
- Graduate Research Programs Admissions Committee
Volunteered some of my sabbatical time to review some applications
- Graduate Awards Selection Committee

2018

- Graduate Research Program Committee
- Professional Graduate Programs Committee
- Professional Graduate Programs Admissions Committee
- Graduate Awards Selection Committee

2017

- Professional Graduate Programs Committee
- Professional Graduate Programs Admissions Committee

d) Community

2016-2017 (One year term)

- Board Member of Canadian Society of Epidemiology and Biostatistics (CSEB).

e) Other

2021

- Acquiring 6 software licenses TI-calculator from Texas Instruments (in amount of CAD 900-1000)

2020

- Acquiring 7 software licenses TI-calculator from Texas Instruments (in amount of CAD 900-1000)

2019

- Acquiring 10 TI-calculator from Texas Instruments (in amount of CAD 1700-2000)

2016-2018

- Acquiring 10 TI-calculator from Texas Instruments (in amount of CAD 1700-2000)

AREAS OF TEACHING EXPERTISE:

Model Selection

Missing Data

Data Imputation

Multiple Imputation

Basics of Statistics and Probability

Vector and Matrix Algebra

Mathematical Statistics

Linear Model Theory

General Linear Models

Regression Analysis

Mathematical Computing in R and SAS (Basic to Advanced)

Statistical Computing using SAS and R (Basic to Advanced)

Statistical Analysis using SAS and R (Basic to Advanced)

CURRENT RESEARCH INTERESTS:

Missing Data

Longitudinal Methodology

Model Selection

Bayesian Statistics

Applied Sequential Methods

Model saturations rates

Curriculum Vitae

ANNA MARIA CYRUS-MURDEN, MD, MPH

ASSISTANT DEAN OF SIMULATION

Deputy Chair & PCM II Content Manager (Clinical Skills)

Department of Clinical Skills

St. George's University, School of Medicine

University Centre, True Blue, Grenada, West Indies

Phone: Work - (473)444-4175 (Ext#: 3088); Cell - (473)405-3489

Email: acyrusmu@sgu.edu

Part I: Education and Academic Appointments

EDUCATION:

JOHN S. DONALDSON INSTITUTE

Port-of-Spain, Trinidad

A-Level Programme

Major: Science Technician, 1992 - 1994

WAYLAND BAPTIST UNIVERSITY

Plainview, Texas

Pre-Medicine (Biology & Chemistry), 1994 - 1996

Dean's List

ST. GEORGE'S UNIVERSITY, SCHOOL OF MEDICINE

University Centre, St. George's, Grenada

Pre-Medicine program, Jan 1998 - Dec 1998

ST. GEORGE'S UNIVERSITY, SCHOOL OF MEDICINE

University Centre, St. George's, Grenada

Doctor of Medicine degree, Jan 1999 - Dec 2004

BROOKLYN COLLEGE

2900 Bedford Avenue, Brooklyn NY 11210

M.P.H. in Community Health, Sept 2007 – May 2010

Lutheran Medical Center

150 55th Street, Brooklyn, NY

Sepsis Train the Trainer Course, Feb 2015

NYSIM

462 First Avenue, Building D 3rd Floor, New York

NYSIM Instructor Course, July 2016

ACADEMIC APPOINTMENTS:

NYC COLLEGE OF TECHNOLOGY

Adjunct Assistant Professor (Aug 2007 – Aug 2016)

- Deliver scheduled lectures and laboratory sessions in the Department of Biology (Biology, Anatomy & Physiology, etc.).
- Assist in the preparation, formulation and delivery of the curriculum.
- Provide oversight of departmental policy regarding the administration of courses and examinations.
- Advise students on an individual basis.

BROOKLYN COLLEGE

Adjunct Assistant Professor (Aug 2010 – Aug 2016)

- Deliver scheduled lectures in Personal & Community Health that are relevant to the learning needs of the students.
- Assist in the preparation, formulation and delivery of the curriculum.
- Provide oversight of departmental policy regarding the administration of courses and examinations.
- Advise students on an individual basis.

LUTHERAN MEDICAL CENTER

Medical Student Research Coordinator (Nov 2009 – 2012)

- Coordinate and assign research projects to medical students and residents
- Develop a research lecture curriculum and delivering it to medical students interdepartmentally.
- Mentor medical students and residents, in order to augment their research experiences.
- Assist in the writing of research papers and proposals for submission.

LUTHERAN MEDICAL CENTER

Director, Center for Medical Education (2012 – 2015)

- Report to the Director of Medical Education (DME).
- Responsible for coordinating, planning, organizing, and scheduling all facets of the Center for Medical Education.
- Responsible for developing curricula for Medical Students' Objective Structured Clinical Examinations (OSCEs); conduct and evaluate each student OSCE, as well as subsequent debriefing.
- Trainor for sepsis course to multidisciplinary teams.
- Manager for ATLS Training Course.
- Assist faculty with the development of new skills modules, by providing oversight with developing curricula, student learning outcomes and educational materials for simulation scenarios and scripts; support student learning experiences that involve technology applications including use of human patient simulators; as well as, simulation scenario development.
- Collect and analyse all medical students' clerkship surveys in order to construct quarterly reports for all departments.

- Create innovative ideas, evaluate equipment, as well as, identify opportunities for improvement and integration into medical education modules.
- Maintain inventory of supplies and equipment and conducts routine inventory updates. Provide recommendations for purchase of equipment, supplies and materials.
- Manage the operation of all facets of the Center for Medical Education.
- Serve as the simulation operator responsible for running and testing all pre-programmed scenarios with faculty instructors, assuring all equipment is set up and functional for course programs.
- Understand the use and operation of different simulator technologies in order to facilitate and conduct effective medical didactics.
- Provide training, oversight, supervision, and debriefing for all Standardized Patients; as well as, support/assist in role playing applications, props placement and moulage setup.

NYU LANGONE HEALTH

Manager, Center for Medical Education (2015 – Aug 2016)

- Responsible for coordinating, planning, organizing, and scheduling all facets of the Center for Medical Education.
- Responsible for developing curricula for Medical Students' Objective Structured Clinical Examinations (OSCEs); conduct and evaluate each student OSCE, as well as subsequent debriefing.
- Trainor for sepsis course to multidisciplinary teams.
- Manager for ATLS Training Course.
- Assist faculty with the development of new skills modules, by providing oversight with developing curricula, student learning outcomes and educational materials for simulation scenarios and scripts; support student learning experiences that involve technology applications including use of human patient simulators; as well as, simulation scenario development.
- Collect and analyse all medical students' clerkship surveys in order to construct quarterly reports for all departments.
- Create innovative ideas, evaluate equipment, as well as, identify opportunities for improvement and integration into medical education modules.
- Maintain inventory of supplies and equipment and conducts routine inventory updates. Provide recommendations for purchase of equipment, supplies and materials.
- Manage the operation of all facets of the Center for Medical Education.
- Serve as the simulation operator responsible for running and testing all pre-programmed scenarios with faculty instructors, assuring all equipment is set up and functional for course programs.
- Understand the use and operation of different simulator technologies in order to facilitate and conduct effective medical didactics.

- Provide training, oversight, supervision, and debriefing for all Standardized Patients; as well as, support/assist in role playing applications, props placement and moulage setup.

ST. GEORGE'S UNIVERSITY, SOM

Clinical Instructor, Level 3 (Aug 2016 – June 2018)

- Assist in curriculum development.
- Develop and deliver lectures and iMCQs.
- Provide instruction on clinical skills and facilitate student practice of student skills.
- Assist students in integration of theory and practice.
- Report skills/ competency assessment results to the course director following excepted guidelines.
- Enforce protocols, rules and regulations; maintained discipline; utilized effective time management for facilitation.
- Provide feedback on course or program development.
- Build instructor to student and student to student relationship.
- Identify at risk students; provide them with extra support, instruction, and attention.
- Grade assignments.
- Mentor clinical tutors.

ST. GEORGE'S UNIVERSITY, SOM

***Introduction to Clinical Medicine (ICM) Course Director
(Jan 2017 – Dec 2018)***

- Direct the ICM Course according to the procedures and guidelines in the Faculty Handbook or established by the Dean of Basic Sciences.
- Develop the course curriculum.
- Select and prepare course materials.
- Develop and deliver lectures and iMCQs.
- Select visiting professors as needed (with assistance of Chair).
- Liaise with all faculty teaching the course.
- Select and supervise teaching faculty.
- Prepare and adhere to the published course schedule of classes, in a timely manner.
- Provide instruction of clinical skills and facilitate student practice of student skills.
- Assist students in integration of theory and practice.
- Prepare and administer quizzes, modules and OSCEs.
- Submit grades to according to the established policies of the School of Medicine.
- Participate at all meetings at which input from the Course Directors is mandated.
- Participate in Course and Departmental Reviews.
- Coordinate with the B-Line Administrator to ensure efficient and seamless execution of the examination.

- Continually monitor progress and provide a formal evaluation for every student.
- Identify at risk students; provide them with extra support, instruction, and attention.
- Mentor clinical tutors.
- Review clinical tutor performance evaluations.
- Assists other departments as needed.
- Serve on committees and focus groups.

ST. GEORGE'S UNIVERSITY, SOM

Clinical Skills Term 5 Content Manager (Jan 2019 – Present)

- Direct the ICM Course according to the procedures and guidelines in the Faculty Handbook or established by the Dean of Basic Sciences.
- Develop the course curriculum.
- Select and prepare course materials.
- Develop and deliver lectures.
- Select visiting professors as needed (with assistance of Chair).
- Liaise with PCM2 Course Director regarding course content and schedule.
- Liaise with all faculty teaching the course.
- Select and supervise teaching faculty.
- Prepare and adhere to the published course schedule of classes, in a timely manner.
- Provide instruction of clinical skills and facilitate student practice of student skills.
- Assist students in integration of theory and practice.
- Prepare and administer quizzes, modules and OSCEs.
- Participate at all meetings at which input from the Discipline Manager is mandated.
- Participate in Course and Departmental Reviews.
- Coordinate with the B-Line Administrator to ensure efficient and seamless execution of the examination.
- Continually monitor progress and provide a formal evaluation for every student.
- Identify at risk students; provide them with extra support, instruction, and attention.
- Mentor clinical tutors.
- Review clinical tutor performance evaluations.
- Assists other departments as needed.
- Serve on committees and focus groups.

ST. GEORGE'S UNIVERSITY, SOM

Deputy Chair (Jul 2017 - Present)

- Assist and support the Chair with the management of the department in relation to all academic activities, including didactic undertakings, examinations and research supervision; as well as, the development of faculty and staff within the department.

- Represent the department on all statutory bodies requiring departmental input.
- Develop and maintain good working relationships with other departments within St. George's University, as well as, the administration.
- Assist in the preparation and management of the departmental budget.
- Provide oversight of departmental policy regarding the administration of courses and examinations.
- Ensure proper management of the physical resources required by faculty and staff to perform their duties at a high standard.
- Maintenance of communication with the Dean of Basic Sciences office, about the level of progress within the department and related departmental requirements.
- Participate and contribute in course and departmental reviews.

ST. GEORGE'S UNIVERSITY, SOM

Director, Simulation Center (June 2018 – Present)

- Oversee all planning, organizing, operations and administration of all facets of the Simulation Center.
- Provide direct oversight and management of all Simulation Center employees.
- Evaluate education and training needs, program development, as well as, implementation and evaluation of clinical simulation activities and oversight for programs.
- Develop and support faculty with the development and execution of programs, by providing oversight with developing curricula, student learning outcomes and educational materials for simulation scenarios and scripts.
- Support student learning experiences that involve technology applications including use of human patient simulators, as well as, simulation scenario development.
- Organize, conduct and evaluate simulation sessions, as well as, provide subsequent debriefing.
- Demonstrates effective skills and best practices for facilitating and debriefing simulation experiences.
- Manage the American Heart Association (AHA) International Training Center Courses [includes Basic Life Support provider and instructor courses (BLS), Advanced Cardiovascular Life Support (ACLS) provider and instructor courses, Pediatric Advanced Life Support (PALS) provider and instructor courses, Heartsaver courses, etc.]. Faculty advisor for all courses.
- Participate in accreditation activities and maintain site accreditation standards.
- Distribute, collect and analyze all course evaluations in order to construct reports for departmental appraisal and resultant improvement.
- Identify and implement operational efficiencies, including capacity, resource allocation and budget related to the operations of the Simulation Center.

- Create innovative ideas, evaluate equipment, as well as, identify opportunities for improvement and integration into medical education modules.
- Maintain inventory of supplies and equipment and conducts routine inventory updates. Provide recommendations for purchase of equipment, supplies and materials.
- Provide training, oversight, supervision, and debriefing for all Simulation Center employees; as well as, support/assist in role playing applications, props placement and moulage setup.
- Understand the use and operation of different simulator technologies to facilitate and conduct effective medical didactics.
- Assists in development of various metrics and assessment tools as needed.
- Disseminates information regarding clinical simulation activities both internally and externally.
- Performs other duties as required.

ST. GEORGE'S UNIVERSITY, SOM

Assistant Professor (July 2018 - Present)

- Assist in curriculum development.
- Develop and deliver lectures and iMCQs.
- Provide instruction on clinical skills and facilitate student practice of student skills.
- Assist students in integration of theory and practice.
- Report skills/ competency assessment results to the course director following excepted guidelines.
- Enforce protocols, rules and regulations; maintained discipline; utilized effective time management for facilitation.
- Provide feedback on course or program development.
- Build instructor to student and student to student relationship.
- Identify at risk students; provide them with extra support, instruction, and attention.
- Grade assignments.
- Mentor clinical tutors.

ST. GEORGE'S UNIVERSITY, SOM

Assistant Dean of Simulation (July 2021 - Present)

- Directs and oversees all planning, organizing, operations and administration of all facets of operations, as it relates to simulated learning and/or simulation and technology curriculum at all SGU's campus sites for clinical learning, including quality improvement activities.
- Works closely with the Senior Associate Dean of Basic Sciences and Senior Associate Dean of Clinical Studies to assure the simulation and technology curriculum supports the clinical curriculum.
- In collaboration with relevant colleagues, develops student learning objectives, learning outcome metrics, and student evaluation tools for all simulated clinical learning activities.

- Evaluates education and training needs, program development, as well as, implementation and evaluation of clinical simulation activities and oversight for programs.
- Ensures that simulated learning activities are evidence-based, consistent with best clinical and simulation practices, clinical syllabi objectives, accreditation and certification standards.
- Participate in accreditation activities and maintain site accreditation standards.
- Mentors and supervises all stakeholders, as indicated.
- Collaborates closely with other healthcare disciplines and other clinical partnership entities to ensure optimal design and delivery of interprofessional clinical learning including interprofessional, simulated patient care activities.
- Manages the American Heart Association (AHA) International Training Center Courses [includes Basic Life Support provider and instructor courses (BLS), Advanced Cardiovascular Life Support (ACLS) provider and instructor courses, Pediatric Advanced Life Support (PALS) provider and instructor courses, Heartsaver courses, etc.].
- Submits recommendations and proposals to the Senior Associate Dean of Basic Sciences and Senior Associate Dean of Clinical Studies as appropriate for program development, program expansion, budget management, and outcome achievement.
- Supports student learning experiences that involve technology applications including use of human patient simulators, as well as, simulation scenario development.
- Assures student metrics, grading, remediation, and surveys as it relates to supporting medical education programs across SGU campuses.
- Remains current in identifying and evaluating emerging clinical learning technologies and integrating them as appropriate into simulated clinical learning activities.
- Establishes and maintains relationships with external professional organizations including the Society for Simulation in Healthcare, or equivalent.
- Designs or participates in simulated clinical learning research and maintains a program of scholarship.
- Conducts tours and demonstrations of the simulation center are arranged.
- Identify and implement operational efficiencies, including capacity, resource allocation and budget related to the simulation operations across all sites.
- Represent the University to various institutional divisions as well as externally to governmental agencies, vendors, students and their parents, and/or the general public.
- Performs other duties as assigned by the Senior Associate Deans.

CLINICAL TRAINING:**Lutheran Medical Center** – Sunset Park Brooklyn

- Medical Simulation
- Research
- ATLS

The Brooklyn Hospital Center - Downtown Brooklyn, NY

- Clinical Rotations: Medicine, Pediatrics, Surgery, Obstetrics and Gynecology & Family Practice

Norfolk & Norwich University Hospital

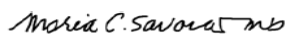
- A busy University Hospital with a 900-bed capacity

ACCOMPLISHMENTS:

- Victrix Ludorum for 3 consecutive years (1989 - 1992)
- Excellence Award for Mathematics & Music (1989)
- Class Valedictorian (1989)
- Principal Award Winner (1989)
- Scholarship Awardee – Creative Arts Centre, UWI (1991)
- Scholarship Awardee – Wayland Baptist University (1994)
- Young Innovators Inventors – Mist Hydroponics (1994)
- National Basketball Player (1994 - 1995)
- Accrued a classroom for illiterate teenagers (1998 - 2000)
- Scholarship Awardee – St. George's University, SOM (1998 & 1999)
- Tutored illiterate adults individually (2002 - 2003)
- Organizer of Community Outreach programme for Grand Roy Government School, Concord Government School and Annual Christmas Children's party (2014 – Present)
- Appointed as Faculty Member to St. George's University (2011 - Present)
- **Best Poster:** A sepsis quality program to improve clinician knowledge, patient identification and management of sepsis (May 2015)
- Developer of Centralized Journal Club for Clinical Fellows
- Founder of Murphy's Vision for Higher Education (2017)
- Faculty Advisor for ACLS, PALS & BLS Courses
- Faculty Advisor for Emergency Medicine Club
- Medical Director, National Registry of Emergency Medical Technicians (NREMT)

Continuing Medical Education (CME)

I. November 2018: AAMC Learn Serve Lead 2018

UC San Diego SCHOOL OF MEDICINE	 AAMC Tomorrow's Doctors. Tomorrow's Cures®
<i>Physician Certificate of Credit</i>	
University of California, San Diego School of Medicine Continuing Medical Education certifies that	
Anna Cyrus-Murden	
has participated in the live activity titled 2018 AAMC Learn Serve Lead: The AAMC Annual Meeting at the Austin Convention Center in Austin, TX on November 2 – 6, 2018 and is awarded 20.0 AMA PRA Category 1 Credits™ .	
Credit Approval	Number of Credits Approved
AMA PRA Category 1 Credit™	Up to 20.0
<i>Physicians should claim only the credit commensurate with the extent of their participation in the activity.</i>	
	
Maria C. Savoia, MD, FACP Dean for Medical Education UC San Diego School of Medicine	Participant Signature Association of American Medical Colleges

II. November 2019: AAMC Learn Serve Lead 2019

UC San Diego School of Medicine	 AAMC Tomorrow's Doctors. Tomorrow's Cures®
<i>Physician Certificate of Credit</i>	
University of California, San Diego School of Medicine Continuing Medical Education certifies that	
Anna Cyrus-Murden	
has participated in the live activity titled AAMC Learn Serve Lead 2019: The AAMC Annual Meeting at the Phoenix Convention Center in Phoenix, AZ on November 08-12, 2019 and is awarded 20 AMA PRA Category 1 Credits™ .	
Credit Approval	Number of Credits Approved
AMA PRA Category 1 Credit™	Up to 20.0
<i>Physicians should claim only the credit commensurate with the extent of their participation in the activity.</i>	
	
Scott Mullaney, MD Associate Dean, Continuing Medical Education and Faculty Teaching Development Professor, Department of Medicine Director, Nephrology and Hypertension Clinical Service	Participant Signature Association of American Medical Colleges

- III. April 2020: How to use scenarios to simulate invasive care and the management of a ventilated patient due to COVID-19
- IV. April 2020: Clinical Management of COVID-19 and Psychosocial support for caregivers
- V. April 2020: Level up your PowerPoint
- VI. April 2020: Key considerations for taking your OSCEs online
- VII. April 2020: Key COVID-19 Clinical Updates and Lessons Learned So Far
- VIII. May 2020: Mastering Complexity in Management of Heart Failure & Uncontrolled Hypertension-Spotlight on Eplerenone
- IX. May 2020: Incorporation of Assessments into Simulations to Develop Communication Skills
- X. May 2020: Virtual OSCE – Telehealth Patient Encounter with Instructor Observation
- XI. June 2020: Teaching Clinical Skills Remotely: Integrating Bates' Visual; Guide into your course
- XII. July 2020: Developing Telemedicine Curricula for Students (Interviewing and Examining Patients)

Part II: Administrative Appointments

Administrative Responsibilities:

- 2015 – 2016 Manager, Center for Medical Education, NYU Langone Health
- 2015 – 2016 Manager, Center for Medical Education, NYU Langone Health
- 2015 – 2016 Manager, Center for Medical Education, NYU Langone Health
- 2017 – Pres Deputy Chair of Clinical Skills, St. George's University
- 2018 – Pres Director of Simulation Center, St. George's University

Part III: Teaching Activities

Current Teaching Responsibilities:

- 2018 – Pres Basic Life Support (Provide & Instructor), SGU
- 2018 – Pres Advanced Cardiac Life Support, SGU
- 2018 – Pres Pediatric Advanced Life Support (Provide & Instructor), SGU
- 2019 – Pres Communication and Physical Diagnosis/PCM I
- 2019 – Pres Introduction to Clinical Medicine/Principles of Medicine II, SGU
- 2019 – Pres Postgraduate Certificate in Medical Education, SGU
- 2020 Health Justice and Social Determinants of Health, SGU
- 2020 Clinical Radiology, SGU
- 2020 Surgical Anatomy and Technique, SGU

Teaching Experience:

2007 – 2016	Regular lectures to undergraduate students on Biology, and Anatomy and Physiology, City Tech, New York
2010 – 2016	Regular lectures to medical students on Personal and Community Health, Brooklyn College, New York
2015 – 2016	Organized and coordinated all didactic activities related to the Center for Medical Education
	Conducted and evaluate each medical student rotating in Medicine and OB/GYN at Lutheran Medical Center (LMC)
	Trainer for sepsis course to multidisciplinary teams, LMC, New York
	Managed ATLS Training Course, LMC, New York
2016 – 2019	Regular lectures to medical students on Clinical Skills/Medicine, Communication and Physical Diagnosis, Clinical Skills, St, George's University
2016 – 2019	Regular lectures to medical students on Clinical Skills/Medicine, Introduction to Clinical Medicine, Clinical Skills, St, George's University

Curriculum Development:

2007 – 2016	Regular lectures to undergraduate students on Biology, and Anatomy and Physiology, City Tech, New York
2010 – 2016	Regular lectures to medical students on Personal and Community Health, Brooklyn College, New York
2015 – 2016	Developed and implemented curricula (in Medical Simulation and OSCEs) for Medical Students rotating in Lutheran Medical Center, New York
2016 – 2019	Regular lectures to medical students on Clinical Skills/Medicine, Communication and Physical Diagnosis, Clinical Skills, St, George's University
2016 – 2019	Regular lectures to medical students on Clinical Skills/Medicine, Introduction to Clinical Medicine, Clinical Skills, St, George's University

Mar 2020 – Pres	Implementation of Clinical Skills Online Solutions in Basic Sciences
Mar 2020 – Pres	Developed and implemented Online Clinical Evaluation Exercise (OCEX)
Sept 2020 – Pres	Coordinate implementation of USMLE Communication Skills Questions in Basic Sciences

Major Mentoring Activities:

2018- Present	Faculty Advisor for the Emergency Medicine Club
2019 – Present	Medical Director, Medical Director, National Registry of Emergency Medical Technicians (NREMT)
2020	Advisor for Implementing Clinical Skills Online Solutions in Basic Sciences

Part IV: Service

Departmental Service:

- Pathology Review Committee
- BPM 1 review Committee
- Clinical Skills Faculty Search Committee
- Clinical Skills Curriculum Sub-Committee

University Service:

- Focus Group on Simulation Activities (Chair)
- Focus Group on Curriculum Management, Design, Review/Content Monitoring, Evaluation and Comparability
- Focus group on Physical Examination and OSCE
- Focus Group on Curriculum Reform
- Focus Group on 'Flipped Classroom'
- SGU Senate – Clinical Division
- SGU Curriculum Committee
- SGU Judicial Advisor
- Committee for Technology based Teaching and Learning
- Joint Curriculum Coordinating Committee
- Candidates Selection Committee Workshops
- USMLE Subcommittee

Professional Memberships:

- Member, Society for Simulation in Healthcare
- Member, Directors of Clinical Skills
- Member, American Association of Clinical Anatomists

Community Outreach:

- Programme Developer/Coordinator: Concord, St. John's - In the process of developing an outreach program to provide free medical services for less fortunate community members
- Programme Developer/Coordinator: Grand Roy Government School - In the process of accruing materials for much needed repairs and renovations
- Health Care Volunteer: Concord, St. John's and environs - medical service to community members
- Participant: Grand Roy & Concord Government Schools motivational speaker
- Organiser: Grand Roy & Concord Government Schools -accrued & donated 40 Computers, 2 Commercial Copiers, 6 Laptops, School Supplies, School Bags and other stationery
- Organiser: Concord, St. John's - annual Christmas party with toys distribution for 70 – 90 children
- Founder and CEO of Murphy's Vision for Higher Ed.

Part V: Presentations

Local/Regional:

- Feb 2020 Featured Speaker - Grenada General Hospital Internship Program Interns' Graduation, Grenada
- Feb 2020 *"Clinical Skills in Grenada"*, Clinical Meetings, St. George's University, Grenada
- Sept 2019 *"Technologies in the Healthcare Industry"*, Rotaract Career Day Speech, Grenada
- Feb 2019 Featured Speaker - Grenada General Hospital Internship Program Interns' Graduation, Grenada

International:

- Oct 2020 *"Online Clinical Evaluation Exercise (OCEX)"*, Clinical Meetings, St. George's University, Grenada (Online)

Part VI: Scholarly Activity

PUBLICATION: ***Correlation of Hospital Length of Stay and Vitamin D Levels;***
Journal of Community Hospital Internal Medicine
Perspectives (JCHIMP, 2011)

RESEARCH EXPERIENCE:

- Physicians' beliefs on how their medical training affects their overall health; their patients' health, and their practice of medicine (Lutheran Medical Center).
- The impact of HIV Seropositive adolescents upon transition from the HEAT program (SUNY Downstate)
- *Correlation of Hospital Length of Stay and Vitamin D Levels;* Journal of Community Hospital Internal Medicine Perspectives (***JCHIMP, 2011***)
- Best Poster: A sepsis quality program to improve clinician knowledge, patient identification and management of sepsis (***May 2015***)
- Community Heartsaver Program: Improving the confidence of community members towards bystander cardiopulmonary resuscitation (***2019***)
- The Development of Online Clinical Evaluation Exercise at St. George's University, SOM (***2020***)
- An evaluative study of Online Clinical Evaluation Exercise (OCEX) (***2020***)

OTHER RESEARCH INTERESTS:

- Methods of reducing the size and number of cysts in Polycystic Kidney Disease
- Any aspect with the realm of HIV/AIDS

References

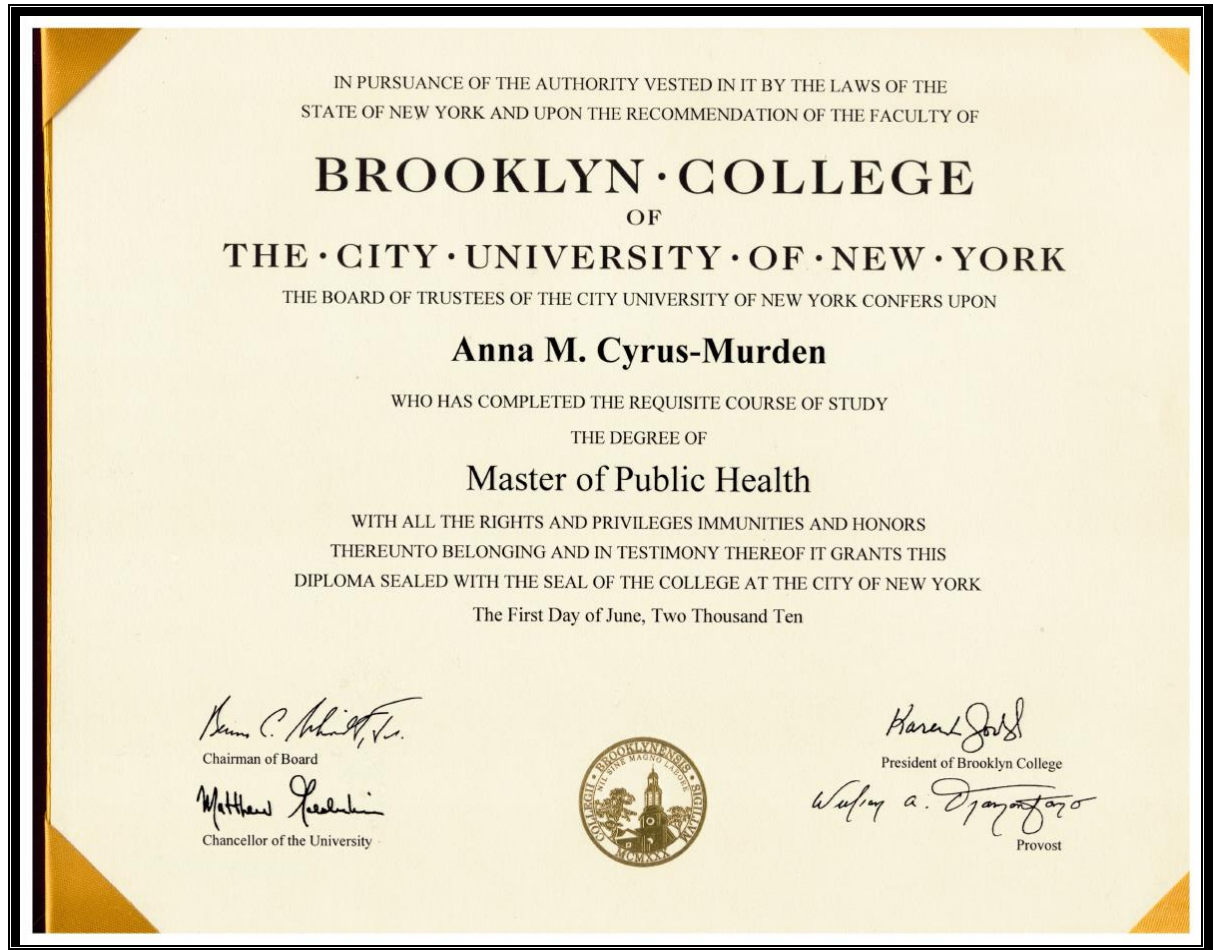
- (1) **Dr. Dolland Noel – MD, FACP**
Chairman, Department of Clinical Skills
Associate Dean of Clinical Studies
University Centre, Grenada, W.I.
Contact#: (473) 444-4175 Ext#: 3492/3407
Email: DNoel@sgu.edu

- (2) **Dr. Shivayogi Bhusnurmath – MD, FRCPath**
Dean of Academic Affairs
Co-Chair, Dept of Pathology
University Centre, Grenada, W.I
Contact#: 444-4175 Ext#: 3076
Email: SBhusnurmath@sgu.edu

- (3) **Dr. Francois Dufresne – MD, FACP**
Associate Chief
Division of Hospital Medicine
Mt. Sinai St. Luke's Hospital

- (4) **Dr. Meera Kesavan-Nasir - MD**
Residency Program Director
Department of Obstetrics and Gynecology
NYU Lutheran Medical Center

Degrees



St. George's University School of Medicine

*Be it known that the faculty of the
School of Medicine of St. George's University
in recognition of the successful completion of the required course of study
and by virtue of the authority vested in it by the Trustees
has conferred upon*

Anna M. Cyrus
the degree of

Doctor of Medicine

*with all the honors, rights and privileges
thereunto appertaining and has granted this Diploma as evidence thereof,
signed by the authorized officials of the University and duly sealed.*

May 13, 2005

Donald W. H. H. H.
Chancellor
Allen R. Bousfield
Provost
Steph. M. M. M.
Dean of School of Medicine



Grenada, WI

Andreas D. D.
Dean of Kingston Medical School
Geoffrey A. A.
Dean of Students
Theresa M. M.
Dean of Enrollment Planning, University Registrar



CONTINUING EDUCATION CERTIFICATE

Medical Simulation Corporation certifies that

Anna Cyrus-Murden

(Print Name)

has completed

Sepsis

on

February 10, 2015

3 contact hours

(Date)

This program has been approved for **3 contact hours** Continuing Respiratory Care Education (CRCE) credit by the American Association for Respiratory Care, 9425 N. MacArthur Blvd. Suite 100, Irving TX 75063
Course #141392000

AORN recognized this activity as continuing education for registered nurses. This recognition did not imply that AORN or the ANCC Commission on Accreditation approved or endorsed any product included in the presentation.

Contact Person: Ilene B. Gottesfeld, EdD, RN

ilene.gottesfeld@medsimulation.com

4643 S. Ulster Street, Suite 650 | Denver, CO 80237



RESEARCH ARTICLE

COACTION
JOURNAL

Correlation of admitted nursing home residents' hospital length of stay and vitamin D levels

Carla Mc Williams, MD*, Kourosh Golestany, MD,
Rohit Sharma, MD, Golali Nejati, MD, Anna Cyrus-Murden, MD,
MPH and Dmitri Kripichnikov, MD

Department of Internal Medicine, Lutheran Medical Center, Brooklyn, New York, USA

Objective: To determine the relationship between low vitamin D levels and hospital length of stay in nursing home residents who were admitted to acute medical floors in an urban community teaching hospital.

Methods: This prospective cohort study used multiple regression analysis for patients transferred from nursing homes to the hospital. On admission, patients' serum 25(OH)D levels were obtained by blood draw using partially purified lipid extracts via a competitive protein binding assay. We defined low levels of serum 25(OH)D as <30 ng/ml. Patient medical histories were compiled by retrospective chart review and/or patient interview. Medical histories were analyzed with special emphasis on history of falls, osteoporosis, comorbidities, medication profile, and hospital length of stay.

Results: The mean serum 25(OH)D level for 71 patients ($N = 71$) was 22.69 ng/ml ($\pm$ SD 10.967); the median, 23 ng/ml. Low serum concentrations of 25(OH)D were recorded in 51 patients (72%) all of whom had a longer mean hospital length of stay (13.72 days $\pm$ SD 10.778) than the 20 patients with higher vitamin D levels (7.72 days $\pm$ SD 4.070).

Conclusion: Low vitamin D levels in nursing home residents admitted to a community hospital were directly associated with increased hospital length of stay.

Keywords: vitamin D deficiency; aged; 25-hydroxyvitamin D; nursing homes; dietary supplements

Received: 11 February 2011; Revised: 25 July 2011; Accepted: 28 July 2011; Published: 17 October 2011

The growing prevalence of vitamin D deficiency has been widely documented (1–7), along with its associations of increased risk of type I diabetes, autoimmune disorders, cardiovascular disease, muscle weakness, and functional deficits (1, 2, 8). In addition, studies have indicated that vitamin D deficiency adversely affects recovery in hospitalized patients and potentially increases hospital length of stay (LOS) (3, 9).

Current research has addressed trends in vitamin D deficiency, especially in the institutionalized geriatric populations such as in Drinka et al. (10). Studies have also addressed the increased risk of hip fracture in both institutionalized and healthy independent geriatric populations in vitamin D deficiency such as in Lips et al. (11). However, only a few studies (3, 9) have investigated the correlation between LOS and low levels of serum 25(OH)D and of these studies, none specifically addressed the acute care hospital setting. Moore and Kiebzak (3) addressed deficiency in both acute care and

non-hospitalized patients, showing a relationship between increased muscle weakness, deficits, and increased hospital LOS. Kiebzak et al. (9) studied the relationship of vitamin D deficiency and increased rehabilitation LOS.

The goal of this study was to determine whether low levels of serum 25(OH)D were associated with longer hospital LOS in nursing home residents admitted to acute medical floors in an urban community teaching hospital.

Methods

This prospective cohort study included 71 patients transferred from nursing homes to the hospital. Internal Review Board approval was obtained. On admission, patients' serum 25(OH)D levels were obtained during a routine phlebotomy using partially purified lipid extracts via a competitive protein binding assay. There was no time limit on when charted serum 25(OH)D levels were last checked nor were adequate oral, tube feeding, or supplemental vitamin D data collected from the nursing home

Journal of Community Hospital Internal Medicine Perspectives 2011, © 2011 Carla McWilliams et al. This is an Open Access article distributed under the terms of the Creative Commons Attribution-NonCommercial 3.0 Unported License (<http://creativecommons.org/licenses/by-nc/3.0/>), permitting all non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.
Citation: Journal of Community Hospital Internal Medicine Perspectives 2011, 1: 6313 - DOI: 10.3402/jchimp.v1i3.6313
(page number not for citation purposes)

transfer note. Our institution's laboratory defines normal vitamin D levels as 30–72 ng/ml (deficient <19 ng/ml, insufficient =20–29 ng/ml). Therefore, we defined low levels of serum 25(OH)D as a concentration <30 ng/ml. Patient medical histories were compiled by retrospective chart review and patient interviews when possible. The medical histories were analyzed with special emphasis on the following variables and comorbidities: history of falls, osteoporosis, fractures, coronary artery disease (CAD), congestive heart failure (CHF), chronic obstructive pulmonary disease (COPD), chronic kidney disease (CKD), cerebrovascular accident (CVA/stroke), hypoparathyroidism, hypertension (HTN), dementia, decubitus ulcers, diabetes mellitus (DM), Parkinson's disease, psychiatric disorders, peripheral vascular disease (PVD), seizures, arrhythmias, hypothyroidism, malignancy, intensive care unit (ICU) admission and transfer, expiration, medication profile, and hospital LOS.

Statistical analysis

The chi-square and *t*-test were used to assess the relation between low levels of serum 25(OH)D and LOS and demographic and comorbidity variables. Linear regression was done to examine the association between vitamin D level and length of stay adjusting for other covariates related to length of stay. Analyses were conducted by members of the study team using statistical analysis software package SPSS version 18.0.

Results

Of the 71 patients (mean age 82.2 ± 10.3 years), 49 were women and 22 were men. The mean serum 25(OH)D level was 22.7 ng/ml (± 11.0) and median serum 25(OH)D level was 23 ng/ml. Descriptive characteristics of the sample are provided in Table 1. Fifty-one (72%) had low serum concentrations of 25(OH)D (<30 ng/ml). These 51 patients had a longer mean hospital LOS ($13.7 \text{ days} \pm 10.8, \pm \text{SD}$) than patients with normal levels of 25(OH)D ($7.7 \text{ days} \pm 4.1$) ($p = 0.002$). Nineteen of 22 men (86%) had low levels of serum 25(OH)D levels compared to 32 of 49 (65%) women ($p = 0.09$). Patients in the Intensive Care Unit (ICU) had a high prevalence of low vitamin D levels: 13 (87%) of the 15 were admitted directly to the ICU, and 29 (69%) of the 42 transferred to ICU after admission to a medical floor. More patients with decubitus ulcers ($p = 0.05$) and stroke ($p = 0.03$) had low serum 25(OH)D levels. History of falls, osteoporosis, and the other comorbidities were not related to vitamin D levels (Table 2).

In addition to Vitamin D level, calcium ($r = -0.301$, $p = 0.011$) and albumin ($r = -0.349$, $p = 0.004$) levels were correlated with length of stay. After adjusting for calcium ($p = 0.399$) and albumin ($p = 0.104$), vitamin D level was still associated with hospital LOS ($p = 0.005$) (Table 3).

Table 1. Descriptive characteristics of the sample

Characteristic	N = 71
Age (year)	
Mean	81.5
SD	10.9
Range	51–98
Gender	
Male	22 (31.0%)
Female	49 (69.0%)
Hospital length of stay (days) (n = 65)	
Mean	12.1
SD	9.8
Range	2–62
Calcium (mg/dL)	
Mean	8.8
SD	0.8
Range	7.0–11.0
Phosphorus (mg/dL) (n = 70)	
Mean	3.4
SD	0.7
Range	2.0–4.9
Magnesium (mg/dL) (n = 70)	
Mean	2.1
SD	0.3
Range	1.5–2.9
Alkaline phosphatase (IU/L)	
Mean	107.4
SD	106.0
Range	8–835
Total 25 OH-D (ng/ml)	
Mean	22.7
SD	11.0
Range	5–55
Albumin (g/dL)	
Mean	3.3
SD	0.7
Range	1.7–4.9
Urea nitrogen (BUN) (mg/dL)	
Mean	26.9
SD	17.8
Range	5–91
Creatinine (mg/dL)	
Mean	1.1
SD	0.8
Range	0.3–4.1
Coronary artery disease	
Yes	27 (38.0%)
No	44 (62.0%)
Congestive heart failure	
Yes	19 (26.8%)
No	52 (73.2%)
Chronic obstructive pulmonary disease (COPD)	
Yes	15 (21.1%)
No	56 (78.9%)

Table 1 (Continued)

Characteristic	N = 71
Falls (history of falls?)	
Yes	8 (11.3%)
No	63 (88.7%)
Cerebrovascular accident (CVA)	
Yes	17 (23.9%)
No	54 (76.1%)
Chronic kidney disease (CKD)	
Yes	7 (9.9%)
No	64 (90.1%)
Osteoporosis	
Yes	14 (19.7%)
No	57 (80.3%)

Discussion

Our study's results suggested that low levels of serum 25(OH)D were associated with increased hospital LOS. This remained valid even after logistic regression with variables such as age and sex, comorbidities, and serum albumin and calcium concentrations. Furthermore, our analysis failed to identify a significant correlation of low vitamin D levels to any particular comorbidity in respect to LOS. Similar results were observed by Kiebzak et al. (9) in their 2007 study; they reported an inverse relationship between serum 25(OH)D levels and rehabilitation unit LOS (9). The higher the patients' serum 25(OH)D concentrations the shorter their LOS in the hospital rehabilitation unit (9).

Prior studies have suggested that patients with low levels of serum 25(OH)D may have an increased risk of falls, osteoporosis, and fracture, with a subsequent decline in functional status, and more complications from health issues such as obesity, diabetes, and cardiovascular disease (7, 8, 12, 13). Our study, however, found no evidence to support that increased hospital LOS was associated with those particular comorbidities. Comparison of our study population with other studies' patient populations is difficult to make due to differences in patient care settings and definitions of low vitamin D levels and their various cutoff values (3, 8–10, 14, 15). Our patient population had a high prevalence (72%) of low serum 25(OH)D concentrations, especially in men (86%) compared to women (65%). This may indicate that nursing home residents with low vitamin D levels were prone to develop acute conditions leading to hospital placement. On the other hand, low vitamin D levels may be a predictor, rather than a cause, of increased hospital LOS.

Limitations of the current study included the relatively small sample size and a lack of data regarding patient mobility and dietary intake or supplemental vitamin D in

Table 2. Relationship of comorbidities to low vitamin D levels

Comorbidity	Vitamin D levels <30 ng/ml	
	n/total (%)	p
Coronary artery disease		
with	22/27 (82)	0.184
without	29/44 (66)	
Congestive heart failure		
with	16/19 (84)	0.236
without	35/52 (67)	
Chronic obstructive pulmonary disease		
with	10/15 (67)	0.748
without	41/56 (73)	
Falls		
with	6/8 (75)	1.0
without	45/63 (71)	
History of stroke		
with	16/17 (94)	0.028
without	35/54 (65)	
Chronic kidney disease		
with	4/7 (57)	0.394
without	47/64 (73)	
Osteoporosis		
with	10/14 (71)	1.0
without	41/57 (72)	
Fracture		
with	7/12 (58)	0.299
without	44/59 (75)	
Hypoparathyroidism		
with	0/0 (0)	*
without	51/71 (72)	
Hypertension		
with	37/52 (71)	1.0
without	14/19 (74)	
Decubitus ulcer		
with	10/10 (100)	0.053
without	41/61 (67)	
Dementia		
with	27/36 (75)	0.605
without	24/35 (67)	
Diabetes mellitus		
with	15/20 (75)	0.778
without	36/51 (71)	
Parkinson's disease		
with	2/4 (50)	0.314
without	49/67 (73)	
Psychiatric disorder		
with	10/20 (50)	0.018
without	41/51 (80)	
Peripheral vascular disease		
with	2/2 (100)	1.0

Table 2 (Continued)

Comorbidity	Vitamin D levels <30 ng/ml	
	n/total (%)	p
without	49/69 (71)	
History of seizures		
with	4/6 (67)	1.0
without	47/65 (72)	
Arrhythmias		
with	10/14 (72)	1.0
without	41/57 (72)	
Hypothyroidism		
with	8/11 (73)	1.0
without	43/60 (72)	
Dyslipidemia medications		
with	9/10 (90)	0.263
without	42/61 (69)	
Malignancy		
with	4/6 (67)	1.0
without	47/65 (72)	

*No p-value was calculated because no patient had hypoparathyroidism.

Table 3. Linear regression model predictive of length of stay

Factors	Beta	p
Vitamin D (constant)	—	0.005
Calcium	-0.134	0.399
Albumin	-0.260	0.104

the nursing home. Also, there is known seasonal variability in vitamin D levels. Our data were collected primarily in the fall and winter months, which could have contributed to lower levels as compared to spring or summer. Note that reference ranges for vitamin D levels vary from one laboratory to the next. The cutoff range in our study was <30 ng/ml; however, this number cannot be used in every institution for the aforementioned reasons. Cutoff levels for low vitamin D may need to be addressed on an institutional basis.

Conclusion

Our results showed that low serum 25(OH) D concentrations in nursing home residents were associated with an

increased hospital LOS. Further research is needed to determine whether vitamin D supplementation in this patient population will decrease their number of hospital admissions and/or their LOS during those admissions.

Acknowledgements

The authors wish to thank Soheila Hedayati, MD and Nibal Ghanim, MD for their assistance with the proposal; Emmanuel Opara, MD for his assistance with data collection; Alison Ball for her assistance writing the introduction; and Laura Gabbe, MS, for her assistance writing and editing the paper.

Conflict of interest and funding

The authors have not received any funding or benefits from industry or elsewhere to conduct this study.

References

- Holick MF. The vitamin D epidemic and its health consequences. *J Nutr* 2005; 135(11): 2739S-48S.
- Lee JH, O'Keefe JH, Bell D, Hensrud DD, Holick MF. Vitamin D deficiency: An important, common, and easily treatable cardiovascular risk factor? *J Am Coll Cardiol* 2008; 52(24): 1949-56.
- Moore NL, Kiebzak GM. Suboptimal vitamin D status is a highly prevalent but treatable condition in both hospitalized patients and the general population. *J Am Acad Nurse Pract* 2007; 19(12): 642-51.
- Ginde AA, Liu MC, Camargo CA Jr. Demographic differences and trends of vitamin D insufficiency in the US population, 1988-2004. *Arch Intern Med* 2009; 169(6): 626-32.
- Tangpricha V, Khazai NB. Vitamin D deficiency and related disorders. *MedScape*; 2009. Available from: <http://emedicine-medscape.com/article/128762-overview>
- Chapuy MC, Preziosi P, Maamer M, Amaud S, Galan P, Hercberg S, et al. Prevalence of vitamin D insufficiency in an adult normal population. *Osteoporos Int* 1997; 7(5): 439-43.
- Scragg R, Sowers M, Bell C. Serum 25-hydroxyvitamin D, diabetes, and ethnicity in the Third National Health and Nutrition Examination Survey. *Diabetes Care* 2004; 27: 2813-8.
- Holick MF. Sunlight and vitamin D for bone health and prevention of autoimmune diseases, cancers, and cardiovascular disease. *Am J Clin Nutr* 2004; 80(Suppl): 1678S-88S.
- Kiebzak GM, Moore NL, Margolis S, Hollis B, Kevorkian CG. Vitamin D status of patients admitted to a hospital rehabilitation unit: Relationship to function and progress. *Am J Phys Med Rehabil* 2007; 86(6): 435-45.
- Drinka PJ, Krause PF, Nest LJ, Goodman BM. Determinants of vitamin D levels in nursing home residents. *J Am Med Dir Assoc* 2007; 8(2): 76-9.
- Lips P, van Ginkel FC, Jongen MJ, Rubertus F, van der Vijgh WJ, Netelenbos JC. Determinants of vitamin D status in patients with hip fracture and in elderly control subjects. *Am J Clin Nutr* 1987; 46: 1005-10.15.
- Bischoff-Ferrari HA, Dawson-Hughes B, Willett WC, Staehelin HB, Bazemore MG, Zee RY, et al. Effect of vitamin D on falls - A meta-analysis. *JAMA* 2004; 291(16): 1999-2006.

Best Poster

A Sepsis Quality Initiative Program to Improve Clinician Knowledge, Patient Identification and Management of Sepsis

Niti Rajpal MD, Roman Bernstein MD, Chinar Agarwal MD, Joan Velletri RN, Alfredo Rabines DO, Laura Cruz BS RRT, Anna Cyrus-Murden MD, Beth Raucher MD, Avneet Ahluwalia, David Tompkins MD

NYU Lutheran Medical Center

Resident Research Awards Competition

May 14, 2015

Claudia Lyon, DC

Chair, Institutional Review Board

Kell Julliard, MA

Assistant Vice President, Clinical Research

Curriculum Vitae

Vivian Dayeh

A. PERSONAL DATA

Address Dept. of Biology, University of Waterloo
Waterloo, Ontario, N2L 3G1, Canada
Tel: 519-888-4567, Ext. 47582
Email: vrdayeh@uwaterloo.ca
<https://uwaterloo.ca/biology/profile/vrdayeh>

Date of Birth Not provided

Citizenship Not provided

Education

2004 Ph.D., Biology, University of Waterloo, Thesis: Development of similar methodologies for evaluating the toxicity of environmental contaminants with fish cell lines and Tetrahymena.

2004 Certificate in University Teaching, University of Waterloo
Courses focused on lecture design, assessment methods, teaching practicum, and research presentation.
Research Topic: Use of computer simulated laboratories in Biology: Virtual reality or virtual fantasy?

2001 M.Sc., Biology, University of Waterloo Thesis: Development and application of fish cell line bioassays for evaluating the toxicity of industrial effluents.

1999 B.Sc., Honours Biology, University of Waterloo
Thesis: An in vitro assay for detecting cytotoxicity of industrial effluents and ammonia to rainbow trout (*Oncorhynchus mykiss*) cell lines

Academic Appointments

Sept. 2024 – present Associate Professor, Teaching Stream, Department of Biology, University of Waterloo

Sept. 2023 – present Teaching Fellow, Department of Biology, University of Waterloo

June 2009 – Aug. 2024	Continuing Lecturer, Department of Biology, University of Waterloo
Jan. 2020 – Sept. 2020	Interim Associate Chair, Undergraduate Studies, Department of Biology, University of Waterloo
Jan. 2009 – Aug. 2016	Associate Chair, Undergraduate Studies, Department of Biology, University of Waterloo
May 2004 – May 2009	Lecturer, Department of Biology, University of Waterloo

Sabbatical Leaves

NA

Scholarships and Awards

2024	Society for In Vitro Biology (SIVB) Service Award
2023	Society for In Vitro Biology (SIVB) President's Award
2023	Society for In Vitro Biology (SIVB) Service Award
2021	Society for In Vitro Biology (SIVB) Fellow Award (2021). Awarded to those who have made a significant contribution to the field of in vitro biology and service to the society.
2021	Society for In Vitro Biology (SIVB) Service Award
2020	University of Waterloo Outstanding Performance Award
2018	Professor Jack Carlson Teaching Excellence Award. Department of Biology, University of Waterloo
2017	Society for In Vitro Biology (SIVB) Distinguished Service Award (2017). For Outstanding service to the society.
2017	University of Waterloo Outstanding Performance Award
2014	University of Waterloo Outstanding Performance Award
2011	University of Waterloo Distinguished Teaching Award (DTA) (2011). University of Waterloo
2011	University of Waterloo Outstanding Performance Award

- 2010 Excellence in Science Teaching Award (ESTA) (2010). Faculty of Science, University of Waterloo.
- 2006 University of Waterloo Outstanding Performance Award
- 2006 Professor Jack Carlson Teaching Excellence Award. Department of Biology, University of Waterloo
- 2004 Ontario Graduate Scholarship
- 2004 University of Waterloo, Graduate Scholarship awarded
- 2003 Ontario Graduate Scholarship
- 2003 Best Ph.D. oral presentation at the 2003 Biology Graduate Symposium. Title: "Protozoa and fish cells as alternatives to fish in water quality testing".
- 2003 Best oral presentation in the theme of Environment at the 3rd Annual Graduate Student Research Conference. Presentation title: "Fishing in a Petri dish: The search for alternatives".
- 2003 First place poster presentation at 30th Annual Aquatic Toxicity Workshop. Title: "Developing rapid toxicity tests with the ciliated protozoan, *Tetrahymena thermophila* that utilize 96 microwell filter plates".
- 2003 Centre for Research in Earth & Space Technology (CRESTech) Graduate Student Conference Travel Award for travel to the 2003 SIVB Congress on in Vitro Biology.
- 2003 Joseph F. Morgan Award for Canadian students. 2003 SIVB Congress on in Vitro Biology.
- 2003 SIVB Student Travel Award. 2003 SIVB Congress on in Vitro Biology.
- 2003 University of Waterloo, Graduate Scholarship awarded
- 2002 Honor B. Fell Award for graduate student research accomplishments in animal organ culture. 2002 SIVB Congress on in Vitro Biology.
- 2002 Joseph F. Morgan Award for Canadian students. 2002 SIVB Congress on in Vitro Biology. Page 14 Dayeh, V.R.

2002	SIVB Student Travel Award. 2002 SIVB Congress on in Vitro Biology.
2002	University of Waterloo, Faculty of Science, Provost's Graduate Women's Incentive Fund Scholarship, 2002.
2002	University of Waterloo, Graduate Scholarship awarded
2001	Society of Environmental Toxicology and Chemistry (SETAC) Student Travel Award. 22nd Annual North American SETAC Meeting.
2001	University of Waterloo, Graduate Scholarship awarded
2000	University of Waterloo, Graduate Scholarship awarded

B. RESEARCH AND SCHOLARSHIP

(i) Research Grants *(starting with most recent including grants submitting)*

2024–2025	Indigenous Learning Circles in Stem Education, University of Waterloo LITE Seed Grant, \$7,500, (Principal Investigator, with collaborators B. Lee and S. Sloat)
2023–2024	Building an Accurate and Learner-Centered Library of Scientific Artwork in the Area of Human Physiology, Staebler Insurance OER Fellows Grant \$5,000,(Principal Investigator)
2005–2006	Assisting Students in Making Connections Between Undergraduate Courses, University of Waterloo Learning Initiatives Fund, \$12,000, (Principal Investigator, with collaborators D. Painter and D. Miskovic)

(ii) Research Contracts

N/A

(iii) Graduate Student Supervision

2015–2017	Patrick Pumputis	<i>Co-supervised with Dr. N.C. Bols, University of Waterloo Thesis: Development of RTgutGC as a Tool for Fish Feed Development.</i>
2007–2009	Wail El-Sweisi	<i>Co-supervised with Dr. N.C. Bols, University of Waterloo Thesis: Evaluating the toxicity of eight reactive environmental contaminants by monitoring three measures of cell viability in two fish cell lines</i>

(iv) PDFs/Research Associates Supervision

N/A

(v) Undergraduate Supervision

N/A

(vii) Publications**Lifetime Summary**

	First or Corresponding Author	Co-Author	Total
Chapters in Books and monographs	2	4	6
Refereed Journal Articles	7	9	16
Conference Presentations (Posters)	14	14	28
Invited Addresses (Talks/ Seminars)	11	6	17
Citations (from Google Scholar)	270	373	643

Refereed Journals

- Dayeh, V.R.**, Solhaug, A., Hamilton, M.E., Linton, L.E., Lee, L.E.J., and Bols, N.C. (2024). The impact of beauvericin on rainbow trout intestinal epithelial cells at different temperatures and dosing methods. Submitted to *In Vitro Cellular & Developmental Biology – Animal*.
- Pumputis, P.G., Braley, E., Hamilton, M.E., **Dayeh, V.R.**, Lee, L.E.J., and Bols, N.C. (2022). Integrity and wound healing of rainbow trout intestinal epithelial cell sheets at hypo-, normo-, and hyper-thermic temperatures. *Journal of Thermal Biology*, 103: 103147. <https://doi.org/10.1016/j.jtherbio.2021.103147> Cited by 4
- Pumputis, P.G., **Dayeh, V.R.**, Lee, L.E.J., Hamilton, M.E., Viththiyapaskaran, S., and Bols, N.C. (2020). Beneficial and detrimental effects of the phytochemical naringenin on rainbow trout intestinal cells. *Journal of Functional Foods*, 64: 103653. doi.org/10.1016/j.jff.2019.103653 Cited by 4
- Pumputis, P.G., **Dayeh, V.R.**, Lee, L.E.J., Pham, P.H., Liu, Z., Viththiyapaskaran, S., and Bols, N.C. (2018). Responses of rainbow trout intestinal epithelial cells to different kinds of nutritional deprivation. *Fish Physiology and Biochemistry*, 44: 1197-1214. doi.org/10.1007/s10695-018-0511-3 Cited by 16
- Bols, N.C., Pham, P.H., **Dayeh, V.R.**, and Lee, L.E.J. (2017). Invitromatics, invitrome, and invitroomics: introduction of three new terms for in vitro biology and illustration of their use with the cell lines from rainbow trout. *In Vitro Cellular & Developmental Biology – Animal*, 53: 383-405. doi.org/10.1007/s11626-017-0142-5 Cited by 91
- Lee, L.E.J., **Dayeh, V.R.**, Schirmer, K., and Bols, N.C. (2009). Applications and potential uses of fish gill cell lines: examples with RTgill-W1. *In Vitro Cellular & Developmental Biology – Animal*, 45: 127-134. Cited by 136
- Dayeh, V.R.**, Schirmer, K., and Bols, N.C. (2009). Ammonia-containing industrial effluents lethal to rainbow trout vacuolization and neutral red uptake in the rainbow trout gill cell line, RTgill-W1. *Alternatives to Laboratory Animals*, 37: 77-87. Cited by 23
- Pinheiro, M.D.O., Power, M.E., Butler, B.J., **Dayeh, V.R.**, Slawson, R., Lee, L.E.J., Lynn, D.H., and Bols, N.C. (2008). Investigating the impact of virophagy by the grazing ciliate, *Tetrahymena thermophila*, on bacteriophage MS2 when mixed in culture. *Water Quality Research Journal of Canada*, 43: 69-76.
- Pinheiro, M.D.O., Power, M.E., Butler, B.J., **Dayeh, V.R.**, Slawson, R., Lee, L.E.J., Lynn, D.H., and Bols, N.C. (2007). Use of *Tetrahymena thermophila* to study the role of protozoa in inactivation of viruses in water. *Applied and Environmental Microbiology*, 73: 643-649. Cited by 64

- Power, M.E., Sotornik, D., Pinheiro, M.D.O., **Dayeh, V.R.**, Butler, B.J., Slawson, R., Lee, L.E.J., Lynn, D.H., and Bols, N.C. (2006). Development of a fluorescent multiwell assay for evaluating the capacity of the ciliated protozoan *Tetrahymena* for bacterivory in water samples. *Water Quality Research Journal of Canada*, 41: 307-315. Cited by 16
- Dayeh, V.R.**, Lynn, D.H., and Bols, N.C. (2005). Cytotoxicity of metals common in mining effluent to Rainbow Trout cell lines and to the ciliated protozoan, *Tetrahymena thermophila*. *Toxicology in Vitro*, 19: 399-410. Cited by 98
- Dayeh, V.R.**, Grominsky, S., DeWitte-Orr, S.J., Sotornik, D., Yeung, C.R., Lee, L.E.J., Lynn, D.H., and Bols, N.C. (2005). Comparing a ciliate and a fish cell line for their sensitivity to several classes of toxicants by the novel application of multiwell filter plates to *Tetrahymena*. *Research in Microbiology*, 156: 93-103. Cited by 34
- Schirmer, K., **Dayeh, V.R.**, Bopp, S., Russold, S., and Bols, N.C. (2004). Applying whole water samples to cell bioassays for detecting dioxin-like compounds at contaminated sites. *Toxicology*, 205: 211-221. Cited by 42
- Dayeh, V.R.**, Chow, S.L., Schirmer, K., Lynn, D.H., and Bols, N.C. (2004). Evaluating the toxicity of Triton X-100 to protozoan, fish, and mammalian cells using fluorescent dyes as indicators of cell viability. *Ecotoxicology and Environmental Safety*, 57: 375-382. Cited by 158
- Dayeh, V.R.**, Lynn, D.H., and Bols, N.C. (2003). Assessment of metal toxicity to protozoa and rainbow trout cells in culture. In: *Sudbury 2003 – Mining and the Environment Conference*. Vol. 1. (G. Spiers, P. Beckett, and H. Conroy, Eds.). Laurentian University. Sudbury, ON, Canada. pp. 205-211.
- Dayeh, V.R.**, Schirmer, K., and Bols, N.C. (2002). Applying whole-water samples directly to fish cell cultures in order to evaluate the toxicity of industrial effluent. *Water Research*, 36: 3727-3738. Cited by 100

Book Chapters

- Taylor, M.R., and Dayeh, V.R. (2020). *Study Guide for Campbell Biology 3rd Canadian Edition*. Pearson, New Jersey, USA. ISBN-13: 9780135198506 (Full Book)
- Taylor, M.R., and Dayeh, V.R. (2018). *Study Guide for Campbell Biology 2nd Canadian Edition*. Pearson, New Jersey, USA. ISBN-13: 9780134570490(Full Book)
- Dayeh, V.R., Bols, N.C., Tanneberger, K., Schirmer, K. and Lee, L.E.J. 2013. The Use of Fish-Derived Cell Lines for Investigation of Environmental Contaminants: An Update Following OECD's Fish Toxicity Testing Framework No. 171. In: *Current Protocols in Toxicology*. John Wiley & Sons. New York, NY, USA. 56:1.5.1–1.5.20.

- Dayeh, V.R., Schirmer, K., Lee, L.E.J., and Bols, N.C. (2005). Rainbow trout gill cell line microplate cytotoxicity test. In: *Small-scale Freshwater Toxicity Investigations: Toxicity Test Methods*, Vol. 1, (C. Blaise and J.F. Férard, Eds.). Kluwer Academic Publishers, Netherlands. Chapter 15, pp. 473-503.
- Bols, N.C., Dayeh, V.R., Lee, L.E.J., and Schirmer, K. (2005). Use of fish cell lines in the toxicology and ecotoxicology of fish. In: *Biochemistry and Molecular Biology of Fishes – Environmental Toxicology*. Vol. 6. (T.W. Moon and T.P. Mommsen, Eds.). Elsevier Science, Netherlands. Chapter 2, pp. 43-84.
- Dayeh, V.R., Schirmer, K., Lee, L.E.J., and Bols, N.C. (2003). The use of fish-derived cell lines for investigation of environmental contaminants. In: *Current Protocols in Toxicology*. John Wiley & Sons. New York, NY, USA. Unit 1.5, pp. 1-17

Articles Submitted for Publication

N/A

(viii) Invited Conference Presentations and Seminars

- Pinheiro, M.D.O., Power, M.E., Butler, B.J., **Dayeh, V.R.**, Slawson, R., Lee, L.E.J., Lynn, D.H., and Bols, N.C. (2007). Using *Tetrahymena thermophila* to study the role of protozoa in inactivating viruses. *Journal of Eukaryotic Microbiology*. 54: 52S*
- Dayeh, V.R.**, Solhaug, A., Lee, L.E.J., and Bols, N.C. (2024). Cytotoxicity of the mycotoxin beauvericin to rainbow trout intestinal epithelial cells: A tale of two methods. 2024 *World Congress on In Vitro Biology*. St. Louis, MO, USA, June 8-12.
- Dayeh, V.R.**, Linton, L., Hamilton, M., Pham, P.H., Lee, L.E.J., and Bols, N.C. (2018). Evaluating the toxicity of the mycotoxin beauvericin to rainbow trout intestinal epithelial cells at different temperatures. 2018 *In Vitro Biology Meeting*. St. Louis, MO, USA, June 2-6.
- Dayeh, V.R.** (2016). Gamification in biology courses: What's up with IF-AT? 2016 *World Congress on In Vitro Biology*. San Diego, CA, USA, June 11-15.
- Bols, N.C., **Dayeh, V.R.**, Pham, P.H., Pumputis, P.G., and Lee, L.E.J. (2016). Acquisition of knowledge with cell cultures to assess the aquaculture of fish. 2016 *World Congress on In Vitro Biology*. San Diego, CA, USA, June 11-15.
- El-Sweisi, W., **Dayeh, V.R.**, Kawano, A., Power, M.E., Hodson, P.V., Lee, L.E.J., Schirmer, K., and Bols, N.C. (2008). Optimizing the dosing and exposure of fish cell cultures to environmental chemicals and extracts for evaluating toxicity. 29th *Annual Meeting of the Society of Environmental Toxicology and Chemistry (SETAC)*. Tampa, FL, USA, Nov. 6-20.

Holbrook, J., Lithgow, K., and **Dayeh, V.R.** (2007). *Helping students make connections using ePortfolios and concept maps. Spirit of Inquiry: Developing Critical Thinking, Creativity and Community Conference. Montreal, QC, May 14-16.*

Dayeh, V.R., Schirmer, K., and Bols, N.C. (2005). *An in vitro fish cell bioassay for detecting ammonia in industrial effluent. 32nd Aquatic Toxicity Workshop. Waterloo, ON, Oct. 3-5.*

Lee, L.E.J., **Dayeh, V.R.**, and Bols, N.C. (2005). *Applications and potential uses of RTgill-W1, a trout-derived gill cell line, in aquatic toxicology. 32nd Aquatic Toxicity Workshop. Waterloo, ON, Oct. 3-5.*

Johnston, B.D., Sötje, I., **Dayeh, V.R.**, Bols, N.C., Alexander, G., Secombes, C.J., and Båmstedt, U. (2005). *Toxicity of mass occurrences of pelagic cnidarians in enclosed coastal systems. 32nd Aquatic Toxicity Workshop. Waterloo, ON, Oct. 3-5.*

Dayeh, V.R., and Bols, N.C. (2003). *Enhancing the sensitivity of rainbow trout cells in culture to the toxicity of metals. 2003 Congress on in Vitro Biology. Portland, OR, USA, May 31-June 4. Invited Platform.*

Dayeh, V.R., Lynn, D.H., and Bols, N.C. (2003). *Assessment of metal toxicity to protozoa and rainbow trout cells in culture. Sudbury 2003 – Mining and the Environment. Sudbury, ON, May 25-28.*

Dayeh, V.R., and Bols, N.C. (2003). *Fishing in a Petri dish: The search for alternatives. University of Waterloo Graduate Student Research Conference. Waterloo, ON, Apr. 2-4.*

Dayeh, V.R., Lee, L.E.J., and Bols, N.C. (2002). *Use of fish cell lines as an alternative to toxicity tests with fish. 29th Aquatic Toxicity Workshop. Whistler, BC, Oct. 20-23. Invited Platform.*

Dayeh, V.R., Schirmer, K., and Bols, N.C. (2001). *Development of fish cell line bioassays to screen industrial effluent for toxicants. University of Waterloo Graduate Student Research Conference. Waterloo, ON, Apr. 4-6.*

Dayeh, V.R., Schirmer, K., and Bols, N.C. (2001). *Development of in vitro fish cell bioassays for detecting ammonia in industrial effluents. Laurentian Society of Environmental Toxicology and Chemistry (SETAC) Annual Meeting. Hamilton, ON, May 25-26.*

Dayeh, V.R., and Bols, N.C. (2000). *Platform interview on networking with industry. CRESTech Innovation Network '00. Toronto, ON, Sept. 28.*

(ix) **Non-Refereed Contributions: Conference Presentations (posters/ student talks)**

- Pritchard, D., Braley, E., Pumputis, P.G., **Dayeh, V.R.**, Bols, N.C., and Lee, L.E.J. (2022). *Effects of Sodium Butyrate and D- and L-lactate on Rainbow Trout Epithelial Cells. 2022 In Vitro Biology Meeting. San Diego, CA, USA, June 4-7.*
- Bols, N.C., Braley, E., Pritchard, D., Lee, J.B., Pumputis, P.G., **Dayeh, V.R.**, and Lee, L.E.J. (2021). *Effect of sodium butyrate and nitrite on rainbow trout epithelial cells. 2021 In Vitro Biology Meeting. Held online due to COVID-19, June 5-9.*
- Bols, N.C., Braley, E., Pumputis, P.G., Hamilton, M., **Dayeh, V.R.**, and Lee, L.E.J. (2020). *Impact of temperature on the integrity of rainbow trout intestinal epithelial cell sheets. 2020 In Vitro Biology Meeting. Held online due to COVID-19, June 6-10.*
- Bols, N.C., Pumputis, P.G., **Dayeh, V.R.**, and Lee, L.E.J. (2019). *Effects of the phytochemical, naringenin, on rainbow trout intestinal epithelial cells. 2019 In Vitro Biology Meeting. Tampa, FL, USA, June 8-12.*
- Pumputis, P.G., **Dayeh, V.R.**, Lee, L.E.J., and Bols, N.C. (2016). *Developing in vitro assays for identifying feed additives to promote fish intestinal health. 2016 World Congress on in Vitro Biology. San Diego, CA, USA, June 4-15.*
- Pinheiro, M.D.O., Power, M.E., Butler, B.J., **Dayeh, V.R.**, Slawson, R., Lee, L.E.J., Lynn, D.H., and Bols, N.C. (2008). *Mechanism of T4 and MS2 bacteriophage inactivation by the ciliated protozoan Tetrahymena thermophila. American Society of Microbiology General Meeting. Toronto, ON, May 20-25.*
- Pinheiro, M.D.O., Power, M.E., Butler, B.J., **Dayeh, V.R.**, Slawson, R., Lee, L.E.J., Lynn, D.H., and Bols, N.C. (2007). *Inactivation of bacteriophages by the ciliated protozoan Tetrahymena thermophila. 42nd Central Canadian Symposium on Water Quality Research. Burlington, ON, Feb. 12-13.*
- Lee, L.E.J., **Dayeh, V.R.**, Hermens, J.L.M., Hafner, C., Scholz, S., Schirmer, K., and Bols, N.C. (2006). *Rapid high throughput evaluation of chemical toxicity using fish cell lines and fish embryos. 33rd Annual Aquatic Toxicity Workshop. Jasper, AB, Oct. 1-4.*
- Pinheiro, M.D.O., Power, M.E., Butler, B.J., **Dayeh, V.R.**, Slawson, R., Lee, L.E.J., Lynn, D.H., and Bols, N.C. (2006). *Using Tetrahymena thermophila to study the role of protozoa in inactivating viruses in water: expanded. International Society of Protistologists/International Workshop on Opportunistic Protists Joint Meeting. Lisbon, Portugal, June 20-24.*
- Pinheiro, M.D.O., Power, M.E., Butler, B.J., **Dayeh, V.R.**, Slawson, R., Lee, L.E.J., Lynn, D.H., and Bols, N.C. (2006). *Using Tetrahymena thermophila to study the role of protozoa in inactivating viruses in water. 41st Central Canadian Symposium on Water Quality Research. Burlington, ON, Feb. 13-14.*

- Power, M.E., Sotornik, D., Pinheiro, M.D.O., **Dayeh, V.R.**, Butler, B.J., Slawson, R., Lee, L.E.J., Lynn, D.H., and Bols, N.C. (2006). Development of a fluorescent multiwell assay for evaluating the capacity of the ciliated protozoan *Tetrahymena* for bacterivory in water samples. 41st Central Canadian Symposium on Water Quality Research. Burlington, ON, Feb. 13-14.
- Pinheiro, M.D.O, Sotornik, D., **Dayeh, V.R.**, Power, M.E., Butler, B.J., Slawson, R., Lee, L.E.J., Lynn, D.H., and Bols, N.C. (2005). Use of the ciliated protozoan *Tetrahymena* as a test organism in aquatic toxicology. 32nd Aquatic Toxicity Workshop. Waterloo, ON, Oct. 3-5.
- Dayeh, V.R.**, Nero, V., Farwell, A., Dixon D.G., Bols, N.C., and Lee, L.E.J. (2004). Rapid toxicological evaluation of oil-sands' process-affected water using fish cell lines. 31st Aquatic Toxicity Workshop. Charlottetown, PEI, Oct. 24-27.
- Dayeh, V.R.**, Haberstroh, K., Slater, J., Nero, V., Farwell, A., Dixon, D.G., Bols, N.C., and Lee, L.E.J. (2004). Evaluation of oil-sands' process-affected water toxicity using RTgill-W1, a cell line derived from rainbow trout gills. Canadian Society of Zoologists. Acadia University, NS, May 11-15.
- Dayeh, V.R.**, Sotornik, D., Lynn, D.H., Lee, L.E.J., and Bols, N.C. (2003). Developing rapid toxicity tests with the ciliated protozoan, *Tetrahymena thermophila* that utilize 96 microwell filter plates. 30th Aquatic Toxicity Workshop. Ottawa, ON, Sept. 28-Oct. 1.
- Dayeh, V.R.**, Chow, S., Schirmer, K., Lynn, D.H, and Bols, N.C. (2002). Assessing the toxicity of surfactants to protozoa, fish, and mammalian cells. CRESTech Innovation Network '02. Toronto, ON, Oct. 1.
- Dayeh, V.R.**, Jeremic, G., Lew, J., Lee, S., Schirmer, K., Hodson, P.V., and Bols, N.C. (2002). Toxic actions of alkylated naphthalenes to rainbow trout cells in culture. 2002 Congress on in Vitro Biology. Orlando, FL, USA, June 25-29. Interactive Poster.
- Dayeh, V.R.**, Chow, S., Schirmer, K., Lynn, D.H., and Bols, N.C. (2002). Assessing the toxicity of surfactants to protozoa, fish, and mammalian cells. Society of Environmental Toxicity and Chemistry (SETAC) 12th Annual Europe Meeting. Vienna, Austria, May 13-17.
- Hoekstra, P.F., **Dayeh, V.R.**, Sherry, J., Solomon, K.R., Bols, N.C., and Muir, D.C.G. (2002). Enantiomer-specific toxicity of o,p'-DDT to rainbow trout hepatocytes. Society of Environmental Toxicity and Chemistry (SETAC) 12th Annual Europe Meeting. Vienna, Austria, May 13-17.

- Dayeh, V.R., Schirmer, K., and Bols, N.C. (2002).** *Development and application of fish cell line bioassays for evaluating the toxicity of industrial effluent. University of Waterloo Graduate Student Research Conference. Waterloo, ON, Apr. 1-5.*
- Dayeh, V.R., Schirmer, K., and Bols, N.C. (2001).** *Development and application of fish cell line bioassays for evaluating the toxicity of industrial effluent. Society of Environmental Toxicity and Chemistry (SETAC) 22nd Annual North America Meeting. Baltimore, MD, USA, Nov. 11-15.*
- Dayeh, V.R., Jeremic, G., Lew, J., Lee, S., Schirmer, K., Hodson, P.V., and Bols, N.C. (2001).** *Toxic actions of alkylated naphthalenes to rainbow trout cells in culture. 28th Aquatic Toxicity Workshop. Winnipeg, MB, Sept. 30-Oct. 3.*
- Dayeh, V.R., Lynn, D.H., and Bols, N.C. (2001).** *Developing cytotoxicity assays for fish and protozoa as alternatives to fish in the toxicity testing of industrial effluent. CRESTech Innovation Network '01. Toronto, ON, Sept. 27.*
- Schirmer, K., Dayeh, V.R., and Bols, N.C. (2000).** *A new technology for presenting whole industrial effluent to fish cell lines in order to detect toxicants. 27th Aquatic Toxicology Workshop. St. John's, NL, Oct. 2-4.*
- Dayeh, V.R., Schirmer, K., and Bols, N.C. (2000).** *Development of fish cell line bioassays to screen pulp and paper mill effluents for toxicants. CRESTech Innovation Network '00. Toronto, ON, Sept.*
- Dayeh, V.R., Schirmer, K., and Bols, N.C. (2000).** *Development of fish cell line bioassays to screen industrial effluents for toxicants. International Association of Great Lakes Research. Cornwall, ON, May 22-26.*
- Dayeh, V.R., Schirmer, K., and Bols, N.C. (2000).** *Development of fish cell line bioassays to screen industrial effluents for toxicants. 10th ASTM Symposium on Environmental Toxicology and Risk Assessment. Toronto, ON, Apr. 10-12.*
- Dayeh, V.R., Schirmer, K., and Bols, N.C. (1999).** *Development of in vitro fish cell bioassays for detecting ammonia and other potential toxicants in industrial effluents. CRESTech Innovation Network '99. Toronto, ON, Sept. 29.*

C. TEACHING ACTIVITIES

(i) Courses Taught

Undergraduate Courses

Course	Title	Year (term)	Enrolment (or range)
BIOL 130	Introductory Cell Biology	2024	106-441
BIOL 201	Human Anatomy	2020-2023	351
BIOL 211	Introductory Vertebrate Zoology	2019	144-171
BIOL 273	Principles of Human Physiology 1	2019-2024	231-673
BIOL 301	Human Anatomy	2019	97-204
BIOL 354	Environmental Toxicology 1	2020-2024	159-188
BIOL 483	Animal Cell Biotechnology	2019-2024	31-39

Received Externally, from previous terms

D. SERVICE

(i) Professional Activities

Journal Editorship

Name of Journal: Toxicology in Vitro, Cytotechnology, In Vitro Cellular & Developmental Biology – Animal, Comparative Biochemistry and Physiology, Part C (Manuscript Reviewer)

Scientific Advisory Committees

Name of Advisory Committee: SETAC Education Committee(Volunteer Member), Laurentian Chapter of SETAC (Board Member, 2004–2007)

2007–present

Public Relations

N/A

Paper/Grant Reviews

N/A

PhD External Examiner

N/A

MSc External Examiner

N/A

Tenure Review

N/A

(ii) University Committees

Biology Teaching Fellow ongoing
Department of Biology, University of Waterloo

Biomedical Sciences Advisor 2005–present
Department of Biology, University of Waterloo

Science Faculty Council, Representative
Faculty of Science, University of Waterloo

Senate Undergraduate Council, Representative
Faculty of Science, University of Waterloo

Instructional Skills Workshop Facilitator
University of Waterloo

Associate Chair, Steering Committee, Aug. 2018–Dec. 2019
English Language Competence Initiative

Communications for Scientists Training Initiative, July 2015–Aug. 2018
Representative Faculty of Science, University of Waterloo

(iii) Departmental Committees

Biomedical Sciences Working Group, Chair
Department of Biology, University of Waterloo

Medical Physiology Minor Advisor 2018–present
University of Waterloo,

Biotechnology Technician Diploma Advisor 2022–present
University of Waterloo,

PhD Supervisory and/or Comprehensive Exam Committees

N/A

MSc Supervisory Committees

N/A

(iv) Other Service-related Activities

Membership Committee Chair, SIVB Society for In Vitro Biology, 2016–present

Development Committee, Member Society for In Vitro Biology, 2021–present

Awards Committee, Member Society for In Vitro Biology, 2019–present

CV-Vivian Dayeh

Volunteer Audio/Visual Support, SIVB Annual Meetings

2017, 2018, 2022

Curriculum Vitae

A. Personal Data

1. Name:

Thorsten Dieckmann

2. Date of Birth:

February 13, 1966

3. Department:

Chemistry

4. Degrees:

Technical University of Braunschweig, Germany, Dipl. Chem., 1991 (Chemistry), Thesis entitled, "Structure determination of the Human Parathormone fragment 1-34 by NMR spectroscopy" supervised by Prof. Dietmar Schomburg.

Technical University of Braunschweig, Germany, Dr. rer. nat., 1993, Thesis entitled, "NMR studies of proteins and nucleic acids" supervised by Prof. Hartmut Oschkinat.

5. Awards and Honours:

Award of the degree "Dr. rer. nat" with honors (mit Auszeichnung) by the Technical University of Braunschweig, Germany, 1993

Long-term postdoctoral fellowship of the Human Frontier Science Program Organization, Strasbourg, France, 1994 to 1996.

6. Post Ph.D. Degree Employment

1996-1998 Research Assistant and manager of the UCLA-DOE NMR Facility, Department of Chemistry and Biochemistry, University of California, Los Angeles, California

1998 - 2005 Assistant Professor of Chemistry, Department of Chemistry, University of California, Davis, California

2005-present Associate Professor, University of Waterloo, Ontario

B. Research and Scholarship

1. Research Topics and Areas of Interest

Biochemistry and Biophysics of RNA, structure and function of RNA and proteins, high resolution NMR spectroscopy, catalysis, drug design, viral infections, RNA world and the origin of life

2. List of Publications

Books, book chapters

Dieckmann T, Piazza M, Bonneau E, Legault P. (2014). Biomolecular NMR Spectroscopy of Ribonucleic Acids. In "Encyclopedia of Life Sciences", John Wiley & Sons Ltd. Published online at DOI: 10.1002/9780470015902.a0021033.pub2

Dieckmann, T. (2012) RNA as Drug and Drug target. In: Palmer, M. "Biochemical Pharmacology" Wiley-Blackwell, Hoboken, NJ, USA.

Zumwalt. M. and Dieckmann, T. (2008) "Structure and Dynamics in Viral RNA Packaging." In: Cheng, R.H. and Miyamura, T. "Structure based Study of Viral Replication.", World Scientific Publishers, Singapore.

Dieckmann, T. and Legault, P.(2008) "Biomolecular NMR Spectroscopy of Ribonucleic Acids." In: ENCYCLOPEDIA OF LIFE SCIENCES. John Wiley & Sons, Ltd: Chichester.

Papers

La, V., Evans, N.M., Hong, A., Tormann, A., Shivers, L., and Dieckmann, T. In Vitro Selection and Characterization of a Light-up DNA Aptamer for Thiazole Orange (2024) ChemBioChem, 25 (18), art. no. e202400444

Evans, N.M., Shivers, L.R., To, A.J., Murphy, G.K., and Dieckmann, T. Biophysical characterization and design of a minimal version of the Hoechst RNA aptamer (2024) Biochemical and Biophysical Research Communications, 711, art. no. 149908

Vlasenko, Y., To, A., Fortier, T., Evans, N., Lindsay, C., Palermo, P., Dieckmann, T., and Murphy, G. Synthesis and Application of D- and ¹³C-Labelled tert-Butyl Hoechst Dye (2024) Journal of Labelled Compounds and Radiopharmaceuticals

Huang, P.-J.J., Evans, N.M., Lu, C., Li, A.Z., Dieckmann, T., and Liu, J. Cross-Binding of Adenosine by Aptamers Selected Using Theophylline (2023) ChemBioChem, 24 (23), art. no. e202300566

Saran, R., Piccolo, K.A., He, Y., Kang, Y., Huang, P-J., Wei, C., Chen, D., Dieckmann, T. and Liu, J. Thioflavin T fluorescence and NMR spectroscopy suggesting a non-G-quadruplex structure for a sodium binding aptamer

embedded in DNazymes (2021) Canadian Journal of Chemistry, 99(11), pp. 860-866.

Kwan, J.J., Slavkovic, S., Piazza, M., Wang, D., Dieckmann, T., Johnson, P.E., Wen, X.-Y., Donaldson, L.W. HACS1 signaling adaptor protein recognizes a motif in the paired immunoglobulin receptor B cytoplasmic domain (2020) Communications Biology, **3** (1), art. no. 672.

Piccolo, K.A., McNeil, B., Crouse, J., Lim, S.J., Bickers, S.C., Hopkins, W.S., Dieckmann, T. Ligand specificity and affinity in the sulforhodamine B binding RNA aptamer (2020) Biochemical and Biophysical Research Communications, **529** (3), pp. 666-671.

Beriashvili, D., Spencer, N.R., Dieckmann, T., Overduin, M., Palmer, M. Characterization of multimeric daptomycin bound to lipid nanodiscs formed by calcium-tolerant styrene-maleic acid copolymer (2020) Biochimica et Biophysica Acta - Biomembranes, **1862** (6), art. no. 183234.

Piazza, M., Dieckmann, T., Guillemette, J.G. Investigation of the structure and dynamic of calmodulin-nitric oxide synthase complexes using NMR spectroscopy (2018) Frontiers in Bioscience - Landmark, **23** (10), pp. 1902-1922.

Anwar, A., Psutka, J., Walker, S.W.C., Dieckmann, T., Janizewski, J.S., Larry Campbell, J., Scott Hopkins, W. Separating and probing tautomers of protonated nucleobases using differential mobility spectrometry. International Journal of Mass Spectrometry (2018) **429**, pp. 174-181.

Psutka, J.M., Dion-Fortier, A., Dieckmann, T., Campbell, J.L., Segura, P.A., Hopkins, W.S. Identifying Fenton-Reacted Trimethoprim Transformation Products Using Differential Mobility Spectrometry (2018) Analytical Chemistry, **90** (8), pp. 5352-5357.

Piazza, M., Taiakina, V., Dieckmann, T., Guillemette, J.G. Structural Consequences of Calmodulin EF Hand Mutations (2017) Biochemistry, **56** (7), pp. 944-956.

Chemin, J., Taiakina, V., Monteil, A., Piazza, M., Guan, W., Stephens, R.F., Kitmitto, A., Pang, Z.P., Dolphin, A.C., Perez-Reyes, E., Dieckmann, T., Guillemette, J.G., Spafford, J.D. Calmodulin regulates Cav3 T-type channels at their gating brake (2017) Journal of Biological Chemistry, **292** (49), pp. 20010-20031.

Piazza, M., Dieckmann, T., & Guillemette, J. G. (2016). Structural studies of a complex between endothelial nitric oxide synthase and calmodulin at physiological calcium concentration. Biochemistry, **55**:5962-5971.

Piazza M*, Guillemette JG, Dieckmann T. (2016). Chemical Shift Assignments of Calmodulin constructs with EF hand mutations. Biomolecular NMR Assignments. **10**:193-198.

- Piazza, M., Guillemette, G., Dieckmann, T. (2015). Chemical Shift perturbations induced by residue specific mutations of CaM interacting with NOS peptides. Biomolecular NMR Assignments, **9**:299-302.
- Piazza M., Guillemette G, Dieckmann T. (2015). Dynamics of Nitric Oxide Synthase – Calmodulin Interactions at Physiological Calcium Concentrations. Biochemistry, **54**:1989-2000.
- Piazza, M., Taiakina, V., Guillemette, S.R., Guillemette, J.G., Dieckmann, T. (2014) "Solution Structure of Calmodulin bound to the target peptide of Endothelial Nitric Oxide Synthase phosphorylated at Thr495", Biochemistry **53**: 1241–1249.
- Da Costa, J. B., Andreiev, A. I., and Dieckmann, T. (2013) "Thermodynamics and Kinetics of Adaptive Binding in the Malachite Green RNA Aptamer", Biochemistry **52**: 6575-6583.
- Da Costa, J. B., and Dieckmann, T. (2013) "Structure and Thermodynamics of Drug-RNA Aptamer Interactions", Mini-Rev Med Chem **13**: 467-477.
- Piazza, M., Futrega, K., Spratt, D.E., Dieckmann, T. , and Guillemette, J.G (2012). Structure and dynamics of calmodulin (CaM) bound to nitric oxide synthase peptides: Effects of a phosphomimetic CaM mutation. Biochemistry **5**: 3651-3661
- Piazza, M., Duangkham, Y., Spratt, D.E., Dieckmann, T., and Guillemette, J.G. (2011) "Expression and purification of an isotopically labeled aggregation prone inducible nitric oxide synthase calmodulin-binding protein for use in nuclear magnetic resonance studies" Journal of Labelled Compounds and Radiopharmaceuticals **54**: 657-663.
- "Entropy and Mg²⁺ control ligand affinity and specificity in the malachite green binding RNA aptamer", Bernard Da Costa, J., and Dieckmann, T., 2011, Molecular BioSystems **7**(7): 2156-2163
- Moore, N.W., Delacruz A.R.C., Lancaster, K.S. , Dieckmann, T. and Kuhl, T.L. (2007) "Synthesis of a Reversible Streptavidin Binder for Biomimetic Assemblies." Australian Journal of Chemistry, **60**: 363–368.
- Zumwalt, M., Ludwig, A., Hagerman, P.J., and Dieckmann, T. (2007) "Secondary Structure and Dynamics of the r(CGG) Repeat in the mRNA of the Fragile X Mental Retardation 1 (FMR1) Gene." RNA Biology, **4**: 93-100.
- Flinders J., T. Dieckmann (2006). "NMR Spectroscopy of Ribonucleic Acids" Progress in NMR Spectroscopy, **48**: 137-159.
- Brackett D.M., T. Dieckmann (2006). "Aptamer to Ribozyme: The intrinsic catalytic potential of a small RNA" ChemBioChem, **7**(5): 839-843.
- Flinders, J., S. C. DeFina, D. M. Brackett, C. Baugh, C. Wilson and T. Dieckmann (2004). "Recognition of planar and nonplanar ligands in the malachite green-RNA aptamer complex." Chembiochem **5**(1): 62-72.

- Flinders, J. and T. Dieckmann (2004). "The solution structure of the VS ribozyme active site loop reveals a dynamic "hot-spot"." J Mol Biol **341**(4): 935-49.
- Nguyen, D. H., T. Dieckmann, M. E. Colvin and W. H. Fink (2004). "Dynamics studies of a malachite Green-RNA complex revealing the origin of the red-shift and energetic contributions of stacking interactions." Journal of Physical Chemistry B **108**(4): 1279-1286.
- Qin, P. Z. and T. Dieckmann (2004). "Application of NMR and EPR methods to the study of RNA." Curr Opin Struct Biol **14**(3): 350-9.
- Vyas, S., A. J. Weekley, B. K. Tenn, J. C. Flinders, T. Dieckmann and M. P. Augustine (2003). "Using sodium cation organization to study the phase behavior of bicelle solutions." Journal of Physical Chemistry B **107**(39): 10956-10961.
- DeFina, S. C. and T. Dieckmann (2002). "Synthesis of selectively ^{15}N or ^{13}C labeled Malachite Green." J. Label Compd Radiopharm **45**: 241-248.
- Nguyen, D., S. C. DeFina, W. Fink and T. Dieckmann (2002). "Binding to an RNA Aptamer Changes the Charge Distribution and Conformation of Malachite Green." J. Am. Chem. Soc. **124**: 15081-15084.
- Bouvet, P., D. L. Finger, F. H. T. Allain, T. Dieckmann and J. Feigon (2001). "Recognition of Pre-formed and Flexible Elements of an RNA Stem-loop by Nucleolin." J. Mol. Biol. **309**: 763-775.
- Flinders, J. and T. Dieckmann (2001). "A pH Controlled Conformational Switch In the Cleavage Site of the VS Ribozyme Substrate RNA." J. Mol. Biol. **308**: 665-679.
- Zhou, X. Z., X. G. Jin, R. Medhekar, X. Y. Chen, T. Dieckmann and M. D. Toney (2001). "Rapid kinetic and isotopic studies on dialkylglycine decarboxylase." Biochemistry **40**(5): 1367-1377.
- Allain, F. H. T., P. Bouvet, T. Dieckmann and J. Feigon (2000). "Molecular basis of sequence specific recognition of pre-ribosomal RNA by nucleolin." EMBO J. **19**(24): 6870-6881.
- Allain, F. H. T., Y. M. Yen, J. E. Masse, P. Schultze, T. Dieckmann, R. C. Johnson and J. Feigon (1999). "Solution structure of the HMG protein NHP6A and its interaction with DNA reveals the structural determinants for non-sequence-specific binding." EMBO J. **18**(9): 2563-2579.
- Dieckmann, T., E. S. Withers-Ward, M. A. Jarosinski, C. F. Liu, I. S. Y. Chen and J. Feigon (1998). "Structure of a human DNA repair protein UBA domain that interacts with HIV-1 Vpr." Nat. Struct. Biol. **5**(12): 1042-1047.
- Masse, J., P. Bortmann, T. Dieckmann and J. Feigon (1998). "Simple Efficient Protocol for Enzymatic Synthesis of Uniformly ^{13}C and ^{15}N Labeled DNA for Heteronuclear NMR Studies." Nucleic Acids Res. **26**: 2618-2624.

Pang, J. W., T. Dieckmann, J. Feigon and D. Neuhauser (1998). "Extraction of Spectral Information from a Short-time Signal using Filter Diagonalization: Recent Developments and Applications to Semiclassical Scattering and NMR Signals." J. Chem. Phys. **108**: 8360-8368.

Sklenar, V., T. Dieckmann, S. E. Butcher and J. Feigon (1998). "Optimization of Triple-Resonance HCN Experiments for Application to Larger RNA Oligonucleotides." J. Magn. Reson. **130**: 119-124.

Wall, M. R., T. Dieckmann, J. Feigon and D. Neuhauser (1998). "Two-dimensional filter-diagonalization: spectral inversion of 2D NMR time-correlation signals including degeneracies." Chemical Physics Letters **291**(5-6): 465-470.

Butcher, S. E., T. Dieckmann and J. Feigon (1997). "Solution structure of the conserved 16S-like ribosomal RNA UGAA tetraloop." J. Mol. Biol. **268**: 348-358.

Butcher, S. E., T. Dieckmann and J. Feigon (1997). "Solution structure of a GAAA tetraloop receptor RNA." EMBO J. **16**: 7490-7499.

Dieckmann, T., S. E. Butcher, M. Sassanfar, J. W. Szostak and J. Feigon (1997). "Mutant ATP-binding RNA aptamers reveal the structural basis for ligand binding." J. Mol. Biol. **273**: 467-478.

Dieckmann, T. and J. Feigon (1997). "Assignment methodology for larger oligonucleotides: application to an ATP-binding RNA aptamer." J. Biomol. NMR **9**: 259-272.

Dieckmann, T., E. Suzuki, G. K. Nakamura and J. Feigon (1996). "Solution structure of an ATP-binding RNA aptamer reveals a novel fold." RNA **2**: 628-640.

Fahrner, R. L., T. Dieckmann, S. S. L. Harwig, R. L. Lehrer, D. S. Eisenberg and J. Feigon (1996). "Solution structure of protegrin-1, a broad-spectrum antimicrobial peptide from porcine leukocytes." Chem. & Biol. **3**(7): 543-550.

Feigon, J., T. Dieckmann and F. W. Smith (1996). "Aptamer Structures From α to Zeta." Chem. Biol. **3**(8): 611-617.

Sklenar, V., T. Dieckmann, S. E. Butcher and J. Feigon (1996). "Through-bond correlation of imino and aromatic resonances in ^{13}C , ^{15}N -labeled RNA via heteronuclear TOCSY." J. Biomol. NMR **7**: 83-87.

Dieckmann, T. and J. Feigon (1994). "Heteronuclear techniques in NMR studies of RNA and DNA." Curr. Opin. Struct. Biol. **4**: 745-749.

Mueller, T., T. Dieckmann, W. Sebald and H. Oschkinat (1994). "Aspects of receptor binding and signalling of interleukin-4 investigated by site-directed mutagenesis and NMR spectroscopy." J. Mol. Biol. **237**: 423-436.

Oschkinat, H., T. Muller and T. Dieckmann (1994). "Protein structure determination with three and four-dimensional NMR spectroscopy." Angew. Chem. Internatl. Ed. Engl. **33**: 277-293.

Dieckmann, T., L. Mitschang, M. Hofmann, J. Kos, V. Turk, E. A. Auerswald, R. Jaenicke and H. Oschkinat (1993). "The Structures of Native Phosphorylated Chicken Cystatin and of a Recombinant Unphosphorylated Variant in Solution." J. Mol. Biol. **234**(4): 1048-1059.

Engh, R. A., T. Dieckmann, W. Bode, E. A. Auerswald, V. Turk, R. Huber and H. Oschkinat (1993). "Conformational Variability of Chicken Cystatin - Comparison of Structures Determined By X-Ray Diffraction and Nmr Spectroscopy." J. Mol. Biol. **234**(4): 1060-1069.

Odefey, C., J. Westendorf, T. Dieckmann and H. Oschkinat (1992). "2-Dimensional Nuclear Magnetic Resonance Studies of an Intercalation Complex Between the Novel Semisynthetic Anthracycline 3'-Deamino-3'-(2-Methoxy-4-Morpholinyl)-Doxorubicin and the Hexanucleotide Duplex D(Cgtacg)." Chemico-Biological Interactions **85**(2-3): 117-126.

Klaus, W., T. Dieckmann, V. Wray, D. Schomburg, E. Wingender and H. Mayer (1991). "Investigation of the Solution Structure of the Human Parathyroid Hormone Fragment (1-34) By H-1 Nmr Spectroscopy, Distance Geometry, and Molecular Dynamics Calculations." Biochemistry **30**(28): 6936-6942.

Conference papers/Abstracts/Short communications/Talks

Evans, N. and Dieckmann, T. RiboClub 23rd Annual Meeting 2022, Orford, OC, Canada "Structural Studies of Hoechst Derivative RNA Aptamer" (Poster)

Egerdeen, K. and Dieckmann, T. RiboClub 21st Annual Meeting 2020, "Structural Studies of Hoechst Derivative RNA Aptamer" (Poster), Online Meeting.

Piccolo, K. and Dieckmann, T. RiboClub 21st Annual Meeting 2020, "Ligand Specificity and Affinity in the Sulforhodamine B Binding RNA Aptamer" (Poster), Online Meeting.

Piccolo, K. and Dieckmann, T. 102nd Canadian Chemistry Conference and Exhibit 2019, "Characterizing the Structure and Binding Properties of the SRB-2 Aptamer" (Poster), Quebec City, QC, Canada

Piccolo, K. and Dieckmann, T. (2018) Chemical Biophysics Symposium 2018, "Structural Determination and Ligand Binding Studies of the Sulforhodamine B Binding Aptamer" (Poster), Toronto, Ontario, Canada

Dieckmann T. (2018). Fluorophore Binding Aptamers: Properties, Structures and Applications (Talk). University of Toronto, Structural Genomics Centre, Toronto, Ontario, Canada

Dieckmann T. (2018). Aptamers: Properties, Structures, and Applications (Talk) University of Guelph, Department of Chemistry, Guelph, Canada

Piccolo, K. and Dieckmann, T. (2017) Chemical Biophysics Symposium 2017, “Structural Studies of Fluorophore Binding RNA Aptamers” (Poster), Toronto, Ontario, Canada

Piazza M, Guillemette G, Dieckmann T. (2016). Investigation of Calmodulin - Nitric Oxide Synthase Interactions at Physiological Calcium Concentrations Reveals Stark Differences in Binding and Dynamics (Poster). 15th annual Chemical Biophysics Symposium, Toronto, Canada

La V, Dieckmann T. (2016). Fluorescence Enhancing Aptamers in Biosensing Applications (Poster). Rustbelt RNA Meeting 2016, Cleveland, OH, United States

Piccolo K, Dieckmann T. (2016). Structural analysis of the sulforhodamine B binding aptamer (Poster). Rustbelt RNA Meeting 2016, Cleveland, OH, United States

Dieckmann T. (2015). The Role of Molecular Dynamics in the regulation of Nitric Oxide Synthase by Calmodulin (Talk). Biochemistry Seminar Series, Laurentian University, Sudbury, Canada

La V, Dieckmann T. (2015). Investigating binding kinetics of RNA aptamers via the Open SPR system (Poster). Rustbelt RNA Meeting 2015, Sandusky, United States

Dieckmann T. (2015). Molecular Recognition and Catalysis in Ribonucleic Acids (Talk). Science at the Edge (SATE) seminar series, Michigan State University, East Lansing, United States

Piazza M, Guillemette JG, Dieckmann T. (2015). Dynamics of the Interactions of Nitric Oxide Synthase with Calmodulin at Physiological Calcium Concentrations (Poster). 1st Annual Meeting of the Biophysical Society of Canada, Waterloo, Canada

Piazza M, Guillemette G, Dieckmann T. (2015). Dynamics of calmodulin's interaction with nitric oxide synthase at physiological calcium concentrations (Talk). Laurier Protein Science Symposium, Waterloo, Canada

Piazza M, Guillemette G, Dieckmann T. (2015). Dynamics of the Interactions of Calmodulin with Nitric Oxide Synthase at Physiological Calcium Concentrations (Poster). 14th annual Chemical Biophysics Symposium, Toronto, Canada

Dieckmann T. (2014). The structure and function of Calmodulin in the regulation of nitrogen oxide synthase. (Talk). University of Montreal, Biochemistry Seminar, Montreal, Canada

Dieckmann T. (2014). Studies of Structure, Kinetics and Thermodynamics of RNA ligand interactions and catalysis (Talk). University of Toronto, Pharmacy Seminar, Toronto, Canada

Piazza M, Dieckmann T, Guillemette G, (2014) "Consequences of phosphorylation in calmodulin binding and activation of NOS enzymes (Poster)", International Conference on Magnetic Resonance in Biological Systems, Dallas Texas, USA

Piazza M, Dieckmann T, Guillemette G, (2013) "Consequences of phosphorylation in calmodulin binding and activation of NOS enzymes (Talk)", 9th Annual Meeting of the Canadian Nitric Oxide Society, Canada, Quebec, Quebec City

Dieckmann T, Roy P-N, Da Costa JB, (2013) "Adaptive Binding in the Malachite Green Aptamer", Chemical Biophysics Symposium 2013, Canada, Ontario, Toronto

Piazza M, Dieckmann T, Guillemette G., (2013) "Backbone Dynamics of Mutant Calmodulin and Nitric Oxide Synthase Peptides Complexes", Chemical Biophysics Symposium 2013, Canada, Ontario, Toronto

M. Piazza, T. Dieckmann, and J.G. Guillemette, (2012) "NMR solution structures of CaM bound to NOS peptides: Effects of a phosphomimetic CaM mutation." Canadian Nitric Oxide Society. Toronto, ON, June 2012. Oral presentation by M. Piazza.

M. Piazza, T. Dieckmann, and J.G. Guillemette, (2012) "Solution Structures of CaM-iNOS and CaM-eNOS peptide complexes: Effects of a phosphomimetic CaM mutation", ASBMB 2012 Annual Meeting with Experimental Biology. San Diego, CA, April 2012. Poster (presented by M. Piazza)

J.B. Da Costa and T. Dieckmann. (2012), „Probing the limits of the malachite green RNA aptamer's adaptive binding“, 11th Annual Chemical Biophysics Symposium, April 13-15, 2012, Toronto, ON, Canada., Poster (presented by J.B. Da Costa)

J. Collier and T. Dieckmann. (2011) "Characterization of a Novel Aptazyme", 10th Annual Chemical Biophysics Symposium, April 8-10, 2011, Toronto, ON, Canada.

J.B. Da Costa and T. Dieckmann. (2011) „The role of entropy and metal ions in the malachite green binding RNA aptamer“, 10th Annual Chemical Biophysics Symposium, April 8-10, 2011, Toronto, ON, Canada.

Y. Duangkham, D. E. Spratt, T. Dieckmann and J. G. Guillemette. (2011) "NMR studies of an aggregation prone protein", 10th Annual Chemical Biophysics Symposium, April 8-10, 2011, Toronto, ON, Canada.

M. Piazza, T. Dieckmann, and J.G. Guillemette, (2011) „Solution Structure of Calmodulin Bound to Peptide from Inducible Nitric Oxide Synthase“, 94th Canadian Chemical Conference, June 5-9, 2011, Montreal, QC, Canada.

J.B. Da Costa and T. Dieckmann, (2011) „Entropy and Metal Ions in the Malachite Green Binding RNA Aptamer“, 94th Canadian Chemical Conference, June 5-9, 2011, Montreal, QC, Canada.

J.B. DaCosta, and T. Dieckmann (2009). "Intrinsic catalytic Potential of a RNA Aptamer", 10th Annual Meeting of the Riboclub, September 21-24, 2009, Orford, QC, Canada.

T. Dieckmann (2009). "Aptamer to Ribozyme: Theoretical and Experimental Strategies for the Study of RNA based Catalysis", 10th Annual Meeting of the Riboclub, September 21-24, 2009, Orford, QC, Canada.

DaCosta, J. and T. Dieckmann (2009). , "Investigating the Catalytic Repertoire of a Ribozyme by Ligand Modification", Chemical Biophysics Symposium 2009, April 24-26, Toronto, ON, Canada.

Chu, A., Lejic, Z. and T. Dieckmann (2009). "Studies of RNA - protein interactions with the DotLab system", Chemical Biophysics Symposium 2009, April 24-26, Toronto, ON, Canada.

DaCosta, J. and T. Dieckmann (2008). "Small RNAs and the Evolution of Ribozymes." 13th Annual Meeting of the RNA Society, July 28-August 3, 2008, Berlin, Germany.

DaCosta J. and T. Dieckmann (2008). "Investigating the catalytic Repertoire of a Ribozyme by Ligand Modification." Chemical Biophysics Symposium 2008, April 18-20, 2008, Toronto, ON, Canada.

Lejic, Z., Chu, A. and T. Dieckmann (2008). "Studies of RNA assembly and RNA-Protein Interactions with the Axela DotLab System" Chemical Biophysics Symposium 2008, April 18-20, 2008, Toronto, ON, Canada.

Atisivan, S. and T. Dieckmann (2007) "A Comprehensive Map of the Dynamics of DNA Duplex Ends." Chemical Biophysics Symposium 2007. April 20-22, 2007, University of Toronto, Toronto, ON, Canada.

DaCosta, J. and T. Dieckmann (2007) "Expanding the Catalytic Repertoire of a Ribozyme by Ligand Engineering." Twelfth Annual Meeting of the RNA Society". May 29-June 3, 2007. Madison, Wisconsin, USA.

Brackett, D. M. and T. Dieckmann (2005). "Catalytic potential of an RNA aptamer." Biophysical Journal **88**(1): 572a-572a.

Dieckmann, T. (2005). "The role of electrostatic forces in RNA ligand binding and catalysis." Biophysical Journal **88**(1): 31a-31a.

Zumwalt, M., T. Dieckmann and P. Hagerman (2005). "Structure and dynamics of the CGG repeat element of the FMR1 mRNA." Biophysical Journal **88**(1): 571a-571a.

Dieckmann, T. (2003). "Binding to an RNA aptamer changes the charge distribution and conformation of malachite green." Abstracts of Papers of the American Chemical Society **226**: U461-U461.

Patents

N/A

3. List of Invited Addresses at Conferences

Dieckmann, T., "Aptamer to Ribozyme: Theoretical and Experimental Strategies for the Study of RNA based Catalysis", International Conference on Applied Mathematics, Modeling and Computational Science, July 28, 2011, Waterloo, ON, Canada.

Dieckmann, T., "Aptamer to Ribozyme: Theoretical and Experimental Studies of RNA based Catalysis", 93rd Canadian Chemistry Conference and Exhibition, CSC 2010, June 1, 2010 Toronto, ON, Canada.

Dieckmann, T., "Aptamer to Ribozyme: The intrinsic catalytic potential of a small RNA" Toronto Chemical Biophysics Symposium, April 21-23, 2006, Toronto, Canada.

Dieckmann, T., "Adaptability and Dynamics in RNA Ligand Interactions", 13th Conversation on Biomolecular Stereodynamics, June 20, 2003, Albany, NY, USA.

Dieckmann, T., "The role of electrostatics in RNA ligand Interactions", 226th National Meeting of the American Chemical Society, September 7- 11, 2003, New York, NY, USA.

Dieckmann, T., "Converting An Aptamer Into a Ribozyme by Ligand Engineering", June 5, 2004, 9th Annual Meeting of the RNA Society, Madison, WI, USA.

Dieckmann, T., "The role of electrostatic forces in RNA ligand binding and catalysis", February 12-16, 2005, 49th Annual Meeting of the Biophysical Society, Long Beach, California, USA.

Dieckmann, T. "Adaptability and dynamics in RNA ligand interactions: The malachite green binding aptamer", March 13-16, 229th ACS National Meeting, 2005, San Diego, California, USA.

4. Research Funding

Investigators	Funding Agency and Title	Amount	Project Period
T. Dieckmann	NSERC Discovery Grant, Structure and Function of Aptamer based Biosensor Building Blocks	\$120,000	2022-2027
T. Dieckmann, G. Murphy, S. Taylor	Canada Foundation for Innovation, John R. Evans Leaders Fund "High Resolution NMR Facility for Structure Elucidation"	\$352,810	2019-2020
T. Dieckmann, G. Murphy, S. Taylor	Ontario Research Foundation, "Comprehensive update of the Chemistry NMR Facility"	\$352,810	2019-2020
T. Dieckmann	OCE-VIP "DNA detection scheme for paper-based allergytests"	\$25,000	2017-2018
T. Dieckmann	NSERC Discovery Grant, Ligand Binding and Catalysis in RNA Aptamers	\$150,000	2016-2022
T. Dieckmann	NSERC ENGAGE	\$24,986	2016
T. Dieckmann	NSERC ENGAGE Plus	\$24,972	2016-2017
T. Dieckmann	University of Waterloo, Research Incentive Fund	\$30,000	2014-2016
T. Dieckmann	NSERC ENGAGE Grant	\$25,000	2014
T. Dieckmann	NSERC Discovery Grant, Chemical Catalysis in Ribozymes	\$135,000	2009-2014
T. Dieckmann	CFI, Infrastructure Operating Funds	\$30,000	2008-2011
T. Dieckmann	NSERC RTI "Purchase of a gradient capable thermocycler"	\$15,408	2011

M. Palmer, T. Dieckmann, S. Taylor, G. Dimitrienko	NSERC/CIHR, CHRP "Novel Daptomycin-Derived Antibiotics for Overcoming Resistance in Gram-Positive Bacteria."	\$420,000	2011-2014
T. Dieckmann	Start-up funds, Department of Chemistry, University of Waterloo	\$210,000	2005-2008
T. Dieckmann	NSERC Discovery Grant, Chemical Catalysis in Ribozymes	\$32,000	2006-2009
E. Meiering, T. Dieckmann, And 4 others	NSERC Research Tools and Instrumentation, Stopped/quenched flow system	\$ 136,544	2007-2008
T. Dieckmann	CFI, State-of-the-Art Facility for the Study of RNA Structure-Function Relationships	\$ 150,000	2006-2008
T. Dieckmann	ORF, State-of-the-Art Facility for the Study of RNA Structure-Function Relationships	\$150,000	2007-2008
G. Guillemette, T. Dieckmann, And 5 others	NSERC Research Tools and Instrumentation, High Speed Centrifuge	\$ 61,908	2006-2007
E. Meiering, T. Dieckmann, and 7 others	NSERC Research Tools and Instrumentation, FTIR Spectrometer	\$ 128,713	2006-2007
T. Dieckmann	NSERC Research Tools and Instrumentation, Acquisition of a UV/Vis Spectrophotometer	\$63,752	2006
M. Akeson, S. Winters-Hilt, T. Dieckmann,	National Institute of Health, A Comprehensive Structural and Dynamic Map of DNA Duplex Ends	US\$130,000	2006-2008
T. Dieckmann	National Science	US\$281,400	2001-2004

	Foundation, Structure determination of a large RNA by NMR spectroscopy: The VS Ribozyme		
T. Dieckmann	CRCC, Structure of the VS Ribozyme	US\$40,000	1999-2000
T. Dieckmann	UCD New Faculty Research Grant, NMR Investigation of RNA	US\$2,000	1998-1999
T. Dieckmann	UCD Faculty Research Grant, RNA-protein interactions	US\$10,000	2000-2001
A. Fisher, T. Dieckmann	UCBIOTECH, Structure based drug design	US\$60,000	2001-2004
D. Wemmer, T. Dieckmann, G. LaMar, T. James, J. Puglisi	NIH, Research Collaborations To Provide 900 MHz NMR Spectroscopy	~US\$4,000,000	2005
G. Smith, T. Dieckmann, G. LaMar T. Molinski, M. Augustine	Comprehensive Upgrade of a Shared Campus NMR Facility (600MHz Cryo-probe)	US\$150,803	2001

C. Teaching Activities

1. Record of courses taught (Courses from UC Davis are labeled with (D))

Term/Quarter	Course Number	Title	G/UG	Load
Fall 1999 (D)	MCB 221A	Biophysical Methods	G	20%
Winter 1999 (D)	CHE107B	Physical Chemistry for Life Sciences	UG	100%
Spring 1999 (D)	CHE 216	Nuclear Magnetic Resonance	G	100%
Fall 2000 (D)	MCB 221A	Biophysical Methods	G	20%
Winter 2000 (D)	CHE 107B	Physical Chemistry for Life Sciences	UG	100%
Spring 2000 (D)	CHE 216	Nuclear Magnetic Resonance	G	100%
Fall 2001 (D)	MCB 221A	Biophysical Methods	G	20%
Winter 2001 (D)	CHE 107B	Physical Chemistry for Life Sciences	UG	100%
Spring 2001 (D)	CHE 216	Nuclear Magnetic Resonance	G	100%
Fall 2002 (D)	MCB 221A	Biophysical Methods	G	20%
Winter 2002 (D)	CHE 107B	Physical Chemistry for Life Sciences	UG	100%
Spring 2002 (D)	CHE 2B	General Chemistry Part B	UG	100%
Winter 2003 (D)	CHE 107B	Physical Chemistry for Life Sciences	UG	100%
Spring 2003 (D)	CHE 2B	General Chemistry Part B	UG	100%
Fall 2003 (D)	FRS002	Freshman Seminar "Chemistry and Evolution"	UG	100%
Fall 2003 (D)	MCB224A	Biophysical Methods	G	20%
Winter 2004 (D)	CHE107B	Physical Chemistry for Life Sciences	UG	100%
Spring 2004 (D)	CHE2B	General Chemistry Part B	UG	100%
Fall 2004 (D)	FRS002	Freshman Seminar "Chemistry and Evolution"	UG	100%
Fall 2004 (D)	MCB224A	Biophysical Methods	G	20%
Winter 2005 (D)	CHE107B	Physical Chemistry for Life Sciences	UG	100%
Spring 2005 (D)	CHE108	General Chemistry Part B	UG	100%
Winter 2006	CHEM 434	Nucleic Acids: Structure and Function	UG	100%
Fall 2006	CHEM 434	Nucleic Acids: Structure and Function	UG	100%
Winter 2007	CHEM 357	Physical Biochemistry	UG	100%
Fall 2007	CHEM 333	Metabolism 1	UG	100%

Winter 2008	CHEM 237-001	Introductory Biochemistry	UG	50%
Winter 2008	CHEM 237-002	Introductory Biochemistry	UG	50%
Fall 2008	CHEM 333	Metabolism 1	UG	100%
Fall 2008	CHEM 731	Biomolecular NMR Spectroscopy	G	100%
Winter 2009	CHEM 430	Nucleic Acid Structure and Function	UG	100%
Fall 2009	CHEM 333	Metabolism 1	UG	100%
Winter 2010	CHEM 357	Physical Biochemistry	UG	100%
Winter 2011	CHEM 333	Metabolism	UG	100%
Winter 2011	CHEM 430	Nucleic Acid Chemistry	UG	100%
Fall 2011	CHEM 730	Protein NMR Spectroscopy	UG	100%
Winter 2012	CHEM 357	Physical Biochemistry	UG	100%
Fall 2012	CHEM 237	Introductory Biochemistry	UG	100%
Fall 2012	CHEM 731	Biomolecular NMR Spectroscopy	G	100%
Spring 2013	CHEM 237	Introductory Biochemistry	UG	100%
Winter 2014	CHEM 357	Physical Biochemistry	UG	100%
Spring 2014	CHEM 233	Fundamentals of Biochemistry	UG	100%
Fall 2014	CHEM 333	Metabolism 1	UG	100%
Fall 2014	CHEM 731	Biomolecular Protein NMR	G	100%
Fall 2014	CHEM 101	Introduction to Biochemical Sciences	UG	25%
Winter 2015	CHEM 233	Fundamentals of Biochemistry	UG	100%
Fall 2015	CHEM 731	Nucleic Acid Structure/Function	G	100%
Fall 2015	CHEM 101	Introduction to Biochemical Sciences	UG	25%
Winter 2016	CHEM 357	Physical Biochemistry	UG	100%
Fall 2016	CHEM 333	Metabolism 1	UG	100%
Fall 2016	CHEM 731	Biomolecular Protein NMR	G	100%
Fall 2016	CHEM 101	Introduction to Biochemical Sciences	UG	25%
Fall 2017	CHEM 333	Metabolism 1	UG	100%
Fall 2017	CHEM430/731	Nucleic Acid Structure/Function	G/UG	100%
Fall 2017	CHEM101	Introduction to Biochemical Sciences	UG	25%
Winter 2018	CHEM 237	Introductory Biochemistry	UG	100%

Fall 2018	CHEM 101	Introduction to Biochemical Sciences	UG	25%
Fall 2018	NE 224	Biochemistry for Nanotechnology Engineers	UG	100%
Winter 2019	CHEM 433	Advanced Metabolism	UG	100%
Spring 2019	CHEM 237	Introductory Biochemistry	UG	100%
Fall 2019	CHEM 731	Biomolecular NMR	G	100%
Fall 2019	CHEM 333	Metabolism 1	UG	100%
Winter 2020	CHEM 730	Nucleic Acid Structure/Function	G	100%
Winter 2021	MNS 331	Biomaterials	UG	100%
Winter 2021	CHEM 430	Nucleic Acid Structure/Function	UG	100%
Fall 2021	CHEM 731	Biomolecular NMR	G	100%
Winter 2022	MNS 331	Biomaterials	UG	100%
Winter 2022	CHEM 430/731	Nucleic Acids	UG/G	100%
Winter 2023	MNS 331	Biomaterials	UG	100%
Winter 2023	CHEM 430/731	Nucleic Acids	UG/G	100%
Fall 2023	CHEM 333	Metabolism 1	UG	100%
Winter 2024	MNS 331	Biomaterials	UG	100%
Fall 2024	CHEM 731	Biomolecular NMR	G	100%
Fall 2024	CHEM 333	Metabolism 1	UG	100%

2. Involvement in curriculum development

- Development of XR based teaching tools for chemistry and biochemistry. The initiative was funded by the Dean's Undergraduate Teaching Initiative and a LITE grant. Started in 2019 and ongoing.
- Development of two new graduate courses at the University of Waterloo: "Biomolecular NMR Spectroscopy" and "NMR based Protein Structure determination". These courses cover theory and practical aspects of NMR spectroscopy in its application to proteins and nucleic acids. The courses were first taught in Fall 2011 and Fall 2012.
- Development of a new 4th year special topic course in biochemistry at the University of Waterloo: "Nucleic Acids: Structure and Function". The course covers modern methods and applications in the area of nucleic acid biophysics.

- Update of the course curriculum for CHE 107B “Physical Chemistry for Life Sciences” to include modern instrumental analysis techniques and their physical basis at UC Davis
- Development and teaching of a new freshman seminar with the topic “Chemistry and Evolution” at UC Davis

3. Graduate student supervision

a) Ph.D.

1999-2004	Jeremy Flinders	NMR Studies of the VS Ribozyme
2000-2005	David M. Brackett	Ligand Binding and Catalysis in the Malachite Green Aptamer
2000-2005	Marta Zumwalt	Structure and Dynamics of RNA
2008-2012	Jason DaCosta	The catalytic potential of small RNAs
2012-2016	Mike Piazza	NMR based Protein Structure Studies
2016-2021	Kyle Piccolo	Structural Characterization of SRB Binding RNA Aptamer
2015-current	Volition La	In Vitro Selection of a TO1 Binding DNA Aptamer

b) M.Sc.

1999-2001	Steve DeFina	Isotope Labeling of Malachite Green
2006-2008	Jason DaCosta	Ligand binding and Catalysis in RNA
2006-2008	Sethuraman Atisivan	Dynamics of DNA duplex ends
2007-2009	Zlatko Lejic	RNA-protein interactions in Viral RNA packaging
2007-2009	Allen Chu	Catalysis in the VS Ribozyme
2007-2010	Yay Duangkam	Interactions between iNOS and CAM (co-supervised with Dr. G. Guillemette)
2010-2011	Mike Piazza	NMR studies of iNOS and Calmodulin
2016-2018	Jarrood Psutka	Determining the Structures and Properties of Biologically-relevant Ions (co-supervised with Dr. S. Hopkins)
2020-2022	Kyla Egerdeen	Structural Characterization of the Hoechst Dye Binding DNA Aptamer

2021-2022 Alexandra Tormann	Thermodynamic and Kinetic Studies of Aptamers
2020-current Natasha Evans	Structural Characterization of the Hoechst Dye Binding RNA Aptamer
2021-current Aiden Hong	Ligand Binding in Quadruplex based DNA aptamers

D. Service

1. Committees

(a) University

1999-2004	Departmental representative to the UC Davis Academic Senate
2001	Ad Hoc Committee for the NMR Facility Review (UCD)
1999-2005	Campus NMR Facility Advisory Board (UCD)

(b) Faculty/College

2006-2008	Departmental representative to the Science Faculty Council
2008-2009	Member of the Board, Faculty of Science Foundation
2009-2010	Member of the Chemistry Chair Nomination Committee
2009-2010	Executive Director of the Faculty of Science Foundation
2010-2014	Member of the Board, Faculty of Science Foundation
2009-2012	Member of the IBMB Seminar Committee

(c) Department/Graduate Group

1998-1999	Member, Departmental Picnic Committee (UCD)
1998-2003	Member, Departmental Seminar Committee (UCD)
2003-2004	Chair, Departmental Seminar Committee (UCD)
1998-2002	Member, Grants and Instrumentation Committee (UCD)
2002-2005	Member, NMR Facility committee (UCD)
1999-2000	Member, Seminar Committee of the BMB Graduate Group
2000-2002	Chair, Seminar Committee of the BMB Graduate Group
2001-2002	Member, Admissions Committee of the Biophysics Graduate Group
2001-2004	Member, Executive Committee of the BMB Graduate Group

2002-2004	Member, Admissions Committee of the BMB Graduate Group
2003-2004	Chair, Admissions Committee of the BMB Graduate Group
1998-current	Member of Ph.D. Advisory Committees Member of M.Sc. Advisory Committees
2007-current	Member of the NMR users committee
2005-2013	Faculty Representative to Art Faculty Council
2009-2013	Member of the Promotion and Tenure Committee
2010-current	Member of the Executive Committee for Chemistry
2011-current	Faculty representative to the GWC ² steering committee
2012-2016	Director, Institute for Biochemistry and Molecular Biology
2014-2020	Advisor, Biochemistry Program
2017-current	Associate Chair, Graduate Studies and Research

2. Other University Activity

N/A

3. Related Community Service

Organizer and Science advisor for the Science Club of Sprucedale Elementary School in Shakespeare, ON (Grades 4-8). 2008 - 2010

Organizer and Instructor for the Science Club of Mary Johnston Elementary School in Waterloo, ON (Grades 1-6). Fall 2009 - 2014

E. Professional Activities**1. Society memberships and positions held**

Member of the American Chemical Society

Member of RNA Society

2. Refereeing**(a) Journals**

Title	Approximate number of papers Refereed per year
Biophysical Journal	1
Chemical Communications	1
Journal of the American Chemical Society	3
Journal of Labeled Compounds and Radiochemicals	1
Journal of Physical Chemistry B	1
Nucleic Acid Research	2
Biochemistry	2
Journal of Molecular Biology	2
Toxicology	1
Biotechniques	1
Molecular Biosystems	2

(b) Promotion/Tenure Decisions

N/A

(c) Grant Applications

Agency	Year
National Science Foundation	2001-2005
National Institute of Health	2007-2009
ACS PRF	2002-2005
NSERC	2006-2022
CIHR	2006-2010

3. Editorial Duties

Faculty of 1000 - Biology (<http://www.f1000biology.com/home>), Member of the faculty, responsible for selection and evaluation of articles in the "Structural Biology - RNA" section. 2001 - 2009.

4. External Thesis Examiner

Amin Aron Shoara (Supervisor Dr. Philip Johnson) York University, August 8, 2022. Title of Dissertation: " Studying the Structural Dynamics and Aptamer-Ligand Interactions in the Cocaine-Binding Aptamer through Fluorescence Spectroscopy"

Patricia Bouchard (Supervisor Dr. Pascale Legault) University of Montreal, November, 20th 2014. Title of Dissertation: "Caracterisation structurale et thermodynamique de la reconnaissance du substrat par le ribozyme VS de Neurospora."

Tony Tavares (Supervisor Dr. Philip Johnson) York University, April, 25 2008. Title of Dissertation: "NMR analysis of the thymidylate synthase mRNA binding site 1-paromomycin interaction, M. thermoacetica selenocysteine elongation factor binding surface for its SECIS RNA, and the nucleocapsid hairpin loop structure of the Ebola virus"

Mathew Lau (Supervisor Dr. Peter Unrau) Simon Fraser University, March, 26 2009. Title of Dissertation: "A comprehensive study of ribozyme-mediated nucleotide and sugar chemistries"

5. Consulting and Technology Transfer Activities

N/A

Cheryl L. Duxbury, Ph.D.

Department of Biology
Waterloo, Ont.
University of Waterloo
N2L 4A2
Waterloo, Ont.
N2L 3G1
cduxbury@uwaterloo.ca

S U M M A R Y O F Q U A L I F I C A T I O N S

Extensive Background in Biology

- ◆ Research and education (**B.Sc., M.Sc., Ph.D. and B.Ed.**) encompass a diverse and extensive background of academic and applied biological sciences.
- ◆ Course work, laboratory teaching assistantships and research include animal, plant and microbial systems at the biochemical, cytological, physiological and toxicological levels.
- ◆ Familiar with the internal administration, curriculum and staff through a 35 year association with the Department of Biology at the University of Waterloo.
- ◆ Experienced educator, spanning introductory to advanced level courses in Biology
- ◆ Committed to continuous professional development by attending workshops on teaching pedagogy and supporting diverse learners in equitable environments

Trained and Experienced Teacher

- ◆ Proven commitment to teaching exemplified by the attainment of a B.Ed. and an Ontario Teachers Certificate (**Dean's Honour Role**).
- ◆ Teaching of core courses in the Department of Biology with consistently high performance evaluations.
- ◆ Have completed approximately **16 teaching assistantships** for various laboratory courses ranging from introductory to senior levels in the Department of Biology.
- ◆ Conduct surveys for feedback on assessments, lecture pace and style and level of difficulty.
- ◆ Developed engaging, visual lectures, assignments, exams and assessments
- ◆ Coordinated grading and expectations with markers and teaching assistants
- ◆ Created engaging lectures on line during pandemic with on line assessments
- ◆ Constantly updating materials to follow inclusivity via EID and following guidelines for accessibility standards (this would include multiple ongoing workshops)

Excellent Communicator

- ◆ Authored numerous government reports, client progress reports and research publications.
- ◆ Conducted presentations both orally and with posters to the scientific community.
- ◆ Proven ability to convey information to students from various academic backgrounds as exemplified through teaching opportunities at numerous levels from high school to university.

Strong Organizational and Management Skills

- ♦ As an instructor, directly oversee and coordinate the work of technicians , graduate and undergraduate students in the labs.
- ♦ Responsible for supervising and directing the projects for co-op students each term for the last 10 years.
- ♦ Can handle multiple commitments as shown by teaching, conducting research and development and managing the work of others concurrently.

Proven Ability to Integrate Various Forms of Technology With Teaching

- ♦ Used a wide variety of multimedia techniques in the classroom and labs

E D U C A T I O N

B.Ed. in Biology and Environmental Biology 1992-1993

Faculty of Education, University of Toronto, Toronto, Ontario
Graduated Dean's Honour Role

Ph.D. in Biology 1984-1988

University of Waterloo, Waterloo, Ontario
Title of thesis: Membrane Protein Changes and Protein-Lipid Interactions
During Bean Cotyledon Senescence and Stress.

M.Sc. in Biology 1981-1984

University of Waterloo, Waterloo, Ontario
Title of thesis: Biophysical and Chemical Studies of Effects of Organic
Toxicants on Membranes.

B.Sc. Honours Biology 1977-1981

University of Waterloo, Waterloo, Ontario

T E A C H I N G E X P E R I E N C E

Biology Instructor/Advisor

Jan 2000-current

Variety of courses taught including enrollments and duties

- ♦ Introductory Microbiology Laboratory (BIOL 240L; ~500-600 students)
- ♦ Advanced Microbiology Laboratory (BIOL 241; ~ 300 students)
- ♦ Environmental Toxicology Laboratory (BIOL 354; ~100 students)
- ♦ Immunology Laboratory (BIOL 341; ~ 130 students)
- ♦ Virology Laboratory (BIOL 442; ~ 60 students)
- ♦ Microorganism and Disease (BIOL 444; ~ 30 students)
- ♦ Biotechnology Techniques (BIOL 335L, 6 hour lab; ~44 students)
- ♦ Microbiology Techniques (BIOL 348L, 6 hour lab; ~20 students)
- ♦ Fermentation Microbiology (BIOL 443; ~ 96 students)
- ♦ Food Microbiology (BIOL 345; ~ 96 students)
- ♦ Vertebrate Zoology (BIOL 211; ~ 140 students)
- ♦ Flowering Plants (BIOL 325; ~ 100 students)

Duties:

- ◆ Responsible for training and managing teaching assistants to effectively conduct undergraduate labs
- ◆ Update, revise, develop new laboratories
- ◆ Update and publish lab manuals each term
- ◆ Develop new assignments, rubrics, and protocols with evidence-based pedagogy
- ◆ Develop learning videos for on line modules for techniques to ensure student success
- ◆ Responsible for training teaching assistants in regards to safety in the labs (especially for the Microbiology BSL 2 labs)
- ◆ Deliver succinct detailed teaching assistant notes for expectations in the lab each week and background information

University Course Lecturer

Some of these courses taught once some for years.

Department of Biology, University of Waterloo:

- ◆ Plant Physiology and Anatomy (Biol. 220)
- ◆ Molecular Biology (Biol. 437; Biol. 330)
- ◆ Advanced Cell Physiology (Biol. 436)
- ◆ Advanced Cell Biology (Bio 331)
- ◆ Introductory Genetics (Biol 239)
- ◆ Microbiology Lab Techniques (6 hour lab Biol 348L)
- ◆ Biology of Human Aging (Biol 355)
- ◆ Biology of Human Aging (Sci. 255 offered CEL and on campus)

Invited Lecturer

Department of Gerontology, McMaster University

- ◆ Biology of Human Aging (3 terms to Pre-health and Nursing students)

Laboratory Teaching Assistantships

Demonstrated the following laboratories in the Department of Biology, University of Waterloo from 1981 to 1988: Extensive experience in the area of Microbiology, having demonstrated at the introductory level for a period of roughly 5 years.

◆ Introductory Microbiology	◆ Cytogenetics	◆ Cell Physiology
◆ Toxicology	◆ Cell Biology	◆ Food Microbiology

High School Teaching

Total of 9 weeks of classroom teaching as required for Ontario Teachers Certification:

Pine River Outdoor Education Center, Orangeville

- ◆ Spontaneous lesson plans were devised outdoors, to maximize learning experiences and help students to appreciate the environment.

Aldershot High School, Burlington

- ◆ Taught a Grade 9 destreamed Science class where the levels of ability were diverse.
- ◆ Successfully applied teaching techniques such as co-operative learning, mentoring, and role-playing to help each student fully comprehend principles.

- ♦ Integrated the use of programmed CD-ROMs while lecturing to maximize visual presentation of plant tissues to a Grade 11 Biology class.

Acton District High School, Acton

- ♦ Explored the use of various experiments to illustrate the pertinent subject matter to students. This included research, set-up and implementation of each experiment.
- ♦ Use of multimedia including video, film and computer programs to help students understand subject material.

Centennial CVI, Guelph

- ♦ Stimulated and challenged a group of advanced Grade 11 Biology and Grade 12 Environmental Science students through the use of guest speakers, experiments, computer-simulated models and demonstrations.

Volunteer Teaching

a member of the Literacy Council of Kitchener-Waterloo, tutoring individuals or groups on basic skills in reading, writing and arithmetic

- ♦ **Laubach Literacy Council of Canada Tutor Certification**, a 12 hour workshop emphasizing basic reading and writing skills.
- ♦ **Tutoring English to Speakers of Other Languages**, a 12 hour workshop for English as a Second Language (ESL) training.
- ♦ From 1990-1991 was involved with ESL instruction for adults at the **St. Louise School of Learning in Waterloo**. This involved a classroom volunteering commitment of 3 hours per week.

EMPLOYMENT EXPERIENCE

Research Associate

1992-Present

Department of Biology, University of Waterloo

- ♦ Investigating toxicity of Polycyclic Aromatic Hydrocarbons (PAHs) to higher plants and animal systems.
- ♦ Determining the mechanism of toxicity of PAHs at the **cellular** and **molecular** level.
- ♦ Use of mitochondrial respiration and **molecular** endpoints for risk assessment and the development of useful bioindicators for PAH toxicity.
- ♦ Designed undergraduate research projects and supervised and mentored graduate students with projects
- ♦ Trained both undergraduate and graduate students in laboratory techniques

Research Associate

1990 - 1992

Department of Crop Science and Environmental Biology, University of Guelph

- ♦ Evaluated the **biochemical** and **molecular** responses of recombinant plants to environmental stresses such as freezing and anoxia.
- ♦ Application of **Molecular genetic** techniques for cloning and identifying these recombinants.
- ♦ Designed undergraduate research projects and supervised and mentored graduate students with projects
- ♦ Trained both undergraduate and graduate students in laboratory techniques

1988 - 1989

Post Doctoral Fellow

Department of Crop Science and Environmental Biology, University of Guelph

- ♦ Developed novel techniques to examine the **biochemical** processes of plant stress physiology.
- ♦ Examined the biochemistry of anoxic stress in *Medicago sativa* by using **plant tissue culture techniques**.

Research Technician

1981 - 1982

Department of Biophysics, University of Waterloo

- ♦ Distinguished between acute and chronic effects of organic **toxics** on cultured **mammalian cells**.
- ♦ Assessed perturbative and dismantling effects of pentachlorophenol on **membranes of cultured cells**.

RELEVANT COURSE WORK

UNDERGRADUATE

- ♦ Fundamentals of Microbiology
- ♦ Molecular Biology
- ♦ Microbial Physiology
- ♦ Immunology, Virology
- ♦ Microorganisms and Disease
- ♦ Microbiology of Industrial Importance

GRADUATE

- ♦ Environmental Toxicology
- ♦ Advanced Membrane and Cell Physiology
- ♦ Advanced Molecular Genetics
- ♦ Molecular Biology
- ♦ Current Topics in Biotechnology
- ♦ Animal and Plant Cells in Culture

WORK-RELATED SKILLS

♦ Toxicity Testing and Biochemical Assays	♦ PCR
♦ Animal and Plant Cell Tissue Culture	♦ Polyacrylamide Gel Electrophoresis
♦ Western and Southern Blotting	♦ Radio-isotope Labeling and Tracing
♦ Isolation and Purification of Plasma DNA	♦ DNA Cloning
♦ Protein, Membrane and Organelle Isolation	♦ Agarose Gel Electrophoresis
♦ Labeling of DNA Probes with P ³²	♦ Production of Polyclonal Antibodies
-

RECENT PROFESSIONAL DEVELOPMENT IN TEACHING

Waterloo Assessment Institute

April 12-13, 2023

Two day CTE workshop focused on redesigning assessments across curriculum

oCUBE Support Squares

Interinstitutional faculty and teaching staff discussion group

From Remote to Flipped Course Redesign

Two part course offered by CTE, 2024

Trauma-Aware Teaching Workshop

Instructor-led Online

Remote Course Design Essentials (CTE8000)

PROFESSIONAL SERVICE TO DEPARTMENT

Teaching Assistant Training Workshop

Offered twice a year range from 5-120 new TAS undergraduate and graduate

All day workshop with topics ranging from duties to marking to safety

Biomedical Science Advisor

Meet with students and advise on course selection, update check lists and discuss professional and post-academic opportunities

Write reference letters for post graduate opportunities ranging from professional school to graduate school

Curriculum Committee Member

Have sat on the curriculum committee for the past 10 years. Input on course curriculum, teaching strategies, addition of new courses.

Teaching Assistant Selection Committee

Responsible for the selection of teaching assistants for all of our undergrad labs in Biology along with the other instructors

Biomedical Curriculum Committee

Sat on the Biomedical Sciences development committee for a new Biomedical Sciences curriculum

Masters of Biomedical Sciences

Sat on the MABS development committee for a new course based Masters of Biomedical Sciences

PUBLICATIONS IN REFEREED JOURNALS

- Packham, E.D., **Duxbury, C.L.**, Mayfield, C.I., Inniss, W.E., Kruuv, J. and Thompson, J.E. (1982). Quantitative Analysis of Pollutant-induced Lethal and Sublethal Damage in Cultured Mammalian Cells. *Bull. Environm. Contam. Toxicol.* 29: 739-746.
- Duxbury, C.L.** and Thompson, J.E. (1987). Pentachlorophenol Alters the Molecular Organization of Membranes in Mammalian Cells. *Arch. Environ. Contam. Toxicol.* 16: 367-373.
- Thompson, J.E., Paliyath, G., Brown, J.H. and **Duxbury, C.L.** (1987). The Involvement of Activated Oxygen in Membrane Deterioration during Senescence. In "Plant Senescence: Its Biochemistry and Physiology". Eds., W.W. Thomson, E. Northnagel and R. Huffacker. American Society of Plant Physiology Monograph Series. Proceedings of the Tenth Annual Symposium in Botany and Plant Physiology, University of California, Riverside.
- Duxbury, C.L.**, Legge, R.L., Paliyath, G., Barber, R.F. and Thompson, J.E. (1991). Alterations in Membrane Protein Conformation in Response to Senescence-Related Changes. *Phytochemistry*, Vol. 30(1) 63-68.
- Duxbury, C.L.**, Legge, R.L., Paliyath, G. and Thompson, J.E. (1991). Lipid Breakdown in Smooth Microsomal Membranes from Bean Cotyledons Alters Membrane Proteins and Induces Proteolysis. *J. of Exper. Botany*, Vol. 41(234) 103-112.
- Greenberg, B.M., Dixon, D.G., Huang, X.D., Ren, L., **Duxbury, C.L.** and McConkey, B.J. (1992). Incuption of Toxicity of Polycyclic Aromatic Hydrocarbons by Sunlight: Photomodification of the Chemicals and Predictive QSARs. Ontario Ministry of the Environment, Proceedings, Tech. Transfer Conf., Partnerships in Pollution Prevention, BP19. (Invited paper).
- Greenberg, B.M., Dixon, D.G., **Duxbury, C.L.**, McConkey, B.J., Huang, X.D. and Ren, L. (1992). Impacts of Solar Radiation on Polycyclic Aromatic Hydrocarbons: Photooxidation and Bioavailability. Ontario Ministry of the Environment, Proceedings, Tech. Transfer Conf., Partnerships in Pollution Prevention, AP26. (Invited paper).
- Duxbury, C.L.**, Huang, X.D., Ren, L., Dixon, D.G. and Greenberg, B.M. (1993). Photoinduced Assimilation of Polycyclic Aromatic Hydrocarbons by Duckweed. Ontario Ministry of the Environment and Energy. Tech. Transfer Conference Proceedings, C22. (Invited paper).
- Greenberg, B.M., Huang, X.D., Dixon, D.G., Ren, L., McConkey, B.J. and **Duxbury, C.L.** (1993). Quantitative Structure Activity Relationships for the Photoinduced Toxicity of Polycyclic Aromatic Hydrocarbons to Plants-A Preliminary Model. In: Environmental Toxicology and Risk Assessment: 2nd Volume, ASTM STP 1216, Joseph W. Gorsuch, F. James Dwyer, C.G. Ingersoll and T.W. La Point, Eds., American Society for Testing and Materials, Philadelphia. pp. 369-378.
- Greenberg, B.M., Dixon, D.G., Wilson, M.I., Huang, X.D., McConkey, B.J., **Duxbury, C.L.**, Gerhardt, K. and Gensemer, R.W. (1996). Use of Artificial Lighting in Environmental Assessment Studies: Photoinduced Toxicology and Adaptation of Plants to UV-B as Model Systems. In Environmental Toxicology and Risk Assessment: 4th Volume, ASTM STP 1262, Thomas W. La Point, Fred T. Price and Edward E. Little, Eds., American Society for Testing and Materials, Philadelphia, pp.55-70.

- McConkey, B.J., **Duxbury, C.L.**, Dixon, D.G. and Greenberg, B.M. (1997). Toxicity of a PAH Photooxidation Product to the Bacteria *Photobacterium phosphoreum* and the Duckweed *Lemna gibba*: Effects of Phenanthrene and its Primary Photoproduct, Phenanthrenequinone. Environ. Toxicol. Chem. 16: 892-899.
- Greenberg, B.M., Wilson, M.I., Gaba, V., Huang, X.D., **Duxbury, C.L.**, McConkey, B.J. and Gensemer, R. (1997). The Effects of Ultraviolet-B Radiation on Higher Plants. In: Plants for Environmental Studies. W. Wang, J. Gorsuch and J.S. Hughes, eds. Lewis Publisher (CRC Press), Boca Raton, FL , pp. 1-35.
- Duxbury, C.L.**, Dixon, D.G. and Greenberg, B.M. (1997). The Effects of Simulated Solar Radiation on the Bioaccumulation of Polycyclic Aromatic Hydrocarbons by the Duckweed *Lemna gibba*. Environ. Toxicol. Chem. 16: 1739-1748.
- Tripuranthakam, S., **Duxbury, C.L.**, Babu, T.S. and Greenberg, B.M. (1999). Development of a Mitochondrial Respiratory Electron Transport Bioindicator for Assessment of Hydrocarbon Toxicity. In: Environmental Toxicology and Risk Assessment. 8th Volume, ASTM STP 1364, D. Henshel, M.C. Black and M.C. Harris, Eds., American Society for Testing Materials, West Conshohocken, PA. Pp. 350-361.

PAPERS PRESENTED AT SCIENTIFIC MEETINGS

- deBeus, M., **Duxbury, C.L.**, D'Halluin, K., Botherman, J. and McKersie, B.D. (1990). Transformation of Alfalfa (*Medicago sativa L*) by Agrobacterium for Enhanced Tolerance of Environmental Stress. VII International Congress on Plant Tissue and Cell Culture. Amsterdam.
- Duxbury, C.L.**, deBeus, M., D'Halluin, K., Botherman, J. and McKersie, B.D. (1990). Transformation and Expression of Alcohol Dehydrogenase in Transgenic Alfalfa (*Medicago sativa L*). VII International Congress on Plant Tissue and Cell Culture. Amsterdam.
- Duxbury, C.L.**, McKersie, B.D. and Bowley, S.R. (1990). Alcohol Dehydrogenase Improves Flooding Tolerance in Transgenic Alfalfa. Canadian Society of Plant Physiologists (CSPP). 32th Annual Meeting. Montreal, Ontario.
- Duxbury, C.L.**, D'Halluin, K., Botherman, J. and McKersie, B.D. (1990). The Expression of Alcohol Dehydrogenase in Transgenic Alfalfa (*Medicago sativa L*). Canadian Society of Plant Physiologists (CSPP). Eastern Regional Meeting, University of Waterloo, Waterloo, Ontario.
- Duxbury, C.L.**, McConkey, B.J., Huang, X.D., Dixon, D.G. and Greenberg, B.M. Assimilation of Polycyclic Aromatic Hydrocarbons by the Higher Plant *Lemna gibba*. ASTM Symposium on Environmental Toxicology and Risk Assessment: Aquatic, Plant and Terrestrial. (1992). Pittsburgh, Pennsylvania.
- Greenberg, B.M., Dixon, D.G., Huang, X.D., **Duxbury, C.L.**, Ren, L. and McConkey, B.J. Photoinduced Xenobiotic Stress in Higher Plants. Canadian Society of Plant Physiologists, 34th Annual Meeting. St. John's, Newfoundland., July 1992.
- Greenberg, B.M., Dixon, D.G., Huang, X.D., **Duxbury, C.L.**, Ren, L. and McConkey, B.J. Induction of Toxicity of Polycyclic Aromatic Hydrocarbons by Sunlight: Photomodification of

the Chemicals and Predictive QSARs. Ontario Ministry of the Environment, Technology Transfer Conference, Toronto, Ontario. November 1992.

Greenberg, B.M., Dixon, D.G., **Duxbury, C.L.**, McConkey, B.J., Ren, L. and Huang, X.D. Impacts of Solar Radiation on Polycyclic Aromatic Hydrocarbons: Photooxidation and Bioavailability. Ontario Ministry of the Environment, Technology Transfer Conference, Toronto Ontario. November 1992.

McConkey, B.J., **Duxbury, C. L.**, Huang, X.D., Dixon, D.G. and Greenberg, B.M. Impacts of Solar Radiation on the Photooxidation and Bioavailability of Polycyclic Aromatic Hydrocarbons to Higher Plants. ASTM Symposium on Environmental Toxicology and Risk Assessment: Aquatic Plant and Terrestrial. Atlanta, Georgia. April 1993.

Huang, X.D., Ren, L., McConkey, B.J., **Duxbury, C.L.**, Dixon, D.G and Greenberg, B.M. Quantitative Structure Activity Relationships for the Photoinduced Toxicity of Polycyclic Aromatic Hydrocarbons to Higher Plants. Annual Meeting of American Society for Photobiology. Chicago, Illinois. June 1993.

Huang, X.D., Ren, L., McConkey, B.J., **Duxbury, C.L.**, Dixon, D.G. and Greenberg, B.M. Quantitative Structure Activity Relationships for the Photoinduced Toxicity of Polycyclic Aromatic Hydrocarbons to Higher Plants. Combined Meeting of the Canadian and American Societies of Plant Physiology. Minneapolis, Minnesota. August 1993.

Duxbury, C.L., Huang, X.D., Ren, L., Dixon, D.G. and Greenberg, B.M. Photoinduced Assimilation and Toxicity of Polycyclic Aromatic Hydrocarbons by Duckweed. Ontario Ministry of the Environment and Energy Technology Transfer Conference. November 1993.

Duxbury, C.L., Marwood, C.A., Huang, X.D., Dixon, D.G. and Greenberg, B.M. Photoinduced Toxicity of Sediment-Bound Polycyclic Aromatic Hydrocarbons to Duckweed. IAGLAR. Sarnia, Ontario. June 1994.

Greenberg, B.M., Dixon, D.G., Wilson, M.I., Huang, X.D., McConkey, B., **Duxbury, C.L.**, Gerhardt, K., Marwood, C.A. and Gensemer, R.W. Use of Artificial Lighting in Environmental Assessment Studies: Photoinduced Toxicology and Adaptation of Plants to UV-B as Model Systems. Fourth Symposium on Environmental Toxicology and Risk Assessment: Transboundary Issues in Pollution-Air, Surface, and Groundwater. ASTM, Montreal, April 1994.

Greenberg, B.M., **Duxbury, C.L.**, Marwood, C.A. and Dixon, D.G. Photoinduced Toxicity and Assimilation of Sediment Bound Polycyclic Aromatic Hydrocarbons to the Aquatic Plant *Lemna gibba*. 21st Annual Aquatic Toxicity Workshop, Sarnia, Ontario. October 1994.

Greenberg, B.M., **Duxbury, C.L.**, Marwood, C.A., Huang, X.D. and Dixon, D.G. Photoinduced Toxicity of Sediment-Bound Polycyclic Aromatic Hydrocarbons. SETAC Annual Meeting, Denver, CO. November 1994.

McConkey, B.J., **Duxbury, C.L.**, Dixon, D.G. and Greenberg, B.M. Toxicity of PAH Photoproducts to *Photobacterium phosphoreum* and *Lemna gibba*. Fifth Symposium on Environmental Toxicology and Risk Assessment, ASTM, Denver, CO April 1995.

Duxbury, C.L., McConkey, B.J., Mallakin, A., Dixon, D.G. and Greenberg, B.M. Toxic Photoproducts of Phenanthrene and Anthracene in Sunlight. Second Setac World Congress (16th Annual Meeting). Vancouver, British Columbia. November, 1995.

- McConkey, B.L., **Duxbury, C.L.**, El-Alawi, Y.S., Dixon, D.G. and Greenberg, B.M. Toxic Photoproducts of Phenanthrene in Sunlight. Second Setac World Congress (16th Annual Meeting). Vancouver, British Columbia. November 1995.
- McConkey, B.J., **Duxbury, C.L.**, Dixon, D.G. and Greenberg, B.M. Methods for Rapidly Identifying the Photooxidation Products of PAHs and Testing their Toxicity. Canadian Network of Toxicology Centres (CNTC). Toronto, Ontario. (1996)
- Duxbury, C.L.**, McConkey, B.J., Dixon, D.G. and Greenberg, B.M. The Effects of Phenanthrene and its Photooxidation Products on Plant and *Daphnia magna*. Canadian Network of Toxicology Centres (CNTC). Toronto, Ontario. (1996)
- Greenberg, B.M., Dixon, D.G., Huang, X.D., Krylov, S., Mallakin, A., McConkey, B.J., **Duxbury, C.L.**, Mezey, P.G. and El-Alawi, Y. QSAR Modelling for the Photoinduced Toxicity of Intact and Photomodified PAH Impacts on Plants. Sixth Symposium on Environmental Toxicology and Risk Assessment, ASTM, Orlando, FL. April 1996.
- McConkey, B.J., **Duxbury, C.L.**, Dixon, D.G. and Greenberg, B.M. Identification and Joint Toxicity of Benzo[a]pyrene Photoproducts. SETAC Annual Meeting, Washington, D.C. November 1996.
- Duxbury, C.L.**, Tripuranthakam, S., McConkey, B.J., Dixon, D.G. and Greenberg, B.M., Toxicity of Anthracene, Phenanthrene and their Photoproducts to *Daphnia magna*. Seventh Symposium on Environmental Toxicology and Risk Assessment, ASTM, St. Louis, MO, April 1997.
- Greenberg, B.M., Huang, X.D., Mallakin, A., Babu, T.S., **Duxbury, C.L.** and Marwood, C.A. Inhibition of Photosynthesis by Polycyclic Aromatic Hydrocarbon Pollutants. Plant Biology '97, ASPP/CSPP Joint Annual, Vancouver, BC, August 1997.
- Greenberg, B.M., Babu, T.S., **Duxbury, C.L.**, Huang, X.D., Mallakin, A., Marder, J.B., Marwood, C.A. and Solomon, K.R. What Can be Learned From Investigations into the Biochemical Mechanisms of Toxicity? Adventures in Photosynthesis. Aquatic Toxicity Workshop, Niagra Falls, Ont. October 1997.
- Greenberg, B.M., Dixon, D.G., Mezey, P., Sneickus, V., Babu, T.S., **Duxbury, C.L.**, El-Alawi, Y.S., Mallakin, A., McConkey, B.J. and Miao, G. Environmental Chemical Modification in Contaminant Risk Assessment. Aquatic Toxicity Workshop, Niagara Falls, Ont. October, 1997.
- Greenberg, B.M., Dixon, D.G., Mezey, P., Sneickus, V., Babu, T.S., **Duxbury, C.L.**, El-Alawi, Y.S., Mallakin, A., McConkey, B.J. and Miao, G. The Role of Chemical Photomodification in the Toxicity of Organic Contaminants. SETAC Annual Meeting, San Francisco, CA, November 1997.
- Greenberg, B.M., Babu, T.S. **Duxbury, C.L.**, Huang, X.D., Mallakin, A., Marder, J.B., Marwood, C.A. and Solomon, K.R. Mechanistic and Whole Organism Bioindicator Validation: Photosynthesis as an Indicator of Contaminant Impact. SETAC Annual Meeting, San Francisco, CA, Nov. 1997.
- Duxbury, C.L.**, Tripuranthakam, S., McConkey, B.J., Dixon, D.G. and Greenberg, B.M., Toxicity of Anthracene, Phenanthrene and their Photoproducts to *Daphnia magna*. SETAC Annual Meeting, San Francisco, CA, Nov. 1997.

- Greenberg, B.M., Babu, T.S., **Duxbury, C.L.**, El-Alawi, Y., Mallakin, A., McConkey, B.J., Marwood, C., Solomon, K., Dixon, D.G. and Mezey, P., Use of Mitochondrial, Photosynthetic and Molecular Endpoints for Risk Assessment of PAHs and PAH/metal Mixtures, CNTC, Annual Conference, Toronto, March 1998.
- Greenberg, B.M., Babu, T.S., **Duxbury, C.L.**, Mallakin, A., Marder, J.B., Marwood, C. and Solomon, K. Investigations into the Biochemical Mechanisms of Toxicity: Use of Photosynthesis as a Bioindicator of Toxicity., Eighth Symposium on Environmental Toxicology and Risk Assessment, ASTM, Atlanta, GA, April 1998.
- Greenberg, B.M., Dixon, D.G., Mezey, P., Babu, T.S., **Duxbury, C.L.**, El-Alawi, Y., Mallakin, A. and McConkey, B.J. The Role of Chemical Modification in Modelling the Fate and Toxicity of Environmental Contaminants, QSAR 98, Baltimore, MD, May 1998.
- Greenberg, B.M., Marwood, C.A., Babu, T.S., **Duxbury, C.L.**, Huang, X.D. and Mallakin, A., Direct and Indirect Effects of UV Radiation on Plants and Phytoplankton: PAH Photoinduced Toxicity and UVA/UVB Damage. SETAC Annual Meeting, Charlotte, NC, November, 1998.
- Duxbury, C.L.**, Babu, T.S., Tripuranthakam, S., Dixon, D.G. and Greenberg, B.M. Use of Mitochondrial, Photosynthetic and Molecular Endpoints for Risk Assessment of PAHs and PAH/metal Mixtures. SETAC Annual Meeting, Charlotte, NC, Nov. 1998.
- Greenberg, B.M., Dixon, D.G., Mezey, P., Babu, T.S., **Duxbury, C.L.**, Huang, X.D., El-Alawi, Y., Mallakin, A., Marwood, C.A. and McConkey, B.J., Structural Photomodification Dramatically Changes the Environmental Fate and Toxicity of PAHs. SETAC Annual Meeting, Charlotte, NC, Nov. 1998.
- Greenberg, B.M., Babu, T.S., **Duxbury, C.L.**, El-Alawi, Y., Mallakin, A., McConkey, B.J., Marwood, C., Solomon, K., Dixon, D.G. and Mezey, P. Use of Photosynthetic and Respiratory Bioindicators in Environmental Risk Paradigms: Impacts of oxyPAH Mixtures, Toxicity of oxyPAH/metal Mixtures and Cellular Responses. CNTC, Annual Conference, Hull, PQ. March 1999.

Curriculum Vitae for Julie Maria Goll

EDUCATION

2007 M.Sc. in Organic Chemistry

Department of Chemistry, University of Waterloo, Waterloo, ON

Thesis Title: "Preparing and Tuning the Reactivity of Palladium Carbenes and an Unusual Catalytic Isomerization of Diphenylcyclopropanes"

Thesis Supervisor: Eric Fillion

2005 B.Sc. in Honours Biochemistry (Dean's Honours List)

Department of Chemistry, University of Waterloo, Waterloo, ON

Thesis Title: "Examining the Reactivity of Palladium Carbenes using Diphenylketene"

Thesis Supervisor: Eric Fillion

EMPLOYMENT HISTORY

2007-2009 – Lab Instructor, Department of Chemistry, University of Waterloo

2009-present – Instructor, Department of Chemistry, University of Waterloo

2003 (coop student) – Process Chemist, Merck Frosst Canada

2002 (coop students) – Research and Development Scientist, Newlywed Foods

AWARDS AND SCHOLARSHIPS

2023 Excellence in Science Teaching Award (University of Waterloo)

2007-2008 Ontario Graduate Scholarship (Chemistry)

2006 Women in Chemistry Scholarship University of Waterloo)

2005-2007 Ontario Graduate Scholarship (Chemistry)

2005 Graduate Entrance Scholarship (University of Waterloo)

2005 NSERC Undergraduate Student Award (Chemistry)

2005 SOUSCC First Place Winner (Organic Chemistry Division)

2004 NSERC Undergraduate Student Award (Chemistry)

2003 NSERC Undergraduate Student Award (Chemistry)

2000 Undergraduate Entrance Scholarship (University of Waterloo)

UNDERGRADUATE COURSES TAUGHT

2007-present Chem 265L: Organic Chemistry Laboratory I

2007-present Chem 360L: Senior Organic Chemistry Laboratory

2009-present Chem 382L: Advanced Synthesis Laboratory

2009-2023 Chem 262L: Organic Chemistry Laboratory for Engineers

2010-present Chem 266: Basic Organic Chemistry I

2018-present Chem 200: Basic Laboratory Techniques and Skills Seminar

2023-present Chem 265: Organic Chemistry II

PUBLICATIONS IN REFEREED JOURNALS

1. "Show Me You Can Do It: Practical Examinations for Senior Organic Chemistry Courses"
Montgomery, C. A.; Goll*, J. M. Accepted for publication in *J. Chem. Ed.* **2023**, 100, 2253.

2. "Some Like it Hot: Experimentally Determining $\Delta\Delta H^\ddagger$, $\Delta\Delta S^\ddagger$, and $\Delta\Delta G^\ddagger$ between Kinetic and Thermodynamic Diels-Alder Pathways Using Microwave Assisted Synthesis" Ieritano, C.; Montgomery, C. A.; Goll*, J. M.; Chan, H. Y. *J. Chem. Ed.* **2021**, *98*, 577.
3. "Nucleophilic displacements of non-racemic α -trifluoromethyl benzylic triflates" Hughes, G.; O'Shea, P.; Goll, J. M.; Gauvreau, D.; Steele, J. *Tetrahedron* **2009**, *65*, 3189.
4. "Palladium-Catalyzed Intramolecular Reactions of (*E*)-2,2-Disubstituted 1-Alkenyldimethylalanes with Aryl Triflates" Fillion, E.; Trepanier, V. E.; Heikkinen, J. J.; Remorova, A. A.; Carson, R. J.; Goll, J. M.; Seed, A. *Organometallics*, **2009**, *28*, 3518.
5. "Tuning the Reactivity of Palladium Carbenes from Diphenylketene" Goll, J. M.; Fillion, E. *Organometallics*, **2007**, *27*, 3622.
6. "Meldrum's Acid as Acylating Agents in the Catalytic Intramolecular Friedel-Crafts Reaction" Fillion, E.; Fishlock, D.; Wilsily, A.; Goll, J. M. *J. Org. Chem.* **2005**, *70*, 1316.
7. "Palladium Catalyzed Carbon-Carbon Bond-Forming 1,2-Ligand Migration of Organoalanes" Fillion, E.; Carson, R. J.; Trepanier, V. E.; Goll, J. M.; Remorova, A. *J. Am. Chem. Soc.* **2004**, *126*, 15354.

CONFERENCES

1. "Guiding Students Toward Independent Thought in Chemistry Undergraduate Labs" Goll, J.M.; Ingram, L. J. Western Conference for Science Education, University of Western Ontario, London, ON. **2019**
2. "A New Model for Hands-On Teaching" Goll, J.M.; Ingram, L. J. Teaching and Learning Conference, University of Waterloo, Waterloo, ON. **2018**
3. "We flipped it, but did it work?" Hoekstra, K.; Goll, J. M.; Power, M. E. Teaching and Learning Conference, University of Waterloo, Waterloo, ON. **2015**
4. "What is the Purpose of Lab Courses? Re-Evaluating Chemistry Lab Practices" Goll, J. M. Opportunities and New Directions Conference, University of Waterloo, Waterloo, ON. **2012**
5. "Pd-Catalyzed Intramolecular Reactions of (*E*)-2,2-Disubstituted-1-alkenyldimethylalanes With Aryl Triflates" Jarkko J. Heikkinen, Eric Fillion, Vincent É. Trépanier, Anna A. Remorova, Rebekah J. Carson, Adam Seed, Julie M. Goll, Nicholas J. Taylor. 91st CSCCE, Edmonton, AB. **2008**
6. "Preparation and Reactivity of Palladium Carbenes" Julie. M. Goll, Tamsyn C. Sitler, Eric Fillion. 17th QOMSBOD, London, ON. **2006**
7. "Palladium-catalyzed Carbon-carbon Bond-Forming 1,2-Ligand Migration of Organoalanes" Eric Fillion, Vincent E. Trépanier, Anna A. Remorova, Rebekah J. Carson, Julie Goll. 230th ACS Conference, Washington, DC, USA. **2005**
8. "Meldrum's Acids as Acylating Agents in the Catalytic Intramolecular Friedel-Crafts Reaction — Rate of Cyclization as a Function of Ring Size" Julie M. Goll, Eric Fillion, Dan Fishlock, Ashraf Wilsily. 88th CSCCE, Saskatoon, SK. **2005**
9. "Stereospecific Palladium-catalyzed 1,2-Ligand Migration of Organoalanes" Anna A. Remorova, Eric Fillion, Rebekah J. Carson, Vincent E. Trépanier, Julie M. Goll. 23rd Annual Graduate Student Symposium, University at Buffalo, The State University of New York, NY, USA. **2005**

10. "Meldrum's Acids as Acylating Agents in the Catalytic Intramolecular Friedel-Crafts Reaction — Rate of Cyclization as a Function of Ring Size" Julie M. Goll, Eric Fillion, Dan Fishlock, Ashraf Wilsily. 33rd SOUSCC, Toronto, ON. **2005**
11. "Formation et réactivité d'espèces géminales organobis-métalliques Pd(II) / M (M = métal du bloc principal)" Vincent E. Trépanier, Rebekah J. Carson, Julie M. Goll, Eric Fillion. 72nd Congrès de l'ACFAS, Montréal. **2004**

OTHER SCHOLARLY ACTIVITIES

Workshops:

1. Coordinator/Presenter; Faculty of Science; ran a workshop with Jason Thompson (CTE) that showcased a new lab model and new approaches to teaching students to communicate science. **2022**
2. Coordinator/Presenter; Faculty of Science; ran a workshop with Laura Ingram (Chemistry) on a new approach for lab courses. **2019**

Committees:

2022-present Committee Member; Department of Chemistry; Undergraduate Curriculum Committee

2019-present Committee Member; Department of Chemistry; Safety Committee

2015-present Fire Warden; Faculty of Science; STC 5th Floor

2015-2019 Committee Member; Department of Chemistry; Undergraduate Affairs Committee

2007-present Committee Member; Department of Chemistry; Waterloo Student Endowment Fund

Outreach:

2020-present Editor and Photo Contributor; Faculty of Science; Medicinal Chemistry and Chemistry Brochure; prepared several different experimental set-ups for brochure photos and helped edit the text.

2019 Participant; University of Waterloo; Presidents Round Table for Innovation.

2017-2019 Volunteer; Faculty of Science; Outreach at Vista Hills Public School Kindergarten classes; helped outreach volunteers run the experiment in 4-5 different classes each day it ran.

2007-2012 Volunteer; Faculty of Science; Science Open House; helped set-up, run, and take-down the experiments for the chemistry section.

2007-2010 Volunteer; Department of Chemistry; Chem Lab Days; supervised high school students for a synthetic lab experiment.

Jola Gurska, Ph.D.

Kitchener, ON | jola.gurska@uwaterloo.ca | 519-729-5296

PROFESSIONAL PROFILE

- Experienced university educator, spanning introductory to advanced level courses in biology
- Research project leadership currently focused on evidence-based improvement in teaching: secured funding and ethics approval for a Science of Teaching and Learning (SoTL) research projects
- Committed to continuous professional development: attended workshops on teaching pedagogy and supporting diverse learners in equitable environments
- Innovative curriculum developer: initiated and developed Biology Academic Study Skills (BASS) module developing student study skills, enhancing collaborative teamwork and building classroom community across the Faculty of Science

EDUCATION

Ph.D. Biology, 2011, University of Waterloo, ON, Canada

Thesis title: The use of plant growth promoting rhizobacteria to enhance phytoremediation of petroleum hydrocarbon-impacted soils.

Supervisor: Dr. Bruce M. Greenberg

B.Sc. Honours Biochemistry, 2004, University of Waterloo, ON, Canada

Senior Research Project: Modes of toxicity of metals and PAHs to the freshwater microcrustacean *Daphnia magna*.

TEACHING EXPERIENCE

Laboratory instructor

December 2022 to current

Department of Biology, University of Waterloo

Courses taught include (course; term, enrolment):

- Introductory Cell Biology Laboratory (BIOL 130L; ~800-1100 students)
- Advanced Cell Biology Laboratory (BIOL 331L; ~90-100 students)
- Environmental Toxicology 1 Laboratory (BIOL 354L; ~150-160 students)
- Introduction to Plant Structure and Function (BIOL 120L; ~95-110)
- Genetics Tutorial (Biol 239T; ~200-800)

Duties:

- Trained and managed up to 90 Teaching Assistants annually to effectively conduct undergraduate laboratories with ~2000 students
- Updated and published laboratory manuals
- Developed new rubrics, assignments and protocols with evidence-based pedagogy
- Made video assets for techniques used (e.g., microscopy) and weekly pre-lab videos to ensure consistency between multiple sections.

Sessional Lecturer

May 2020 to December 2022

Department of Biology, University of Waterloo

Courses taught include (course; term, enrolment):

- Advanced Cell Biology (BIOL 331; ~160 students)
- Diversity of Life in Wuhan, China (BIOL 165; ~45-55 students)
- Environmental Toxicology 1 (BIOL 354; ~130-150)
- Introductory Cell Biology (BIOL 130; ~200)

Duties:

- Conducted midterm surveys to address major student issues and requests thereby promoting student success in courses
- Recruited guest speakers based on students' interest
- Developed a flipped 'at-home' salt lab for students to get hands-on lab experience during the pandemic (BIOL 354 toxicology)
- Developed engaging lectures, assignments, exams, and homework
- Coordinated grading with teaching assistants
- Created captioned recorded lectures for remote learning to focus the course for English as a Second Language learners, including word lists, and vocabulary recordings (BIOL 165)
- Coordinated a group work module (BASS) to be run in my course and those of other instructors within the department; facilitated LEARN dropbox creation and provided marking rubrics; collected data for use in an Ethics-approved SoTL study

Invited Lecturer

University of Toronto and University of Waterloo

2016-2022

- University of Toronto. Masters of Landscape Architecture program. Developed and delivered annual lectures and provided feedback on final course project for a class of approximately 30 students (2018-2022)
- University of Waterloo. Introductory Biology 2. Presentation covered biological applications in phytotechnologies (2016)

Undergraduate Project Supervisor

2009-2010

Department of Biology, University of Waterloo

- Designed undergraduate research projects, and supervised and mentored students through to completion
- Trained undergraduate students in laboratory techniques

Teaching Assistant

2004-2011

Department of Biology, University of Waterloo

- Trained undergraduate students in techniques and safety in introductory level courses (Chemical Reactions, Equilibria, Kinetics; Introductory Microbiology laboratory; Applied Microbiology laboratory) and advanced level courses (Environmental toxicology laboratory; Advanced Cell biology laboratory)

- Prepared and conducted instructional sessions before each lab for approximately 30 students, supervised laboratory sessions, graded assignments, reports and exams and assisted students on a one-to-one basis

Teaching Assistant

2004

Department of Chemistry, University of Waterloo

- Trained undergraduate students in techniques and safety in an introductory chemistry laboratory (Chemical Reactions, Equilibria, Kinetics)

PROFESSIONAL AND RESEARCH EXPERIENCE

Freelance Environmental Consultant

2018-current

- Consulted for projects in education, environmental and agricultural fields. Example work includes creating successful grant proposals, budgets, phytoremediation feasibility assessments, reclamation projects and technical reporting

Toxicologist (Phytoremediation and Risk Assessment)

2014-2018

Stantec Consulting Ltd.

- Created successful project proposals and grant applications to support research opportunities, including detailed budgets, work plans, timelines, strategic partnership and knowledge mobilization initiatives
- Planned, developed and edited annual technical project reports for a variety of audiences including industry clients and regulatory agencies
- Managed multiple large-scale projects across Canada, including prioritizing of overlapping work and reporting timelines and deadlines including safely managing work crews in the field
- Carried out strategic, applied research and development that aligned with company and industry needs
- Maintained accurate and organized project records
- Led a six-year phytoremediation project which received President's Operational Excellence Awards (Suncor)

Postdoctoral Fellow (NSERC Industrial R&D Fellowship)

2012-2014

Stantec Consulting Ltd.

- Planned, developed and edited annual technical project reports for a variety of audiences including industry clients and regulatory agencies
- Supervised and mentored two Niagara College interns and mentored younger staff
- Designed and implemented soil and groundwater phytoremediation systems including technical planning, preparing contracts and privacy agreements with third parties (clients and contractors), overseeing completion and project communication with all parties involved

- Carried out toxicology benchscale, greenhouse and field research and development that aligned with company and industry objectives and driven by industry needs and priorities
- Successfully leveraged funding from NSERC, internal company grants and external private sources to support own research initiatives

Research Consultant – Phytoremediation Specialist
Waterloo Environmental Biotechnology, Inc.

2006-2008

- Designed and implemented rhizobacteria seed inoculation protocols, planting and sampling schedules for full scale, long-term projects in the greenhouse and field
- Isolated, cultured and characterized new strains of plant growth promoting rhizobacteria for field use
- Designed and implemented laboratory studies including written final reports
- Conducted and oversaw site assessments, field testing and analyses

Research Assistant

2004-2011

Department of Biology, University of Waterloo

Relevant Courses: Advanced Topics in Environmental Toxicology, Special Topics in Phytoremediation, Advanced Confocal Microscopy, Special Topics in Cell Biology: Apoptosis

- Designed and implemented research in an environmental biology laboratory using standard culture-based microbiology methods (novel strain isolation, selection, transformation for GFP labeling, metabolic characterization using ECOLOG plates and fluorometer), High Performance Liquid Chromatography sample preparation and analysis, confocal microscopy and molecular biology methods (DGGE, QPCR, ddPCR)
- Designed, managed and executed successful large-scale soil phytoremediation field trials
- Supervised teams of field researchers during planting, soil and plant sample collection
- Improved current and developed new laboratory and field protocols for soil and plant sampling

SELECTED AWARDS, SCHOLARSHIPS & GRANTS

University of Waterloo CTE LITE SEED Grand	\$6,800	2021-2022
University of Waterloo CTE LITE SEED Grand	\$4,000	2020-2021
Stantec Greenlight Grant	\$26,000	2015-2016
Stantec Research and Development Grant	\$30,000	2012-2016
Stantec Research and Development Grant	\$30,000	2012-2015
Industrial R&D Fellowship	\$60,000	2012-2015

A. Graham Bell Canada Graduate Scholarship	\$70,000	2008-2009
President's Graduate Scholarship	\$20,000	2008-2009
Ontario Graduate Scholarship (OGS)	\$15,000	2008-2009
OGS in Science and Technology	\$10,000	2007-2008
Sharon and David Johnston Graduate Scholarship	\$5,000	2007-2008
University of Waterloo Graduate Scholarship	\$1,000	2006

PUBLICATIONS, PRESENTATIONS AND INVITED LECTURES ON TEACHING AND LEARNING

Knox, C., Thompson, J., Pinheiro, M.D.O, **Gurska, J.** Structured Group Work as a Mechanism to Increase Classroom Community and Metacognition in Asynchronous Online Undergraduate Courses. Submitted to Life Sciences.

Gurska J., Pinheiro, M.D.O. Evidence-based study skills – learning resource. e-Campus Ontario Virtual Learning Strategy (VLS). Hiddencurriculum.ca (list of authors <https://hiddencurriculum.ca/about-us/funding-and-contributors/>)

Gurska J., Pinheiro, M.D.O. Working with others – learning resource. e-Campus Ontario Virtual Learning Strategy (VLS). Hiddencurriculum.ca (list of authors <https://hiddencurriculum.ca/about-us/funding-and-contributors/>)

Pinheiro, M.D.O, Thompson, J., **Gurska, J.** Sharing resources and experiences in growing softskills in large enrolment undergraduate classes. Western Conference on Science Education. July 12-14, 2023.
Gurska, J.

Pinheiro, M.D.O, Thompson, J., **Gurska, J.** Sharing resources and approaches to build soft-skills in large courses. oCUBE Unconference. May 24-26, 2023.

Gurska, J., Pinheiro M.D.O. Thompson. J. We're putting the band back together: a framework for reintroducing group work as students readjust to on campus learning. Teaching and Learning Showcase presented at University of Waterloo Teaching and Learning Conference. Apr. 27 and 28, 2022.

Gurska, J., Thompson, J., Pinheiro, M.D.O. Fostering learning and connection between students through remote group work. Seminar presented at University of Waterloo Teaching and Learning Conference. Apr. 28, 2021.

Gurska, J., Serravalle, E.A., Pinheiro, M.D.O. Fostering learning and connection between students through remote learning. Seminar presented at Open Consortium of University Biology Educators (oCUBE) December Unconference 2020. Dec. 18, 2020.

PROFESSIONAL AND RESEARCH EXPERIENCE

Wrote **over 20 confidential reports** to private companies between 2011-2018 detailing chemical and biological plant and soil data for phytotechnology projects.

Gurska, J., Glick, B.R., Greenberg, B.M. (2015) Gene expression of *Secale cereale* (fall rye) grown in petroleum hydrocarbon (PHC) impacted soil with and without plant growth promoting rhizobacteria. *Water Air Soil Pollution* 226, 308-315.

Gurska, J., Huang X-D, Gerhardt-Hogenkamp K.E., Wang W., Khalid, A., Glick, B.R. and Bruce M. Greenberg. (2009) Successful field test of a multi-process phytoremediation system at a petroleum sludge contaminated land farm. *Environmental Science and Technology* 43, 4472-4479.

Gurska, J., Huang, X-D., Lampi, M.A, Khalid, A., Isherwood, D., Wang, W., Chang, P., Wang, H., Wu, S.S., Dixon, D.G., Glick, B.R., Greenberg B.M. (2007) A Three Year Field Study Using Plant Growth Promoting Rhizobacteria Inoculants to Enhance Phytoremediation of Petroleum Contaminated Soils. *Conference Proceedings in 9th Annual In Situ and On-Site Bioremediation Symposium*.

Lampi, M.A. **Gurska, J.**, Huang, X-D., Dixon, D.G., Greenberg, B.M. (2006) A predictive QSAR Model for the Photoinduced Toxicity of PAHs to *Daphnia magna* Using Factors for Photosensitization and Photomodification. *Environmental Toxicology and Chemistry* 26:406-415.

Lampi, M.A., **Gurska, J.**, McDonald, K.I.C., Xie, F., Huang, X.-D., Dixon, D.G., Greenberg, B.M. (2005) Photoinduced Toxicity of PAHs to *Daphnia magna*: UV-Mediated Effects and the Toxicity of PAH Photoproducts. 42 pages. *Environmental Toxicology and Chemistry*, Vol 25, No 4, 1079-1087.

Huang, X.-D., El-Alawi, Y., **Gurska, J.**, Glick, B.R., Greenberg, B.M. (2005) A multi-process phytoremediation system for decontamination of persistent total petroleum hydrocarbons (TPHs) from soils. 9 pages. *Microchemical Journal*, 81, pp139-147.

Greenberg, B.M., Huang, X-D., Gerhardt, K., Glick, B.R., **Gurska, J.**, Wang, W., Lampi, M., Khalid, A., Isherwood, D., Chang, P., Wang, H., Wu, S.S., Yu, X-M., Dixon, D.G., Gerwing, P. (2007) Field and laboratory tests of a multi-process phytoremediation system for decontamination of petroleum and salt impacted soils. In: *Proceedings of the Ninth International In Situ and On-Site Remediation Symposium*. AR Gavaskar and CF Silver, eds., Batelle Press, Columbus, OH, Chapter B-04 (electronic publication).

Gurska, J., Angell, R., Greenberg, B.M., Dan, T.V. and Stephenson G.L. Enhancing phytoremediation of weathered petroleum hydrocarbon (PHC) contaminated soils using biosurfactants as soil amendments. 37th Canadian Land Reclamation Association National Conference, 2012.

Gurska, J., Angell, R., Greenberg, B.M., Dan, T.V. and Stephenson G.L. The use of biosurfactants as soil amendments to enhance phytoremediation of weathered petroleum hydrocarbon contaminated soils. *Remediation Technologies Symposium*, 2012.

Gurska J., Wang, W., Huang, X-D., Greenberg, B.M. (2011) Plant growth promoting rhizobacteria (PGPR) enhanced phytoremediation as a tool for management of petroleum hydrocarbon-contaminated sites. Presented at SETAC Mexico Focused Meeting, Mérida, Mexico.

Gurska, J., Lampi, M.A., Gerhardt, K., Nykamp, J.A., Glick, B.R., Huang, X-D., Greenberg, B.M. (2009) Putative Genetic and Physiological Biomarkers in Plants Grown in Hydrocarbon Contaminated Soils. Presented at the 30th SETAC North America, New Orleans, LA.

Gurska, J., Wang, W., Gerhard, K., Glick, B.R. Huang, X-D. Greenberg, B.M. Microbial Activity in Petroleum Contaminated Soils During a Three Year Field Trial on a Land Farm for Petroleum Sludge. (2009). Presented at the 6th International Phytotechnology Conference, St. Lois, MO.

Wang, H., Yu, X., **Gurska, J.**, Lampi, M., Huang, X., Greenberg, B. Phytoremediation of DDT Contaminated Soil. Fourth International Phytotechnologies Conference. Denver, US. Sept 24-26, 2007.

Wang, H., **Gurska, J.**, Lampi, M., Huang, X., Greenberg, B. (2007) Phytoremediation of DDT Contaminated Soil. 7th annual Graduate Study Research Conference of University of Waterloo, Waterloo, Ontario, Canada.

Lampi, M., Xie, F., **Gurska, J.**, Huang, X.-D., Dixon, D., Greenberg, B., Evidence of Synergistic Toxicity of PAH/Metal Mixtures to *Daphnia magna*: a Reactive Oxygen Species-Mediated Mechanism. Poster presentation. Presented at the SETAC North America 27th Annual Meeting, Montreal, CA. November 5-9, 2006

Lampi, M., Xie, F., **Gurska, J.**, Huang, X.-D., Dixon, D., Greenberg, B., Photomodification and toxicity of photomodified polycyclic aromatic hydrocarbons to *Daphnia magna*. Poster presentation. Presented at the SETAC North America 27th Annual Meeting, Montreal, CA. November 5-9, 2006

Wang, H., **Gurska, J.**, Lampi, M., Huang, X., and Greenberg, B. Bacteria Enhanced Phytoremediation of DDT Contaminated Soil. Platform presentation. Presented at the SETAC North America 27th Annual Meeting, Montreal, CA. November 5-9, 2006.

Gurska J., Lampi, M.A., Greenberg, B.M. Metals and PAHs: toxicity via reactive oxygen species production in *Daphnia magna*. Poster presentation. Presented at the 16th SETAC Europe Meeting, the Hague, Netherlands, May 7-11, 2006.

Gurska J., Huang, X-D., Lampi, M.A., Greenberg, B.M. Molecular and physiological biomarkers in plants under persistent hydrocarbon stress. Platform presentation. Presented at the 16th SETAC Europe Meeting, the Hague, Netherlands, May 7-11, 2006.

Gurska, J., Lampi, M.A., Xie, F., Greenberg B.M. Analysis of antioxidant enzymes and ROS production in *Daphnia magna* in response to widespread environmental pollutants. Platform presentation. Presented at the 26th SETAC North America Meeting, Baltimore, MD, November 13-17, 2005.

Gurska, J., Huang, X-D., Lampi, M.A., Greenberg B.M. Analysis of physiological and molecular biomarkers in a multi-process phytoremediation system. Poster presentation. Presented at the 26th SETAC North America Meeting, Baltimore, MD November 13-17, 2005.

Greenberg, B.M, Huang, X-D., **Gurska, J.**, Gerhardt, K, Wang, W., Zhang, C., Dixon, G, Glick, B.R., Field tests of a multi-process phytoremediation system for decontamination of persistent petroleum contaminated brownfields. Presented at the 26th SETAC North America Meeting, Baltimore, MD, November 13-17, 2005

Lampi, M., **Gurska, J.**, Huang, X.-D., Dixon, D.G. and B.M. Greenberg. A QSAR for the photoinduced toxicity of PAHs to plants and bacteria is predictive for *Daphnia magna*. Presented at the SETAC 4th World Congress, Portland, OR, November 14-18, 2004.

Gurska, J., Lampi, M. and B. Greenberg. Analysis of antioxidant enzymes in *Daphnia magna* in response to common environmental pollutants. Presented at the SETAC 4th World Congress, Portland, OR, November 14-18, 2004.

Lampi, M., Xie, F., **Gurska, J.**, Huang, X.-D., Dixon, D.G. and B.M. Greenberg. Photomodification and toxicity of photomodified polycyclic aromatic hydrocarbons to *Daphnia magna*. Presented at the SETAC 4th World Congress, Portland, OR, November 14-18, 2004.

PROFESSIONAL DEVELOPMENT IN TEACHING

4 Seasons of Indigenous Learning, ongoing, participating with UW Faculty of Arts First Nations University of Canada Year-long course for educators to deepen their understanding of Indigenous knowledge and connect to land

Waterloo Assessment Institute

April 12-13, 2023

Two-day CTE workshop focused on redesigning assessments across curriculum

oCUBE Support Squares

January-April, 2023

Interinstitutional faculty and teaching staff discussion group

Indigenous Canada

University of Alberta course on Coursera, 2023

21-hour course that explores historical and contemporary perspectives of Indigenous peoples living in Canada

Coyote Series, Guelph Outdoor School

8 Shields Model for Nature Based Mentorship, January 2022-December 2022

Learn the Land, Guelph Outdoor School

Naturalist Study Program, April 2022-April 2023, April 2024-ongoing
Year-long program exploring land connections in a community setting

Ontario Master Naturalist Program

Lakehead University, May 20, 2022

6-week long course on identification of local plant and animal species

Supporting ADHD Learners

Workshop with Karen Costa through OLT Faculty Development, September 29, 2021

Canadian Wildlife Federation

Project WILD Certificate for educators, March 31, 2021

From Remote to Flipped Course Redesign

Two-part course offered by CTE, December 2021

Scrum Fundamentals Certified (SFCTM) Training

Instructor-led Online training in agile project management, June 12, 2021

Trauma-Aware Teaching Workshop

Instructor-led Online, January 14 2021

Remote Course Design Essentials (CTE8000)

University of Waterloo, Online, April 15-21, 2020

Mitacs Project Management

Mitacs, Waterloo, 2010

One day workshop on project management knowledge and skills

Project Management Training Program, Stantec, 2017

Project management program focusing on proposal project delivery, record keeping, risk management assessment, managing financials, client management and quality review

MEMBERSHIP AND PROFESSIONAL SERVICE

Biology Department EDI Committee, chair

Open Consortium of University Biology Educators (oCUBE), member

Society for the Advancement of Biology Education Research (SABER), member

Biology Academic Study Skills (BASS), University of Waterloo, 2020-present
Created the module and provided ongoing support to faculty using the module in undergraduate courses

Curriculum Vitae

Stefan Idziak

A. PERSONAL DATA

Address Dept. of Physics and Astronomy, University of Waterloo
Waterloo, Ontario, N2L 3G1, Canada
Tel: 519-888-4567, Ext. 45580
Email: idziak@uwaterloo.ca
<https://uwaterloo.ca/physics-astronomy/profile/idziak>

Date of Birth Not provided

Citizenship Not provided

Education

1992 Ph.D., Physics, University of Pennsylvania Thesis: “X-Ray Diffraction Study of Hexacyclene and Triphenylene Based Discotic Liquid Crystals”

1986 B.Sc., Honours Physics, McGill University First Class Honours

Academic Appointments

2016-present Associate Dean of Science for Experiential Education and Computing, University of Waterloo

2013-2016 Associate Dean of Science for Special Projects, University of Waterloo

2012-2013 Associate Dean of Science for Co-operative Education, University of Waterloo

2002-2007 Associate Chair, Department of Physics and Astronomy, University of Waterloo

2002 Associate Professor of Physics, University of Waterloo

1996-2002 Assistant Professor of Physics, University of Waterloo.

1992-1996 Postdoctoral research, Materials Department, University of California, Santa Barbara.

1986-1992 Graduate student, University of Pennsylvania.

1984-1986 NSERC summer researcher at McGill and Queen's Universities

Sabbatical Leaves

N/A

Scholarships and Awards

2022 Excellence in Science Teaching Award

2018 Youth Science Canada Distinguished Service Award

2000 Premier's Research Excellence Award

1987 Dean's Fellow, University of Pennsylvania

1986 Robert E. Bell Prize University Scholar, McGill University
E. R. Crawford Scholarship, McGill University

B. RESEARCH AND SCHOLARSHIP

(i) Research Grants (*starting with most recent including grants submitting*)

N/A

(ii) Research Contracts

N/A

(iii) Graduate Student Supervision

N/A

(iv) PDFs/Research Associates Supervision

N/A

(v) Undergraduate Supervision

N/A

(vii) Publications**Lifetime Summary**

	First or Corresponding Author	Co-Author	Total
Chapters in Books and monographs	0	0	0
Refereed Journal Articles	37	14	51
Conference Presentations (Posters)	0	0	0
Invited Addresses (Talks/ Seminars)	0	0	0
Citations (from Google Scholar)	404	1966	2370

Refereed Journals

*“Noise Thermometry with Commercial SQUIDS,” Q.S. Shu, J.P. Harrison, **S. Idziak**, A. Sachrajda, and T. Seeto, *Advances in Cryogenic Engineering* 31, 1263-1268 (1986). Cited by 1*

*“Structure and Disorder in the Al-Pd Decagonal Phase,” **S. Idziak**, P.A. Heiney, and P.A. Bancel, *Mater. Sci. Forum* 22-24, 352-368 (1987). Cited by 29*

*“Structure of Decagonal Al₆Pd,” **S.H.J. Idziak**, and P.A. Heiney, *Phil. Mag. A* 61, 819-838 (1990).*

*“Structure and Mesophases of Hexacyclen Derivatives,” **S.H.J. Idziak**, N.C. Maliszewskyj, P.A. Heiney, J.P. McCauley, Jr., P.A. Sprengler, and A.B. Smith, III, *J. Am. Chem. Soc.* 113, 7666-7672 (1991). Cited by 49*

*“Synthesis, Structure, and Superconducting Properties of Single Phase Rb₃C₆₀; A New Convenient Method for the Preparation of M₃C₆₀ Superconductors,” J.P. McCauley, Jr., Q. Zhu, N. Coustel, O. Zhou, G. Vaughan, **S.H.J. Idziak**, J.E. Fischer, S.W. Tozer, D.M. Groski, N. Bykovetz, C.L. Lin, A.R. McGhie, B.H. Allen, W.J. Romanow, A.M. Denenstein, and A.B. Smith, III, *J. Am. Chem. Soc.* 113, 8537-8538 (1991). Cited by 114*

*“Hexagonal Order in Some Mesophases of Hexacyclene Derivatives,” **S.H.J. Idziak**, N.C. Maliszewskyj, G.B.M. Vaughan, P.A. Heiney, C. Mertensdorf, H. Ringsdorf, J.P. McCauley, Jr., and A.B. Smith, III, *J. Chem. Soc., Chem. Commun.*, 98-99 (1992).*

*“Structure of Langmuir-Blodgett Films of Disk-Shaped Molecules Determined by Atomic Force Microscopy,” J.H. Josefowicz, N.C. Maliszewskyj, **S.H.J. Idziak**, P.A. Heiney, J.P. McCauley, Jr., and A.B. Smith, III, *Science* 260, 323-326 (1993). Cited by 123*

- "Phase Diagram of Hexa-n-alkylthiotriphenylenes," S.H.J. Idziak, P.A. Heiney, J.P. McCauley, Jr., P. Carroll, and A.B. Smith, III, Mol. Cryst. Liq. Cryst. 237, 271-275 (1993). Cited by 28*
- "Liquid crystalline hexa-amides and side chain polysiloxanes of azacrown [18]-N6," M. Zhao, W.T. Ford, S.H.J. Idziak, N.C. Maliszewskyj, and P.A. Heiney, Liq. Cryst. 16, 583-599 (1994). Cited by 12*
- "The X-Ray Surface Forces Apparatus: Structure of a Thin Smectic Liquid Crystal Film under Confinement," S.H.J. Idziak, C.R. Safinya, R.S. Hill, K.E. Kraiser, M. Ruths, H.E. Warriner, S. Steinberg, K.S. Liang, and J.N. Israelachvili, Science 264, 1915-1918 (1994). Highlighted in "This Week in Science," Phil Szuromi, Science 264, 1825 (1994). Cited by 127*
- "Structure of Complex Fluids under Flow and Confinement: X-Ray Couette Shear Cell and the X-Ray Surface Forces Apparatus," S.H.J. Idziak, C.R. Safinya, E.B. Sirota, R.F. Bruinsma, K.S. Liang, and J.N. Israelachvili, in "Structure and Flow in Surfactant Solutions," C.A. Herb and R.K. Prud'homme, eds., ACS Symposium Series no. 578, American Chemical Society, Washington, DC, 288-299 (1994). Cited by 14*
- "A New Phase of Liposomes: Entangled Tubular Vesicles," S. Chiruvulu, H.E. Warriner, E. Naranjo, S.H.J. Idziak, J.O. Radler, J.A. Zasadzinski, and C.R. Safinya, Science 266, 1222-1225 (1994). Highlighted in "This Week in Science," Phil Szuromi, Science 266, 1137 (1994). Cited by 110*
- "Study of Flow in a Smectic Liquid Crystal in the X-Ray Surface Forces Apparatus," S.H.J. Idziak, I. Koltover, K.S. Liang, J.N. Israelachvili, and C.R. Safinya, Int. J. Thermo. 16, 299-307 (1995). Cited by 18*
- "The Application of the X-Ray Surface Forces Apparatus (XSFA) to Studies of Confined Complex Fluid Systems," I. Koltover, S.H.J. Idziak, C.R. Safinya, S. Steinberg, J.N. Israelachvili, and K.S. Liang, Mat. Res. Soc. Symp. Proc. 366, 101-112 (1995). Cited by 2*
- "Lamellar Hydrogels: Fluid-Membrane Based Biogels Containing Polymer-Lipids," H.E. Warriner, S.H.J. Idziak, N.L. Slack, P. Davidson and C.R. Safinya, Science 271, 969-973 (1996). Cited by 207*
- "Structure in a Confined Smectic Liquid Crystal with Competing Surface-Sample Elasticities," S.H.J. Idziak, I. Koltover, J.N. Israelachvili, and C.R. Safinya, Phys. Rev. Lett. 76, 1477-1480 (1996). Cited by 69*
- "Structure Under Confinement in a Smectic-A and Lyotropic Surfactant Hexagonal Phase," S.H.J. Idziak, I. Koltover, P. Davidson, M. Ruths, Y. Li, J.N. Israelachvili, and C.R. Safinya, Physica B 221, 289-295 (1996). Cited by 22*

- “Alignment of Complex Fluids Under Confinement and Flow,” I. Koltover, **S.H.J. Idziak**, P. Davidson, Y. Li, C.R. Safinya, M. Ruths, S. Steinberg, and J.N. Israelachvili, J. Phys. II France 6, 893-907 (1996). Cited by 40*
- “Fabrication and Characterization of III-V Compound Semiconductor Bragg-Fresnel Lenses for Hard X-Ray Microfocussing,” E.J. Caine, S. Shi, E.L. Hu, **S.H.J. Idziak**, G. Subramanian, and C.R. Safinya, Microelectronic Engineering 35, 239-247 (1997). Cited by 8*
- “Lamellar Biogels Comprising Fluid Membranes With a Newly Synthesized Class of Polyethylene Glycol-Surfactants,” H.E. Warriner, P. Davidson, N.L. Slack, M. Schellhorn, P. Eiselt, **S.H.J. Idziak**, H.-W. Schmidt, and C.R. Safinya, J. Chem. Phys. 107, 3707-3722 (1997). Cited by 40*
- “Imaging Complex Fluids under Confinement and Flow: Development of Bragg-Fresnel Optics for X-Ray Microdiffraction,” Y. Li, **S.H.J. Idziak**, E. Caine, G. Subramanian, E. Hu, C.R. Safinya, in “Dynamics in Small Confining Systems,” eds. J.M. Drake, J. Klafter, and R. Kopelman, Materials Research Society, Pittsburgh, 301-306 (1997).*
- “The influence of polymer molecular weight in lamellar gels based on PEG-lipids,” H.E. Warriner, S.L. Keller, **S.H.J. Idziak**, N.L. Slack, P. Davidson, J.A. Zasadzinski, and C.R. Safinya, Biophys. J. 75, 272-293 (1998). Cited by 69*
- “Undulating Membrane Structure Under Mixed Extensional-Shear Flow,” **S.H.J. Idziak**, S.E. Welch, M. Kisilak, C. Mugford, G. Potvin, L. Veldhuis, and E.B. Sirota, Eur. Phys. J. E 6, 139-145 (2001). Cited by 16*
- “An x-ray extensional flow cell,” M. Kisilak, H. Anderson, N.S. Babcock, M.R. Stetzer, **S.H.J. Idziak**, and E.B. Sirota, Rev. Sci. Instr. 72, 4305-4307 (2001) Cited by 25*
- “Intermembrane Spacing and Velocity Profiling of a Lamellar Lyotropic Complex Fluid under Flow Using X-Ray Diffraction,” S.E. Welch, M.R. Stetzer, H. Gang, E.B. Sirota, and **S.H.J. Idziak**, Phys. Rev. E 65, 061511 (2002). Cited by 10*
- “Shear Induced Structuring of Edible Fat Crystals,” G. Mazzanti, S.E. Guthrie, E.B. Sirota, A.G. Marangoni, and **S.H.J. Idziak**, Crystal Growth & Design 3, 721 (2003). Cited by 176*
- “Effect of minor components and temperature profiles on polymorphism in milk fat,” G. Mazzanti, S.E. Guthrie, E.B. Sirota, A.G. Marangoni, and **S.H.J. Idziak**, Crystal Growth & Design 4, 1303 (2004). Cited by 75*
- “An x-ray confinement cell for studies of complex fluids under shear and confinement,” B. Nieman, X. Commeinhes, N.S. Babcock, I. Frola, R. Forgett, **S.H.J. Idziak**, and M. Sutton, Rev. Sci. Instrum. 75, 936 (2004). Cited by 5*

- “Novel shear-induced phases in cocoa butter,” G. Mazzanti, S.E. Guthrie, E.B. Sirota, A.G. Marangoni, and **S.H.J. Idziak**, *Crystal Growth & Design* 4, 409 (2004). Cited by 51*
- “An in situ method for observing wax crystallization under pipe flow,” S.E. Guthrie, G. Mazzanti, T.N. Steer, M.R. Stetzer, S.P. Kautsky, H. Merz, **S.H.J. Idziak**, and E.B. Sirota, *Rev. Sci. Instrum.* 75, 873 (2004). Cited by 19*
- “Confinement and Shear Effects on the Structure of a Smectic Liquid-Crystal Complex Fluid,” **S.H.J. Idziak**, in *Soft Materials: Structure*, edited by J. Dutcher and A.G. Marangoni, Marcel Dekker (2004).*
- “Crystallization of bulk fats under shear,” G. Mazzanti, S.E. Guthrie, E.B. Sirota, A.G. Marangoni, and **S.H.J. Idziak**, in *Soft Materials: Structure*, edited by J. Dutcher and A.G. Marangoni, Marcel Dekker (2004). Cited by 15*
- “A Split Rheometer Couette Attachment to Enable Sample Extraction,” S.E. Guthrie and **S.H.J. Idziak**, *Rev. Sci. Instr.* 76, 026110 (2005). Cited by 5*
- “X-ray phase identification of chocolate is possible without the removal of sugar,” S.E. Guthrie, G. Mazzanti, and **S.H.J. Idziak**, *Eur. J. Lipid Sci. Technol.* 107, 656 (2005). Cited by 16*
- “Modeling phase transitions during the crystallization of a multicomponent fat under shear,” G. Mazzanti, A.G. Marangoni, and **S.H.J. Idziak**, *Phys. Rev. E* 71, 041607 (2005). Cited by 99*
- “Synchrotron Advances at the Frontiers of Food Physics: Studies of Edible Fats Such as Chocolate Under Shear,” G. Mazzanti, S.E. Guthrie, A.G. Marangoni, and **S.H.J. Idziak**, *Physics in Canada* 62, 313 (2006). Cited by 8*
- “Encapsulation-structuring of edible oil attenuates acute elevation of blood lipids and insulin in humans,” A.G. Marangoni, **S.H.J. Idziak**, C. Vega, H. Batte, M. Ollivon, P.S. Jantzi, J.W.E. Rush, *Soft Matter* 3, 183 (2007). Cited by 131*
- “A conceptual model for shear-induced phase behavior in crystallizing cocoa butter,” G. Mazzanti, S.E. Guthrie, A.G. Marangoni, and **S.H.J. Idziak**, *Cryst. Growth & Design* 7, 1230 (2007). Cited by 43*
- “Phase Behaviour, Stability and Mesomorphism of Monostearin-oil-water Gels,” H.D. Batte, A.J. Wright, J.W. Rush, **S.H.J. Idziak**, and A.G. Marangoni, *Food Biophysics* 2, 29 (2007). Cited by 102*
- “Effect of Processing Conditions on the Thermal Behaviour, Rheological Properties, and Microstructure of MS-oil-water Gels,” H.D. Batte, A.J. Wright, J.W. Rush, **S.H.J.***

- Idziak**, and A.G. Marangoni, *Food Research International* 40, 982 (2007). Cited by 81
- “Phase transition kinetics of milk fat lipids under shear,” G. Mazzanti, A.G. Marangoni, and **S.H.J. Idziak**, *EPJE* 27, 135 (2008).
- “Effect of food preparation on the structure and metabolic responses to a monostearin-oil-water gel-based spread,” J.W.E. Rush, P.S. Jantzi, K. Dupak, **S.H.J. Idziak**, A.G. Marangoni, *Food Res Int* 41, 1065 (2008). Cited by 33
- “Controlled release of food lipids using monoglyceride gel phases regulates lipid and insulin metabolism in humans,” A.G. Marangoni, **S.H.J. Idziak**, and J.W.E. Rush, *Food Biophysics* 3, 241 (2008). Cited by 28
- “Acute Metabolic Responses to Butter, Margarine, and a Novel Fat-Based Spread,” J.W.E. Rush, P.S. Jantzi, K. Dupak, **S.H.J. Idziak**, A.G. Marangoni, *Food Res Int* 42, 1034-1039 (2009). Cited by 23
- “Synchrotron study on crystallization kinetics of milk fat under shear flow,” G. Mazzanti, A.G. Marangoni, and **S.H.J. Idziak**, *Food Res Int* 42, 682-694 (2009). Cited by 64
- “Effects of Shear Rate Variation on the Nanostructure of Crystallizing Triglycerides,” G. Mazzanti, M. Li, A.G. Marangoni, **S.H.J. Idziak**, *Cryst. Growth & Des.* 11, 4544-4550 (2011). Cited by 47
- “Powder X-ray Diffraction of Triglycerides in the Study of Polymorphism,” **S.H.J. Idziak**, in *Structure-Function Analysis of Edible Fats*, A.G. Marangoni, editor, AOCS Press, Urbana, IL, 79-107 (2012). Cited by 16
- “Markers of Cardiovascular Risk and Metabolism Assessed on Multiple Baseline Occasions and in Response to a Single Fatty Meal in Healthy Young Adults,” P.S. Jantzi, A.G. Marangoni, **S.H.J. Idziak**, and J.W.E. Rush, *Food Digestion* 4, 49-57 (2013). Cited by 2
- “Effects of Rare Earth Oxide Additive on Surface and Tribological properties of Polyimide Composites,” Z.H. Pan, T.C. Wang, L. Chen, **S.H.J. Idziak**, Z.H. Huang, B.X. Zhao, *Applied Surface Science* 416, 536-546 (2017). Cited by 40
- “Powder X-ray Diffraction of Triglycerides in the Study of Polymorphism,” **S.H.J. Idziak**, in *Structure-Function Analysis of Edible Fats*, second edition, A.G. Marangoni, editor, Elsevier, London, UK, 73-100 (2018). Cited by 16
- “Crystallization and melting of highly monodisperse poly(ethylene-oxide),” J. Yin, A. Raegen, **S.H.J. Idziak**, J.A. Forrest, *Soft Matter* 16, 7958-7969 (2020). Cited by 7

Book Chapters

N/A

Articles Submitted for Publication

N/A

(viii) Invited Conference Presentations and Seminars

N/A

(ix) Non-Refereed Contributions: Conference Presentations (posters/ student talks)

N/A

C. TEACHING ACTIVITIES**(i) Courses Taught****Undergraduate Courses**

Course	Title	Year (term)	Enrolment (or range)
PHYS 112	Physics 2	2019-2024	24-224
SCI 206	The Physics of How Things Work	2019-2024	442

D. SERVICE**Information not Provided**

Laura Ingram, Ph.D.

Associate Professor Teaching Stream and Undergraduate Advisor

✉ l Ingram@uwaterloo.ca

SKILLS AND QUALIFICATIONS

- Engaging instructor who promotes and practices evidence-based teaching and learning strategies.
- Successfully integrates educational technologies into the classroom and laboratory.
- Creates high-quality interactive online content according to best-practices for online learning.
- Knowledgeable about current teaching and learning approaches in higher education.

PROFESSIONAL APPOINTMENTS

2024-onward	Associate Professor – Teaching Stream - Department of Chemistry, University of Waterloo First-year coordinator for high-enrollment, multi-section introductory chemistry courses. Academic Advisor for students in Honours Chemistry program Developing in-class learning activities that correlate with evidence-based pedagogical methods
2019 – 2023	Lecturer, Definite Term – Department of Chemistry, University of Waterloo First-year coordinator for high-enrollment, multi-section introductory chemistry courses. Academic Advisor for students in Honours Chemistry program
2018 – 2019	Chemistry Instructor – Department of Chemistry, University of Waterloo Course-coordinator for high-enrollment, multi-section introductory chemistry courses Engaged students by using student response systems to promote in-class participation in multi-section high enrollment introductory courses
2015 – 2018	Chemistry Laboratory Instructor – Department of Chemistry, University of Waterloo Redesigned two laboratory courses to promote critical thinking, problem-solving and procedural design Managed all laboratory operations for multi-section undergraduate laboratory courses
2013	Sessional Instructor – Department of Chemistry, University of Waterloo
2012	Partial Load Faculty – Faculty of Applied Science and Technology, Sheridan College

EDUCATION

2010	Ph.D. in Organic Chemistry (University of Waterloo) Thesis title: <i>The Synthesis of Sulfated Carbohydrates Using a Sulfate Protecting Group Strategy</i> Thesis supervisor: Professor S. D. Taylor
2006	M.Sc. in Organic Chemistry (University of Waterloo) Thesis title: <i>The Synthesis of Sulfated Carbohydrates using 2,2,2-Trichloroethoxysulfonyl Imidazolium Triflates</i> Thesis Supervisor: Professor S. D. Taylor Awarded Dean of Science Award for Research in an M.Sc. Program
2004	B.Sc. in Honours Co-operative Biochemistry (University of Waterloo)

TEACHING EXPERIENCE

Lecture Courses at the University of Waterloo

CHEM 121	Physical and Chemical Properties of Matter (2020 - 2024)
CHEM 125	Chemical Reactions, Equilibria, and Kinetics (2021-2024)
CHEM 120	General Chemistry 1 (2018 - 2024)
CHEM 123	General Chemistry 2 (2010,-2024)
CHEM 266	Basic Organic Chemistry (2013, 2016)

Laboratory Courses at the University of Waterloo

NE 122L	Organic Chemistry Laboratory for Nanotechnology Engineers (2017, 2018)
MNS 201L	Materials and Nanoscience Laboratory (2017)
CHEM 265L	Organic Chemistry Laboratory I (2013, 2016)
CHEM 266L	Organic Chemistry Laboratory I (2018)
CHEM 267L	Organic Chemistry Laboratory II (2019)
CHEM 360L	Senior Organic Chemistry Laboratory (2013, 2016)
CHEM 382L	Advanced Organic Synthesis Laboratory (2013, 2016)

OTHER EDUCATIONAL INITIATIVES

Ongoing

Dean's Undergraduate Teaching Initiative

- Proposal leader for the teaching initiative *"Enhancing active learning in introductory science courses"* in collaboration with colleagues from the Departments of Physics and Biology
- Leading the development of a novel worksheet designed for in-class student engagement and peer-to-peer assessment.
- **Total Funding** for Chemistry based initiative: \$61,904.

Ongoing

Online Content Developer

- Co-leader of the successful application for NSERC PromoScience funding
- Initiated the launch of the website open.science.uwaterloo.ca. (11,551 users with 25,072 sessions as of January 2021)
- Developing online content in collaboration with learning consultants at the University of Waterloo Centre for Extended Learning to ensure digital content is created according to best practices for online pedagogy
- **Total Funding:** \$25,200 in 2018 and \$26,398 in 2019

2010-2019

Chemistry Outreach Coordinator

- Organized "Chemistry Day" hands-on activities for visiting grade 11 and 12 classes
- Supported high school teachers through conference contributions and PD workshops
- Participated in undergraduate recruiting events to provide advice and guidance to potential undergraduate chemistry students
- Hired, trained, and supervised co-op students to support the outreach program

CONFERENCE PRESENTATIONS

- Ingram, L.; and Hill, R. (2023) A Novel Resource for Problem Solving and Peer Evaluation. Western Conference for Science Education. London, ON
- Pantazi, F. and Ingram, L.; (2019) Design and Development of Online STEM content. 6th Annual Digital Pedagogy Institute Conference. University of Waterloo, Waterloo ON.
- Goll, J.; and Ingram, L. (2019) Guiding Students Towards Independent Thought in Chemistry Undergraduate Labs. Western Conference for Science Education. London, ON.
- Ingram, L. Evans, N. and Bissonnette, C. (2018). Our Online Initiative: Interactive Online Resources for Secondary School Chemistry. Association of Teachers Conference – Nova Scotia Teachers Union. Halifax, NS.
- Goll, J. and Ingram, L. (2018) A Flipped Lab: A New Model for Hands on Teaching. University of Waterloo Teaching and Learning Conference. Waterloo, ON.
- Bissonnette, C.; and Ingram, L. (2017) Our Online Experiment: Interactive Learning Resources for STEM Disciplines. Western Conference for Science Education. London, ON.
- Glancing Back and Looking Ahead: Chemistry History, Culture and Outreach. 100th Canadian Chemistry Conference and Exhibition. Toronto, ON. Invited panelist. (2017)
- Ingram, L. and Stathopoulos S. (2016). Taking the Fear out of the First-Year Chemistry Lab. Science Teachers Association of Ontario (STAO) Conference. Toronto, ON.
- Ingram, L.J., Taylor S.D. (2008) Studies Directed Towards the Synthesis of a CS-D Tetrasaccharide. 91st Canadian Society for Chemistry Conference. Edmonton, AB. (Received Poster Presentation award for Biological/Medicinal Chemistry).
- Ingram, L., Taylor, S.D. (2006) The Synthesis of Sulfated Carbohydrates Using 2,2,2-Trichloroethoxysulfuryl Imidazolium Salts. 89th Canadian Society for Chemistry Conference. Halifax, NS. (Received Oral Presentation Award for Organic Chemistry.)
- Ingram, L., Hendel, J., Taylor S.D. (2005) Synthesis of Sulfated Carbohydrates. 88th Canadian Society for Chemistry Conference. Saskatoon, SK. May 28-June 1. (Received Poster Award for Bio-Organic/Medicinal Chemistry.)

PUBLICATIONS

- Ingram, L.J., Taylor, S.D. "Introduction of 2,2,2-Trichloroethyl-Protected Sulfates into Monosaccharides with a Sulfuryl Imidazolium Salt and Applications to the Synthesis of Sulfated Carbohydrates" *Angew. Chem., Int. Ed.*, **2006**, *45*, 3503-3506.
- Ingram, L.J., Desoky, A., Ali, A.M., Taylor, S.D. "O- and N- Sulfations of Carbohydrates using Sulfuryl Imidazolium Salts" *J.Org. Chem.*, **2009**, *74*, 6479-6485. (JOC Featured Article)
- Desoky, A.Y., Hendel, J., Ingram, L.J., Taylor, S.D. "Preparation of Trifluoroethyl- and Phenyl-Protected Sulfates Using Sulfuryl Imidazolium Salts" *Tetrahedron*, **2011**, *67*, 1281-1287.

PROFESSIONAL DEVELOPMENT

The following courses have completed for the purpose of ongoing personal growth and professional development:

- Mental Health Literacy Certificate (University of Waterloo)
- From Remote to Flipped Course Redesign Workshop (University of Waterloo, CTE)
- Teaching Methods (CTE 271)
- Course Design Fundamentals (CTE 642)
- Strategies for Large Classes (CTE 771)
- Introduction to Crowdmark (CTE 766)
- Clickers and REEF polling (CTE 726)
- Getting Started with LEARN (CTE 656)
- Student's Beliefs about Learning (CTE 2241)
- Multimedia Learning Principles (Preconference Workshop, CTE)
- More Feet on the Ground – Suicide Prevention Training (Campus Wellness)

ACCOLADES AND AWARDS

- University of Waterloo WUSA Excellence in Undergraduate Teaching Award (2022)
- Author of three published journal articles (2006, 2009, 2011), one of which was a “Featured Article” in the Journal of Organic Chemistry – 2009
- NSERC Council of Canada Postgraduate Scholarship (Doctoral) – 2007 to 2010
- Dean of Science Award for Outstanding Research in a Chemistry M.Sc. Program – 2007
- University of Waterloo President's Graduate Scholarship – 2007-2010
- University of Waterloo Provost Doctoral Entrance Award – 2007
- Poster Awards for Biological and Medicinal Chemistry – CSC Conference, 2008 and 2005
- Oral Presentation Award for Organic Chemistry – CSC Conference, 2006

Theofanis Kollias

28-19 Corporal Kennedy, Bayside, NY, 11360

Tel: 347-934-1991 (USA), 473-458-2894 (Grenada). E-mail: tkollias@sgu.edu

EDUCATION

St. George's University School of Medicine, Grenada

01/2010 –03/2016

Medical Doctor

University of Missouri, Kansas City, Kansas City, Missouri

08/2002 - 12/2008

B.A., in Chemistry

Honors in Organic Chemistry

Dean's list in 2008

PROFESSIONAL EXPERIENCE

- 06/2021-present: *Deputy Chair for the department of Pharmacology*. St. George's University
- 06/21-present: *Faculty advisor for BIZMED* St. George's University School of Medicine
- 01/2021-present: *Content manager for the department of Pharmacology*. St. George's University
- 08/2018-present: *Instructor for the department of Pharmacology*. St. George's University
- 08/2018-present: *Hippocrates College Director*. St. George's University
- 4/2016-/2019: *Research Fellowship and Teaching Fellowship*. St. George's University
- 6/2010-present: *Clinical Research Society*. St. George's University.
- 7/2012: Oral presentation at American Association of Clinical Anatomists annual conference. St. George's University.

Intercostal to long thoracic nerve transfer for the treatment of winged scapula - Cadaveric feasibility study.

- 05/2011 - 06/2011: *Assisting in OB/GYN procedures*. Rea Maternity Center, Greece

At Rea Maternity Center I was introduced into the operating room and the necessary processes before, during and after several obstetric and gynecological procedures. The procedures varied from open laparotomies to laparoscopies as well as tests regarding female health and certain types screening. In the operating room while assisting the surgeons, I learned the use of a laparoscope and got perform several suturing techniques. In addition, I got the chance to deliver newborns and learn the steps of labor and delivery. My job at Rea was also to explain, in best of my knowledge, to patients and their families the procedure underway as well as providing support to those in distress.

- Writer, reviewer and consultant for USMLE Step 1 online Question Bank for Pastest Ltd, United Kingdom.
- Ad hoc reviewer for *Translational Research in Anatomy* and *Clinical Anatomy*.

RESEARCH

Published Papers

Richard Isaiah Tubbs, James C. Barton III , Caroline C. Watson , Theofanis Kollias , Robert J. Ward , Marios Loukas , Nicholas M. Barbaro , Aaron A. Cohen-Gadol. *A novel method for sciatic nerve decompression: Cadaveric feasibility study with potential application to patients with piriformis syndrome*. *Translational Research in Anatomy* 1 (2015) 40e43

Abstracts cited in Journals

- 1) Hillman D, Kollias T, Louis RG Jr, D'Antoni A, Tubbs RS, Loukas M. *Mapping the contributions of the furcal nerve*. *Clinical Anatomy* (2012) 25:938.
- 2) Riccardi R, Mahalean S, Kollias T, Bubb K, Turner B, Snosek M, Tubbs RS, Loukas M. *High take off coronary arteries and its potential association with sudden cardiac death*. *Clinical Anatomy* (2012) 25:948.
- 3) Kollias T, Louis RG Jr, Tubbs SR, Ellias J, Loukas M. *Intercostal to long thoracic nerve transfer for the treatment of winged scapula: Cadaveric feasibility study*. *Clinical Anatomy* (2012) 25:939.

Book/Chapter contributions

1) *Gray's Clinical Photographic Dissector of the Human Body: with STUDENT CONSULT Online Access*. Elsevier Saunders, Philadelphia. ISBN 978-1-4377-2417-2. 2013

2) *McMinn's Clinical Atlas of Human Anatomy 7th edition*. Elsevier 2013, ISBN-13: 978-0723436973; ISBN-10: 0723436975

3). *A History of Anatomy*. Charles C Thomas, September 2014. ISBN-13: 978-0398081041; ISBN-10: 0398081042

4) *Grays' Anatomy for Students Review Book. 2nd edition*. Elsevier, 2014. ISBN-13: 978-0323277884; ISBN-10: 0323277888

TEACHING EXPERIENCE

- 06/2011 - 07/2011: *Cadaveric Dissection Elective Coordinator*. St. George's University.

Every year our medical school provided an elective dissection course to a medical school from England. Its students were taught various techniques of cadaveric dissection as well as basic anatomy. My duties involved demonstrating several dissecting techniques, individual dissecting, and collaborating with fellow students on variations in anatomy.

- 07/2011 - 08/2011 and 07/2016-08/2016: *Medical Summer Camp Tutor*. St. George's University.

Our medical school provided a summer program for high school and college students in order to gain an experience of Medical School and Medicine in general. My duties involved teaching suturing techniques, important concepts in Medicine, cadaveric dissection as well as advising future medical students.

- 08/2011 - 12/2013: *Surgery Club tutor*.

Our medical school had a weekly Surgery Club, where students had the chance to learn and review several suturing techniques, proper way of scrubbing, gowning and gloving for a procedure as well suturing on cadavers.

VOLUNTEERING EXPERIENCE

- 12/2004 - 06/2009: *Volunteer at the Emergency Department.* Olathe Medical Center , KS, United States.

While in college, I was eager to learn the duties of a doctor. I was fortunate enough to be a volunteer at the Emergency Department. I learned that a doctor, no matter how busy, can still take time to be sympathetic, thorough, and efficient. I was introduced early of the importance of obtaining a detailed medical history, active listening and empathy. My duties as a volunteer included transferring patients to floors, taking blood samples to the lab, and keeping company to patients and their family. I learned how to do stitches, put casts and draw blood. I believe the most valuable lesson I learned during that time is how important every part of the health care team is to overall patient care. The ability of every member, no matter their role, to work together and understand each other has pivotal role in a patient's outcome.

- 06/2010 - 07/2010: *Emergency Response Volunteer.* Health Center of Koropi , Greece.

While vacationing in Greece during Medical School summer break I decided to volunteer at the local Health Center in order to apply all the things I had learned so far in medicine. The Health Center is located in the town where I grew up, it is where my mom took me as a kid when got sick. It is the only Health Center in the vicinity of several miles. It is understaffed and has very few resources. Even though, it's limited capabilities, the nurses, physicians, and rest of staff always made me feel comfortable and safe as a kid. My decision to volunteer at the specific center was to provide an extra hand of help to the staff that always made me feel welcome as a kid. I wanted to learn from the doctors and nurses, and provide the best possible health care to those in need. Greece's economy has been steadily declining in the past 10 years, wages are getting lower, and resources are becoming more limited. My duties involved, history taking, performing physical examination, helping nurses with their tasks, and keeping company to those in pain.

- 06/2012 - 07/2012: *American Association of Clinical Anatomists volunteer.* St. George's University.

The annual meeting of American Association of Clinical Anatomists took place in 2012 in Grenada. My task on this meeting was to welcome all the anatomists from different parts of the world, make them familiar with the island, introduce them to our anatomical facility and describe the aspects of our research.

PROFESSIONAL MEMBERSHIPS/AFFILIATIONS

- St. George's University Surgery Club.
- Cadaver Dissection Elective Coordinator. St. George's University.
- Clinical Research Society. St. George's University.

PERSONAL INTERESTS/HOBBIES

Ancient Greeks used to say “a healthy mind in a healthy body”. Therefore, from a young age and throughout my teenage years, sports were a necessary part of life. I played “European Hand-Ball” and was also fortunate enough to be part of Greece’s National Hand-Ball team for four consecutive years. Now days, in my free time I always try to find teams that play European Hand-Ball that I can join and play as a recreational sport. Even though medicine requires countless hours of service to others, I believe that personal health is a very important component of a physician’s overall wellbeing. This is why exercising and staying healthy has become an essential part of my life. I also enjoy extreme sports such as snowboarding and aggressive inline skating.

As humorous as it may sound, when I moved to the United States from my home country at the age of seventeen and being away from all the comforts a loving mother provides for her son, I was forced to learn how to fend for myself. Being raised on home-cooked meals I tried to do the same for myself. I have to admit that it took a lot of trial and error before I could enjoy a self-made meal. However, an enthusiasm for the culinary delights was created. I have found out that the process of creating something flavorsome from raw materials not only requires peacefulness and harmony but also provides it. Therefore, I often like to prepare and try to make new types of food not only for myself but for family and friends. My parents strongly believe that good food and pleasant company is a universal tool that brings all people together. They have not being wrong so far, so I will try and do the same.

Curriculum Vitae

Laura J. Lemieux

A. PERSONAL DATA

Address Dept. of Biology, University of Waterloo
Waterloo, Ontario, N2L 3G1, Canada
Tel: 519-888-4567, Ext. 38067
Email: ljlemieux@uwaterloo.ca
<https://uwaterloo.ca/biology/people-profiles/laura-j-lemieu>

Date of Birth 10 June 1962

Citizenship American/Canadian

Education

1980-1982 Lake Forest College

1982-1985 B.Sc., Biochemistry, University of Kentucky, Lexington, KY

1991 Ph.D., Biochemistry, University of Illinois, Urbana, IL

Academic Appointments

1991-1992 Postdoctoral Research Associate, University of Illinois

1991 Visiting Research Associate, European Molecular Biology
Laboratory, Heidelberg, Germany

1992-1993 Postdoctoral Research Associate, Queen's University

1993-1995 Alzheimer's Society of Canada Postdoctoral Research Fellow,
Queen's University

1995 Adjunct Teaching Professor, General Chemistry, Queen's
University

1995-1999 Lab Manager for in vivo testing, Neurochem Inc.

1998-2001 Part time and partial load Professor, Biotechnology,
St Lawrence College

2001-2015 Professor, Biotechnology, St Lawrence College

2015- present Continuing Lecturer, (now Associate Professor Teaching Stream), Biology, University of Waterloo

Scholarships and Awards

1993-1995 Alzheimer's Society of Canada Postdoctoral Research Fellow
5/2019-8/2019 DUTI (Deans Undergrad Teaching Innovation) grant to design CRISPR active learning component in Biotechnology II Course

5/2019-8/2019 DUTI (Deans Undergrad Teaching Innovation) grant to design CRISPR active learning component in Biotechnology II Course

2023 Biology Jack Carlson Teaching Excellence Award

2024 Staebler Insurance OER Fellows Grant

B. RESEARCH AND SCHOLARSHIP

(i) Research Grants (*starting with most recent including grants submitting*)

2019-now Working with Moira Glerum's research group on CRISPR mutations in PIC2, research on copper transport in yeast

2014-2015 NSERC, ARD1 Grant - **\$25,000**, "Cell Production Augmentation Techniques" **(PI)**

2014-2015 Ontario Centre for Excellence - **\$20,000**, "Cell Production Augmentation Techniques" **(PI)**

2014-2015 Octane Biotech Inc. - **\$5,010** (cash), "Cell Production Augmentation Techniques" **(PI)**

2014-2015 Octane Biotech Inc. - **\$113,280** (in-kind), "Cell Production Augmentation Techniques" **(PI)**

(ii) Research Contracts

NA

(iii) Graduate Student Supervision

NA

(iv) PDFs/Research Associates Supervision

NA

(v) Undergraduate Supervision

NA

(vii) Publications**Lifetime Summary**

	First or Corresponding Author	Co-Author	Total
Chapters in Books and monographs	0	0	0
Refereed Journal Articles	2	20	22
Conference Presentations (Posters)	0	0	0
Invited Addresses (Talks/ Seminars)	0	0	0
Citations (from Google Scholar)	137	2541	2678

Refereed Journals

R. Kisilevsky, **L. Lemieux**, L. Boudreau, Y. Dunsheng, and P. Fraser. "New Clothes for Amyloid Enhancing Factor (AEF): Silk as AEF." *Amyloid* (1999), Vol. 6, pp. 98-106.

Svensson, M., Hallen, S., Thomas, J. W., **Lemieux, L.**, Gennis, R. B., and Nilsson, T. "Oxygen Reaction and Proton Uptake in Helix VIII of Cytochrome bo3." *Biochemistry* (1995), Vol. 34, pp. 5252-5258.

M.W. Calhoun, **L.J. Lemieux**, J.A. Garcia-Horsman, J.W. Thomas, J.O. Alben, and R.B. Gennis. "The highly conserved methionine of subunit I of the heme-copper oxidases is not at the heme-copper binuclear center: mutagenesis of M110 in subunit I of cytochrome bo3-type ubiquinol oxidase from *Escherichia coli*." *FEBS Letters* (1995), Vol. 368, pp. 523-525.

R. Kisilevsky, **L. Lemieux**, P. Fraser, X. Kong, P. Hultin, and W. Szarek. "Arresting Amyloidosis in vivo Using Small-molecule anionic sulphonates or sulphates: Implications for Alzheimer's Disease." *Nature Medicine* (1995), Vol. 1, pp. 143-148.

- J.W. Thomas, M.W. Calhoun, **L.J. Lemieux** et al. "Site-Directed Mutagenesis of Residues Within Helix-VI in Subunit I of the cytochrome bo Ubiquinol Oxidase from Escherichia coli." Biochemistry (1994), Vol. 33, pp. 13013-13021.*
- J.P. Hosler, S. Ferguson-Miller, M.W. Calhoun, J.W. Thomas, J. Hill, **L. Lemieux**, J. Ma, C. Georgiou, J. Fetter, J. Shapleigh et. al. "Insight into the Active-Site Structure and Function of Cytochrome Oxidase by Analysis of Site-Directed Mutants of Bacterial Cytochrome aa3 and cytochrome bo." Journal of Bioenergetics and Biomembranes (1993), Vol. 25 no.2, pp. 121-136.*
- J. Ma, **L. Lemieux**, and R.B. Gennis. "Genetic Fusion of Subunits I, II, and III of the Cytochrome bo Ubiquinol Oxidase from Escherichia Coli results in a Fully Assembled and Active Enzyme." Biochemistry (1993), Vol. 32, pp. 7692-7697.*
- J.W. Thomas, **L. Lemieux**, J.O. Alben, and R.B. Gennis. "Site-directed Mutagenesis of Highly Conserved Residues in Helix VIII of Subunit I of the Cytochrome bo Ubiquinol Oxidase from Escherichia coli: an Amphipathic Transmembrane Helix that may be Important in Conveying Protons to the Binuclear Center." Biochemistry (1993), Vol. 32, pp. 11173-11180.*
- M. Calhoun, J. Hill, **L. Lemieux**, W.J. Ingledew, J. Alben, and R.B. Gennis. "Site-directed Mutants of the Cytochrome bo Ubiquinol Oxidase of Escherichia coli: Amino Acid Substitutions of two Histidines that are Putative CuB Ligands." Biochemistry (1993), Vol. 32, pp. 11524-11529.*
- M. Calhoun, **L. Lemieux**, J. Thomas, J. Hill, V. Goswitz, J. Alben, and R.B. Gennis. "Spectroscopic Characterization of Mutants Supports the Assignment of Histidine-419 as the Axial Ligand of Heme o in the Binuclear Center of the Cytochrome bo Ubiquinol Oxidase from Escherichia coli." Biochemistry (1993), Vol. 32, pp. 13254-13261.*
- M. Calhoun, **L. Lemieux**, J. Thomas et. al. "Ligands for the prosthetic groups of Cytochrome o complex Oxidase complex of Escherichia coli." FASEB Journal (1992), Vol. 6, Issue 1, p. A193.*
- J. van der Oost, P. Lappalainen, A. Musacchio, A. Warne, **L. Lemieux**, J. Rumbley, R. Gennis, R. Aasa, T. Pascher, B. Malmstrom, and M. Saraste. "Restoration of a Lost Metal-binding Site: Construction of Two Different Copper Sites into a Subunit of the E. coli Cytochrome o Quinol oxidase Complex." The EMBO Journal (1992), Vol. 11, pp. 3209-3217.*
- J. Hill, V. Chepuri-Goswitz, M. Calhoun, **L. Lemieux**, J.O. Alben, and R.B. Gennis. "Demonstration by FTIR that the o-type Ubiquinol Oxidase of Escherichia coli Contains a Heme-copper Binuclear Center Similar to that in Cytochrome c Oxidase and that Proper Assembly of the Binuclear Center Requires the cyoE Gene Product." Biochemistry (1992), Vol. 31, pp. 11435-11440.*

- L.J. Lemieux**, M.W. Calhoun, J. Thomas, W.J. Ingledew, and R.B. Gennis. "Determination of the Ligands of the Low-Spin Heme of the Cytochrome o Ubiquinol Oxidase Complex Using Site-Directed Mutagenesis." *Journal of Biological Chemistry* (1992), Vol. 267, pp. 2105-13.
- M. Saraste, L. Holm, **L. Lemieux**, M. Lubben, and J. van der Oost. "Structural features of cytochrome oxidase." *Q. Rev. Biophys* (1991), Vol. 23, pp. 331-366.
- V. Chepuri, **L.J. Lemieux**, J. Hill, J. Alben, and R.B. Gennis. "Recent Studies of the Cytochrome o Terminal Oxidase Complex of Escherichia coli." *Biochim. Biophys. Acta* (1990), Vol. 1018, pp. 124-127.
- H. Nakamura, I. Yamato, Y. Anraku, **L.J. Lemieux**, and R.B. Gennis. "Expression of cyoA and cyoB Demonstrates that the CO-binding Heme Component of the Escherichia coli Cytochrome o Complex is in Subunit I." *Journal of Biological Chemistry* (1990), Vol. 265, pp. 11193-11197.
- V. Chepuri, **L.J. Lemieux**, D.C.T. Au, and R.B. Gennis. "The Sequence of the cyo Operon Indicates Substantial Structural Similarities Between the Cytochrome o Ubiquinol Oxidase of Escherichia coli and the aa3-type Family of Cytochrome c Oxidases." *Journal of Biological Chemistry* (1990), Vol. 265, pp. 11185-11192.
- M. Saraste, L. Holm, **L. Lemieux**, M. Lübben, J. van der Oost. "The happy family of cytochrome oxidase." *Biochemical Society Transactions* (1991), Vol. 19 (3), 608-612.
- L. Lemieux**, V. Chepuri, T. Dueweke, H. Fang, C. Georgiou, and R.B. Gennis. "Recent Studies on the Structure of the Two Terminal Oxidases of Escherichia coli." *Highlights Modern Biochemistry* (1989), Vol. 1, pp. 829-836.
- T.E. Allen, E.V. Henschel, T. Coons, **L. Cross**, J. Conley, and B. Ullman, "Purification and Characterization of the Adenine Phosphoribosyltransferase and HypoxanthineGuanine Phosphoribosyltransferase Activities from Leishmania donovani." *Mol. Biochem. Parasito* (1989), Vol. 3, pp. 273-281.
- M. Saraste, M. Raitio, T. Jalli, V. Chepuri, **L.J. Lemieux**, and R.B. Gennis. "Cytochrome o from Escherichia coli Is Structurally Related to Cytochrome aa3." *Cytochrome Oxidase: Structure, Function, and Physiopathology. Annals of the New York Academy of Science* (1988), Vol. 550, pp. 314-324.

Book Chapters

NA

Articles Submitted for Publication

NA

(viii) Invited Conference Presentations and Seminars

NA

(ix) Non-Refereed Contributions: Conference Presentations (posters/ student talks)

NA

C. TEACHING ACTIVITIES**(i) Courses Taught****Undergraduate Courses**

Course	Title	Year (term)	Enrolment (or range)
BIOL 239	Genetics (in person, online during covid)	2016, 2017, 2018, 2021, 2023 (S)	200-250
BIOL 239	Genetics Online	2015 – 2024(F)	83-250
BIOL 335L	Molecular Biology Techniques	2016- 2024(F,W)	25-66
BIOL 432	Biotechnology II	2015 – 2024 (W)	80-90
BIOL 433	Plant Biotechnology	2015 – 2024(F)	35
BIOL 483	Animal Cell Biotechnology	2015 – 2024(W)	34-84
CHEM 253	Biochemistry	1998 - 2014	33
INST 1	Instrumental Analytical Techniques	2001 - 2014	30
ANIM 310	Research Techniques II	2010 - 2015	30
BIOL 360	Applied Immunological Techniques	2010 - 2015	30
BIOL 240	Immunology	2004 - 2014	30
CHEM 252	Analytical Methods: Food & Drug	2001 - 2015	30
ANIM 207	Research Techniques 1	2001 - 2010	30

D. SERVICE

(i) Professional Activities

Journal Editorship

NA

Scientific Advisory Committees

NA

Public Relations

NA

Paper/Grant Reviews

NA

PhD External Examiner

NA

MSc External Examiner

NA

Tenure Review

NA

(ii) University Committees

Science Faculty Committee on Student Appeals (FCSA) 2019- present

Biology's Representative for FAUW 2018- 2022

(iii) Departmental Committees

Member of DACA (Department Advisory Committee on Appointments) hiring 2 new Lecturers for the Biology department. 2024

Biochemistry Curriculum committee 2022-present

Member of the Biology Social Committee 2015-2020

PhD Supervisory and/or Comprehensive Exam Committees

1/2024- present Chenelle Caron-Godon (M. Glerum)

7/2019-12/2019 Teshanger Bitew Kefale (Trevor Charles)
(replacement for Moira Glerum)

MSc Supervisory Committees

7/2020-21	Lucia Liao (Dale Martin)
7/2022- 12/2023	Chenelle Caron-Godon (Moiria Glerum)
1/2024 – present	Anastasiia Kurnosova (Moiria Glerum)

(iv) Other Service-related Activities

At the University of Waterloo

- 2015-2020 Advisor for students for Conestoga College for Biotechnology joint degree diploma program.
- 2018- present Co-op Coordinator and Advisor for Biology
- 2016-2017 Co-op marking group Biology
- 2018- 2024 Biology Library representative
- 2022-present Biochemistry Advisor
- 2023- present Peer Reviewer for Biology
- 2022- present Development of new molecular biology lab course (Biol 235) to replace (Biol 309) and working on integrating curriculum in various courses

Prior service-related work at St. Lawrence College (Biotechnology)

- 2002-2006 Animal Care Committee
- 2003-2006 Applied Research Committee
- 2012 DACA –hiring new professor for Biotechnology
- 2013 Committee Mapping Biotech Learning Outcomes with Courses
- 2014 Development of articulation agreement between Queen’s University Chemistry Department and St. Lawrence College Biotechnology Diploma program
- 2014-2015 Development of 5-year joint Degree/Diploma program between Queen’s University Biology Department and St. Lawrence College Biotechnology Diploma program

Curriculum Vitae

Jaqueline MacDonald

A. PERSONAL DATA

Address Dept. of Biology, University of Waterloo
Waterloo, Ontario, N2L 3G1, Canada
Tel: 519-888-4567, Ext. 41328
Email: j4macdonald@uwaterloo.ca
<https://uwaterloo.ca/biology/contacts/jacqueline-macdonald>

Date of Birth Not Provided

Citizenship Not Provided

Education

2000-2004 B.Sc. Honours Genetics, University of Western Ontario

2004-2006 Master of Biotechnology, University of Toronto

2007-2012 Ph.D. in Chemical Engineering and Applied Chemistry,
University of Toronto

Academic Appointments

2006-2008 Research Assistant, University of Toronto

2006-2011 Teaching Assistant, University of Toronto

2012-2016 Postdoctoral Fellow, Agriculture and Agri-Food Canada

2016-2022 Assistant Professor, Western University

2016-2022 Professor, Fanshawe College

2022-present Assistant Professor, University of Waterloo

Sabbatical Leaves

NA

Scholarships and Awards

2012-2015	NSERC Visiting Fellowship, \$150,000
2011-2012	Biozone Graduate Scholarship, \$3,000
2011-2012	McAllister Graduate Fellowship, \$2,500
2010-2011	Doctoral Completion Award, \$3,560
2008-2009	Ontario Graduate Scholarship in Science and Technology, \$15,000
2007-2008	University of Toronto Open Fellowship, \$19,000
2000-2004	Dean's Honor List (all 4 years)
2000-2001	Western Scholar Award, \$750

B. RESEARCH AND SCHOLARSHIP

(i) Research Grants (*starting with most recent including grants submitting*)

NA

(ii) Research Contracts

NA

(iii) Graduate Student Supervision

2015 **Supervisor of Masters Student Internship (under the PI, maybe not official. I trained the student on performing lab experiments, helped her plan experiments and interpret results, and provided feedback on written reports and presentations.)** Agriculture and Agri-Food Canada, London, Ontario. I don't remember the title of her project.

(iv) PDFs/Research Associates Supervision

NA

(v) Undergraduate Supervision

2008-2010 Supervisor of Undergraduate Projects – 2 of them, again under the PI and I don't remember their project names. I helped the students plan experiments and

interpret results, and provided feedback on written reports. University of Toronto -
Department of Chemical Engineering & Applied Chemistry

(vii) Publications

Lifetime Summary

	First or Corresponding Author	Co-Author	Total
Books edited	2	0	0
Refereed Journal Articles	8	12	20
Conference Presentations (Posters)	5	0	0
Conference Presentations (Oral)	3	0	0
Citations (from Scopus)	941	500	1441

Refereed Journals

- Li MSM, Piccoli DA, McDowell T, **MacDonald J**, Renaud J, Yuan ZC (2021)
Evaluating the biocontrol potential of Canadian strain *Bacillus velezensis* 1B-23 via its surfactin production at various pHs and temperatures. BMC Biotechnology 21, 31.
- Ho MT, Li MSM, McDowell T, **MacDonald J**, Yuan ZC (2020) Characterization and genomic analysis of a diesel-degrading bacterium, *Acinetobacter calcoaceticus* CA16, isolated from Canadian soil. BMC Biotechnology 20, 39.
- You M, Fang S, **MacDonald J**, Xu J, Yuan ZC (2020). Isolation and characterization of *Burkholderia cenocepacia* CR318, a phosphate solubilizing bacterium promoting corn growth. Microbiological Research 233,126395.
- Laird M, Piccoli D, Weselowski B, McDowell T, Renaud J, **MacDonald J**, Yuan ZC (2020). Surfactin-producing *Bacillus velezensis* 1B-23 and *Bacillus* sp. 1D-12 protect tomato against bacterial canker caused by *Clavibacter michiganensis* subsp. *michiganensis*. Journal of Plant Pathology 102, 451-458.
- Nathoo N, **MacDonald J**, Weselowski B, Yuan ZC (2019). Comparative transcriptomic analysis reveals different responses of *Arabidopsis thaliana* roots and shoots to infection by *Agrobacterium tumefaciens* in a hydroponic co-cultivation system. Physiological and Molecular Plant Pathology 106, 109-119.
- Grady EN, **MacDonald J**, Ho MT, Weselowski B, McDowell T, Solomon O, Renaud J, Yuan ZC (2019). Characterization and complete genome analysis of the

- surfactin-producing, plant-protecting bacterium *Bacillus velezensis* 9D-6. BMC Microbiology 19, 5.
- Nandi M, **MacDonald J (co-first author)**, Liu P, Weselowski B, Yuan ZC (2018). *Clavibacter michiganensis* subsp. *michiganensis*: bacterial canker of tomato, molecular interactions and disease management. Molecular Plant Pathology 19, 2036-2050.
- Miletic S, Hunerberg M, Kaldis A, **MacDonald J**, Leuthreau A, Alister T, Menassa R (2017). A plant-produced subunit vaccine reduces shedding of enterohemorrhagic *Escherichia coli* in ruminants. Biotechnology Journal 12, 1700405.
- MacDonald J**, Miletic S, Gaildry T, Chin-Fatt A, Menassa R (2017). Co-expression with the type 3 secretion chaperone CesT from enterohemorrhagic *E. coli* increases accumulation of recombinant Tir in plant chloroplasts. Frontiers in Plant Science 8, 283.
- Nathoo N, Bernards MA, **MacDonald J**, Yuan ZC (2017). A hydroponic co-cultivation system for simultaneous and systematic analysis of plant-microbe molecular interactions and signaling. Journal of Visualized Experiments 125, e55955.
- Grady EN, **MacDonald J (co-first author)**, Liu L, Richman A, Yuan ZC (2016). Current knowledge and perspectives of *Paenibacillus*: a review. Microbial Cell Factories 15, 203.
- Weselowski B, Nathoo N, Eastman AW, **MacDonald J**, Yuan ZC (2016). Isolation, identification and characterization of *Paenibacillus polymyxa* CR1 with potentials for biopesticide, biofertilization, biomass degradation and biofuel production. BMC Microbiology 16, 244.
- MacDonald J**, Goacher RE, Abou-Zaid M, Master ER (2016) Comparative analysis of lignin peroxidase and manganese peroxidase activity on coniferous and deciduous wood using ToF-SIMS. Applied Microbiology and Biotechnology 100, 8013-8020.
- Topp E, Irwin R, McAllister TA, Lessard M, Joensuu JJ, Kolotilin I, Conrad U, Stoger E, Mor T, Warzecha H, Hall JC, McLean MD, Cox E, Devriendt B, Potter A, Depicker A, Viridi V, Holbrook L, Doshi K, Dussault M, Friendship R, Yarosh O, Yoo HS, **MacDonald J**, Menassa R (2016) The case for plant-made veterinary immunotherapeutics. Biotechnology Advances 34, 597-604.
- MacDonald J**, Doshi K, Dussault M, Hall JC, Holbrook L, Jones G, Kaldis A, Klima CL, Macdonald P, McAllister T, McLean MD, Potter A, Richman A, Shearer

H, Yarosh O, Yoo HS, Topp E, Menassa R (2015) Bringing plant-based veterinary vaccines to market: Managing regulatory and commercial hurdles. Biotechnology Advances 33, 1572-1581.

MacDonald J, Master ER (2012) Time-dependent profiles of transcripts encoding lignocellulose- modifying enzymes of the white rot fungus *Phanerochaete carnosae* grown on multiple wood substrates. Applied and Environmental Microbiology 78, 1596-1600

MacDonald J, Suzuki H, Master ER (2012) Expression and regulation of genes encoding lignocellulose- degrading activity in the genus *Phanerochaete*. Applied Microbiology and Biotechnology 94, 339-351.

Suzuki H, **MacDonald J**, Syed K, Salamov A, Hori C, Aerts A, Henrissat B, Wiebenga A, vanKuyk PA, Barry K, Lindquist E, LaButti K, Lapidus A, Lucas S, Coutinho P, Gong Y, Samejima M, Mahadevan R, Abou-Zaid M, de Vries RP, Igarashi K, Yadav JS, Grigoriev IV, Master ER (2012) Comparative genomics of the white-rot fungi *Phanerochaete carnosae* and *Phanerochaete chrysosporium* to elucidate the genetic basis of the distinct wood types they colonize. BMC Genomics 13, 444.

MacDonald J, Doering M, Canam T, Gong Y, Guttman DS, Campbell MM, Master ER (2011) Transcriptomic responses of the softwood-degrading white-rot fungus *Phanerochaete carnosae* during growth on coniferous and deciduous wood. Applied and Environmental Microbiology 77, 3211-3218.

Koehler A, Desser S, Chang B, **MacDonald J**, Tepass U, Ringuette M (2009) Molecular evolution of SPARC: absence of the acidic module and expression in the endoderm of the starlet sea anemone, *Nematostella vectensis*. Development Genes and Evolution 219, 509-521.

Books Edited

MacDonald J, ed. (2018). Prospects of Plant-Based Vaccines in Veterinary Medicine. Springer International Publishing AG, Cham, Switzerland.

MacDonald J, Kolotilin I, Menassa R, eds. (2016). Recombinant Proteins from Plants: Methods and Protocols. Springer Science+Business Media LLC, New York, NY.

Articles Submitted for Publication

NA

(viii) Conference Presentations and Seminars

Presentation: “Two-stage testing and use of IF-AT cards.”

University of Waterloo 15th Annual Teaching and Learning Conference, Waterloo, Ontario. May 2024.

*Workshop Lead: "Writing a review paper on vaccine commercialization."
Plant Made Vaccine Workshop, Canadian Society of Microbiologists and the OECD,
London, Ontario. September 2013.*

*Invited Talk: "Peer-evaluated writing experiences in STEM settings."
UW Active Learning Across Disciplines lunchtime workshop series, University of
Waterloo. June 25, 2018.*

(ix) Non-Refereed Contributions: Conference Presentations (posters/ student talks)

Poster: "Addressing low accumulation of recombinant E. coli antigens in transplastomic tobacco." Plant-Based Vaccines, Antibodies and Biologics Meeting, Lausanne, Switzerland. June 2015.

Poster: "Engineering tobacco chloroplasts and mitochondria using cell-penetrating peptides." 3rd International Symposium on Chloroplast Genomics and Genetic Engineering, New Brunswick, New Jersey, USA. May 2013.

Poster: "Time-dependent profiles of transcripts encoding lignocellulose-modifying enzymes of the white rot fungus Phanerochaete carnosae grown on multiple wood substrates." 26th Fungal Genetics Conference, Asilomar, California. March 2011.

Poster: "Analysis of gene expression in the white-rot fungus Phanerochaete carnosae grown on hardwood and softwood." Society for Industrial Microbiology 32nd Annual Symposium on Biotechnology for Fuels and Chemicals, Clearwater, Florida, USA. April 2010.

Poster: "Time- and substrate-dependent transcript profiles of genes encoding lignocellulose-modifying enzymes in the softwood-degrading fungus Phanerochaete carnosae." Gordon Research Conference: Cellulosomes, Cellulases & Other Carbohydrate Modifying Enzymes, Andover, New Hampshire, USA. July 2009.

C. TEACHING ACTIVITIES**(i) Courses Taught (past 7 years****Undergraduate Courses**

Course	Title	Year (term)	Enrolment (or range)
241	Introduction to Applied Microbiology	2023W, 2023S	
447	Environmental Microbiology	2022F, 2023F, 2024F	160
345	Microorganisms in Food	2022F, 2023F, 2024F	96
449	Public Health Microbiology	2023W	129
239	Genetics	2024W	
475	Current Topics in Microbiology	2024W	35
Bio 4338G	Advanced Developmental Biology	2017W	20
Bio 4608G	Environmental Plant Physiology	2022W	30
Bio 1202B	General Biology II	2020W	622
EnvirSci 3300F	Natural Science of Environmental Problems	2016F	42
Bio 4998E	Synthetic Biology	2019- 2020F/W, 2021- 2022F/W	10
Nursing 2240A	Ways of Knowing: Data Analysis	2017F, 2018F, 2019F, 2020F, 2021F	120
Biol 7006	Applied Molecular Genetics	2021W, 2022W	
Chem 7001	Biochemistry	2017W, 2021W	
Sfty 7002	Biosafety & Regulatory Affairs		
Biol 7005	Industrial Microbiology	2016F, 2017F, 2018F, 2019F, 2020F, 2021F	
Biol 7003	Introduction to Microbiology	2020W	
Sfty 7001	Occupational Health and Safety	2017W, 2018W	
Biol 3001	Plant & Animal Anatomy and Physiology	2020W	
Anat-1012	Anatomy and Physiology	2018W	
Biol 3010	Bacteriology	2017S	
Biol 3014	Techniques in Plant Agriculture	2017S	

Graduate Courses

Course	Title	Year (term)	Enrolment (range)
MMASC 9254B	Data Analytics for Applied Scientists	2021W 2022W	26
EnvirSust 9430Y	Interdisciplinary Research Seminar		
Nursing 9611	Statistical Analysis & Application	2019F	35

D. SERVICE**(i) Professional Activities****Journal Editorship**

NA

Scientific Advisory Committees

NA

Public Relations

NA

Paper/Grant Reviews

NA

PhD External Examiner

NA

MSc External Examiner*Biology, University of Cape Town, South Africa*

2017

Tenure Review*Evaluator of Research and Professional Activity,
Czech Academy of Sciences, Czech Republic.*

2020.

(ii) University Committees

NA

(iii) Departmental Committees*Biology Addendum Committee Member, University of Waterloo.*

2023 – present.

Biology Curriculum Committee Member, University of Waterloo. 2023 – present.

Bio Med Curriculum Committee Member, University of Waterloo. 2022 – 2024.

Biotechnology Program Mapping Participant, 2017.
Fanshawe College, London, Ontario.

PhD Supervisory and/or Comprehensive Exam Committees
NA

MSc Supervisory Committees
2022-present Alyssa Graham

(iv) Other Service-related Activities

Scientist Mentor, PlantingScience.org. 2016.

Science Career Mentor, Women in Science
and Engineering Mentorship Program. 2016.

Science Career Mentor, London-Middlesex
Immigrant Employment Council, London, Canada. 2015-2016.

Curriculum Vitae
Dr. Mary Christine Maj, Ph.D. Biochemistry
1024 Helena Street,
Burlington, ON, Canada, L7R 3V6
(905) 637-7625
Email: mary.c.maj@gmail.com

Current Employment

July 2011-Present **St. Georges University, School of Medicine, Associate Professor**
Department of Biochemistry
Discipline Manager: Genetics, Appointed July 2021
Deputy Chair Biochemistry Department, Appointed July 2021

September 2017- July 2021	Laboratory Director for Biochemistry Department Teaching Lab
January 2019 to July 2021	Course Director for Genetics, BIOL320
August 2020 to July 2021	Charter Foundation Program Faculty Advisor
January 2017 to July 2021	Term 1 and 2 Faculty Advisor Post Exam Advising
January 2017 to June 2017	Course Director for Biochemistry, CHEM 450/451
January 2012 to January 2017	Course Director for Molecular Biology, BIOL 321/331

Regular Teaching assignments

School of Medicine: Term 1 and 2, Biochemistry and Genetics lectures
Arts and Science: Molecular Biology, Biochemistry, Genetics and
Cell Biology lectures

St. George's University Service

January 2020 to Present	SOM Subcommittee for Promotions Chair
January 2016-to Present	SOM Judiciary Committee Chair
February 2015 to October 2018	Curriculum Committee Member
July 2014 to August 2018	Faculty Affairs Committee Member
August 2011 to Present	Women in Medicine Faculty Advisor (support for the WIM students attending AMSO health fairs 2X per semester)

Past Assignments

Fall 2014	Pathophysiology Review Committee
Fall 2012	Student Affairs Committee Replacement for a member who left island

Past Employment

July 2010-June 2011	Metabolic Research Programme, Research Consultant
July 2007-June 2010	The Hospital for Sick Children, CCMG Biochemical Genetic Fellow Division of Metabolic and Genetics and The Department of Pediatric Laboratory Medicine

Supervisor: Dr. John W. Callahan, Dr. Annette Feigenbaum, Dr. Brian H.
Robinson and Dr. Lianna Kyriakopoulou

Biochemical genetics is the study of disease, from gene to protein. It is the branch of medicine concerned with the study of inborn errors of metabolism for the purposes of diagnosis and management of patient with inherited metabolic disease. It includes the study of oxidative phosphorylation, lipids/lipoproteins, cholesterol/sterols, lysosomal and peroxisomal metabolism, posttranslational modification, purines/pyrimidines, porphyrins, phosphate and bone metabolism, trace metal metabolism.

Project Titles: 1. The effects of oxidative stress on fibroblasts derived from patients with early onset Parkinson's Disease due to mutation in *PINK1*.
2. Pyruvate dehydrogenase phosphatase deficiency
3. Correction of mitochondrial defects with 4 natural & FDA approved compounds
4. Novel presentation of adult onset Niemann-Pick C

August 2002-June 2010 The Hospital for Sick Children, Post-doctoral Fellow

Metabolic Research Programme

Supervisor: Dr. Brian H. Robinson

Project Titles: 1. Mitochondrial dysfunction of a Parkinson's patient with pathogenic mutation in the *PINK1* gene
2. The regulation of pyruvate dehydrogenase activity by kinases and phosphatases
3. High throughput screening of enhancers of metabolism

Education

1996-2002	McMaster University, Ph.D. Biochemistry Thesis Advisor: Radhey S. Gupta <i>Thesis title:</i> The structure and function of mammalian adenosine kinase.
1994-1996	Brock University, M.Sc. Biological Sciences Thesis Advisor : Peter Nicholls <i>Thesis title:</i> A comparative study of protoheme and heme d catalases: Role of the heme pocket in catalysis and ligand binding
1989-1994	Brock University B.Sc. (Hons.) Combined Biology and Chemistry

Awards

1. USGA Most Outstanding Faculty Member in the Pre-Professional Program Spring 2014
2. Ministry of Health, Ontario Laboratory Genetics Traineeship Award for the Canadian College of Medical Genetics Accreditation in Biochemical Genetics (July 2007-2010)
3. Heart and Stroke Foundation of Canada, Post-doctoral Fellowship (Sept. 2002-2004)
4. Heart and Stroke Foundation of Canada, Research Traineeship Award (July 1997-June 2001)
5. Young Investigator Award, Annual Meeting of Computational Biology (1995)
6. Women in Science Award, Brock University (1994)

CME

Advancing Cervical Screening in Grenada, St. Georges University, January 23, 2016

New Developments in Genetics and Clinical Applications of Genomics, St. Georges University Oct. 2&3rd, 2014

Genomics in the Medical Curriculum, St. Georges University, October 4th, 2014

Research Interests

My research interests involve all levels of metabolic disease: from clinical presentation; through biochemical derangement; interpretation of biochemical markers to identify the defect(s) leading to disease pathology; characterization of the enzymatic defect; though to correction of the defect in models of disease. Through academic and research activities, I have acquired extensive knowledge in many aspects of metabolism with particular focus on mitochondria. I am well versed in the biochemical basis of diseases and clinical investigation of inborn errors of metabolism.

The Biochemistry Department at St. Georges University is interested in assisting local physicians identify and diagnose genetic diseases found in Grenada. While many of these disorders have no cure, many of the clinical features of genetic diseases can be understood and symptoms ameliorated with appropriate therapy or pharmaceuticals.

In partnership with Senior Scientist Dr. Brian Robinson at The Hospital for Sick Children, I am owner of intellectual property with a provisional patent for four compounds which increase mitochondrial oxidative phosphorylation. These compounds are either FDA approved drugs or natural products. We would like to proceed to clinical trials with the most promising and well studied of the four compounds. We are also proceeding with studies to determine the mechanism of activity for each of the four compounds.

I also have experience as project manager for a large team of scientists who collaboratively conferred their expertise to complete the cutting edge study “Disruption of a mitochondrial RNA binding protein gene results in decreased cytochrome b expression and a marked reduction in ubiquinol-cytochrome c reductase activity in mouse heart mitochondria” published in the Biochemical Journal in 2008.

My skills include:

- Teaching a wide variety topics in Biochemistry and Genetics to School of Med students and Arts & Science students
- My skills in research and management has lead to my official appointment as Laboratory Director of the Biochemistry teaching lab.
- I have a small research lab within the student teaching lab where I direct student volunteers with small projects
- In-depth knowledge of Inborn Errors of Metabolism and mitochondrial disease/activity
- Biochemistry of the cell and metabolism, spectrophotometric, fluorimetric, luminetric, microscopic, flow cytometry, radioisotope labelling and capture, polarography
- Biochemical analysis of cellular metabolites (research and clinical) MS/MS, GC/MS, HPLC, thin-layer chromatography
- Enzymatic assay development and improvement (research and clinical)
- Protein Chemistry, cloning, expression, purification, proteomics
- Protein prediction and active site modelling
- Development of high-throughput, live cell-based assay to screen chemical libraries
- Molecular genetics techniques including DNA/RNA isolation/sequencing/cloning/PCR
- Identification of genetic causes of disease
- Very skilled at trouble-shooting and problem solving
- Training of over 20 clinical and academic laboratory personnel

Publications

1. In Preparation: M.Maj, K. Landau, D. Li, E. Bhoh, H. Toriello, B. Nelson, H. Hakonarson, S. Glushtitz, R. Walker, A. Sobering (2021) A novel homozygous truncating variant in SYNJ1 in causing early infantile epileptic encephalopathy 53 in an Afro-Caribbean individual
2. In Preparation: E. Salter, K. Balhotra, I. Holman, H.S. La, J. Lendore, K. Yearwood, A. Holbein, A. Reese, A. Brooks, T. John-Ballantyne, A. Bahador-Yetman, G. Lambert, P.J. Fields, M.C. Maj, F. McGill, (2017) Self Pap as a Method of Cervical Screening Modification and HPV Testing in Grenada
3. A. Wardeh, T. Jackson, B. Nelson, C. Ernst, J.F. Th  roux, W. Al-Hertani, A. K. Sobering¹, and M. C. Maj (2018) Identification of a *de novo* case of COL5A1-related Ehlers-Danlos syndrome in an infant in the West Indies leading to improved targeted clinical care. Clinical Case Report
4. M.D. Thompson, T. Sakurai, I. Rainero, M.C. Maj and J.P. Kukkonen. (2017) Orexin Receptor Multimerization versus Functional Interactions: Neuropharmacological Implications for Opioid and Cannabinoid Signalling and Pharmacogenetics. Pharmaceuticals (Basel). 2017 Oct 8;10(4). pii: E79.
5. M.D. Thompson, V. Capra, M.T. Clunes, G.E. Rovati, J. Stankova, M.C. Maj and D.L. Duffy. (2016) Cysteinyl Leukotrienes Pathway Genes, Atopic Asthma and Drug Response: From Population Isolates to Large Genome-Wide Association Studies. Front Pharmacol. 2016 Dec 1;7:299.
6. B.M. Francis, J. Yang, B.J. Song, S. Gupta, M.C. Maj, R.P. Bazinet, B.H. Robinson, H.T. Mount. (2014) Reduced levels of Mitochondrial Complex I Subunit NDUF8 and Linked Complex I + III Oxidoreductase Activity in the TgCRND8 Mouse Model of Alzheimer's Disease. J Alzheimers Dis. (2014) Jan 1;39(2):347-55. doi: 10.3233/JAD-131499.
7. M.C. Maj, N. Sriskandarajah, V. Hung, I. Browne, B. Shah, A. Weadge, N. Jamieson, M. Tropak, J. Cameron, J. Addis, B.H. Robinson (2010) Identification of Drug Candidates Which Increase Cytochrome c Oxidase Activity in Deficient Patient Fibroblasts. Mitochondrion. (2011) Mar;11(2):264-72.
8. M.C. Maj, I. Tkachvova, P. Patel, J.B. Addis, N. Mackay, V. Levandovskiy, J.M. Cameron and Brian H. Robinson: Oxidative Stress Alters the Regulatory Control in PINK1 Deficient Cells. Biochem Biophys Res Commun 399 (2010) 331-335.
9. J.M. Cameron, M.C. Maj, V. Levandovskiy, C.P. Barnett, S. Blazer, N. MacKay, J. Raiman, A.S. Feigenbaum, A. Schulze, B.H. Robinson (2009) Pyruvate dehydrogenase phosphatase 1 (PDP1) null mutation produces a lethal infantile phenotype. Hum Genet, 125(3):319-26.
10. F. Xu, C. Ackerley, M.C. Maj, J.B.L. Addis, V. Levandovskiy, J. Lee, N. Mackay, J.M. Cameron and B.H. Robinson (2008) Disruption of a mitochondrial RNA binding protein gene results in decreased cytochrome b expression and a marked reduction in ubiquinol-cytochrome c reductase activity in mouse heart mitochondria. Biochem. J., 416(1), 16-26.

11. J.M. Cameron, M.C. Maj, V. Levandovskiy, N. MacKay, G.D. Shelton, B.H. Robinson (2006) Identification of a canine model of pyruvate dehydrogenase phosphatase 1 deficiency. *Mol Genet Metab.* 90(1):15-23.
12. M.C. Maj, J.M. Cameron and B.H. Robinson (2006) Pyruvate dehydrogenase deficiency: Orphan disease or an under-diagnosed condition? *Mol. Cell Endocrinol.* 249 (1) 1-9.
13. A. Petit, T. Kawai, E. Paitel, N. Sanjo, M. Maj, M. Scheid, F. Chen, Y. Gu, H. Hasegawa, S. Salehi-Rad, L. Wang, E. Rogaeva, P. Fraser, B. Robinson, P. St George-Hyslop, A. Tandon (2005) Wild-type PINK1 prevents basal and induced neuronal apoptosis, a protective effect abrogated by Parkinson disease-related mutations. *JBC.* 280(40):34025-32.
14. M.C. Maj, N. MacKay, V. Levandovskiy, J. Addis, E.R. Baumgartner, M.R. Baumgartner, B.H. Robinson, J.M. Cameron (2005) Pyruvate dehydrogenase phosphatase deficiency: identification of the first mutation in two brothers and restoration of activity by protein complementation. *J Clin Endocrinol Metab.* 90(7):4101-7.
15. J. Park, B. Singh, M.C. Maj and R.S. Gupta (2004) Phosphorylated derivatives that activate or inhibit mammalian adenosine kinase provide insights into the role of pentavalent ions in AK catalysis. *Protein J.* 23:167-177.
16. M.C. Maj, S. Raha, T. Myint and B.H. Robinson (2004) Regulation of NADH/CoQ oxidoreductase: do phosphorylation events affect activity? *Protein J.* 23:25-32.
17. M.C. Maj, B. Singh and R.S. Gupta (2002) Pentavalent ions dependency is a conserved property of adenosine kinase from diverse sources: identification of a novel motif implicated in phosphate and magnesium ion binding and substrate inhibition. *Biochem.* 41:4059-4069.
18. M.C. Maj and R.S. Gupta (2001) The effect of inorganic phosphate on the activity of bacterial ribokinase. *J. Protein Chem.* 20:139-144.
19. M. Maj., B. Singh, and R.S. Gupta (2000) The influence of inorganic phosphate on the activity of adenosine kinase. *Biochim. Biophys. Acta* 1476:33-42.
20. M.C. Maj, B. Singh, and R.S. Gupta (2000) Structure-activity studies on mammalian adenosine kinase. *Biochem. Biophys. Res. Commun.* 275:386-393.
21. M. Maj, P. Loewen, and P. Nicholls (1998) *E. coli* HP11 catalase interaction with high spin ligands: formate and fluoride as active site probes. *Biochim. Biophys. Acta* 1384:209-222.
22. C. Obinger, M. Maj, P. Nicholls, and P. Loewen (1997) Activity, peroxide compound formation, and heme d synthesis in *Escherichia coli* HP11 catalase. *Arch. Biochem. Biophys.* 342:58-67.
23. M. Maj, P. Nicholls, C. Obinger, A. Hillar, and P. Loewen (1996) Reaction of *E. coli* HP11 with cyanide as ligand and as inhibitor. *Biochim. Biophys. Acta* 1298:241-249.

Non peer reviewed publications

1. T, Weiler, S. Shaaban, A. Sobering. S. Dhar. M. Maj, C. Larancuet, A. Loret and B. Slater. (2022) Developing Medical Genetics Interest and Literacy through Student Interest Groups: The Why, The How, and The Challenges. Presented at ACMG Hybrid Event March 23-25. 2022
2. A. Wardeh¹, T. Jackson¹, B. Nelson², C. Ernst³, J. Th  roux³, W. Al Hertani⁴, A. K. Sobering¹ & M. C. Maj^{1*} The Masquerade: Identification of a *de novo* case of *COL5A1*-related Ehlers-Danlos syndrome presenting as developmental delay. Presented in: Toronto, Ontario, Canada at Great Lakes Genomics Conference, May 17-18, 2018.
3. A. Holbein, A. Brooks, A. Reese, E. Salter, A. Bahadoor-Yetman, T. Edwards, M.C. Maj and F. McGill (2017) Women in Medicine of St. George's University promotes cancer screening in Grenada Communities. Presented in: St. Georges, Grenada at AMSA Conference, October 21-22, 2017.
4. M.D. Thompson, V. Capra, M.T. Clunes, D.E. Cole, G.E. Rovati, J. Stankova, M.C. Maj and D.L. Duffy. (2015) The contribution of the cysteinyl leukotriene 1 (CysLT1) gene and other genetic loci to atopic asthma in the Tristan da Cunha population. Presented in: Baltimore MD. at The American Society of Human Genetics, At Baltimore, MD, Volume: PgmNr 19
5. B.M. Francis, V. Laskova, J. Yang, C. Song, R.P. Bazinet, S. Gupta, M. Maj, B.H. Robinson, H.T.J. Mount (2010) Energetic dyshomeostasis in APP-Transgenic TgCRND8 mice. *To be Presented in:* San Diego, USA, at 40th Annual Society for Neuroscience Meeting, Nov. 13-17, 2010
6. M.C. Maj, D. Grespan, S. Waddel, G. Hassam, M. Skomorowski, D. Cordeiro, J. Raiman, L. Kyriakopoulou and J. Callahan (2009) Peeking behind the screen: Mucopolysaccharidoses from urine to white blood cells exposed! *Presented in:* San Diego, USA, at the SSIEM, Aug. 29 - Sept. 2, 2009
7. C. Barnett, M.C. Maj, J. Raiman, B.H. Robinson and A. Schulze (2008) Third reported case of pyruvate dehydrogenase phosphatase 1 (PDP1) deficiency: Promising response to treatment with sodium bicarbonate. *Presented in:* Lisbon, Portugal, at the SSIEM, Sept. 1-5, 2008
8. M.C. Maj, T. Rupar, J.C. Callahan and C. Morel (2008) Adult onset Niemann-Pick Type C: A novel case presenting with seizures. *Presented in:* Lisbon, Portugal, at the SSIEM, Sept. 1-5, 2008
9. B.H. Robinson, N. MacKay, M.C. Maj, V. Levandovskiy, J. Raiman, A. Feigenbaum, A. Schulze and J.M. Cameron, (2008) Pyruvate dehydrogenase phosphatase (PDP1) Deficiency: Infantile lactic acidemia and severe phenotype due to a null mutation. ***Invited to give an oral presentation in:*** Lisbon, Portugal, at the SSIEM, Sept. 1-5, 2008
10. M.C. Maj, I. Brown, B. Shah, N. Jaimison, A. Wedge, J. Addis and B.H. Robinson (2007) Thinking green: A scheme to discover stimulators of cytochrome c oxidase activity. *Presented in:* Toronto, On, Canada. at the Garrod Symposium, 2008.

11. M.C. Maj, I. Brown, B. Shah, N. Jaimison, A. Wedge, J. Addis and B.H. Robinson (2007) Thinking green: A scheme to discover stimulators of cytochrome c oxidase activity. *Presented in:* Atlanta, Georgia, USA. at UMDf, June 2007.
12. J.M. Cameron, M. Maj, V. Levandovskiy, N. MacKay, J. Raiman, A. Feigenbaum, A. Schulze, B.H. Robinson. (2008) *PDP1* null mutation produces a lethal infantile phenotype: Primary case identified in humans, *Presented in:* Stockholm, Sweden at Euromit 7, June 11-14 2008.
13. J.M. Cameron, M.C. Maj, V. Levandovskiy, N. MacKay, G.D. Shelton, B.H. Robinson (2006) Identification of a canine model of pyruvate dehydrogenase phosphatase 1 deficiency. *Presented in:* Chiba, Japan, at the 10th International Congress of Inborn Errors of Metabolism, Sept. 12-16, 2006.
14. S. Gupta, J.C. Cameron, M.C. Maj and B.H. Robinson (2006) Mitochondrial dysfunction in neurodegeneration and as a link between Parkinson's and Cancer. *Presented in:* Toronto, ON at the Samuel Lunenfeld Research Summer Student Symposium, July 19, 2006.
15. N. Jamieson, M.C. Maj and B.H. Robinson (2006) High throughput screening for enhancers of cytochrome oxidase activity. *Presented in:* Toronto, ON at the Samuel Lunenfeld Research Summer Student Symposium, July 19, 2006.
16. J.M. Cameron, M.C. Maj, V. Levandovskiy, N. MacKay, G.D. Shelton, B.H. Robinson (2006) Identification of a canine model of pyruvate dehydrogenase phosphatase 1 deficiency. *Presented in:* Atlanta, Georgia at the United Mitochondrial Disease Foundation Annual meeting, June 14-17, 2006.
17. A. Wedge, J. Addis, N. Jamieson, M.C. Maj and B.H. Robinson (2006) High throughput screening for mitochondrial enhancers. *Presented in:* Atlanta, Georgia at the United Mitochondrial Disease Foundation Annual meeting, June 14-17, 2006.
18. M.C. Maj, N. MacKay, P. St. George-Hyslop, and B.H. Robinson, (2005) Mitochondrial dysfunction of a Parkinson's patient with pathogenic mutation in the *PINK1* gene. *Presented in:* Orford, Quebec at the Canadian Genetic Disease Network Annual meeting, May 15-18, 2005.
19. M.C. Maj, N. MacKay, P. St. George-Hyslop, and B.H. Robinson, (2005) Mitochondrial dysfunction of a Parkinson's patient with pathogenic mutation in the *PINK1* gene. *Presented in:* St. Louis, Missouri at the United Mitochondrial Disease Foundation Annual meeting, April 7-10, 2005.
20. M.C. Maj, J. Cameron, N. McKay, J. Addis, V. Levandovskiy and B.H. Robinson (2004) From deletion to disease: Protein phosphatase regulation of metabolism via the pyruvate dehydrogenase complex. *Presented in:* Kimberley, Ontario at the Canadian Genetic Disease Network Annual meeting, May 15-18, 2004.
21. J. Cameron, M.C. Maj, V. Levandovskiy, N. McKay, J. Addis, B.H. Robinson, (2004) Identification of a novel mutation in the catalytic subunit 1 of the pyruvate dehydrogenase phosphatase (PDP1) gene in two brothers. *Presented in:* Nijmegen, The Netherlands at Euromit 6, abstract published in BBA abstract book, July 1-4, 2004.
22. M.C. Maj and B.H. Robinson (2003) Properties of human pyruvate dehydrogenase kinase. *Presented in:* Montreal, Quebec at the annual HUPO/IUBMB Meeting, Oct. 8-11, 2003.

23. M.C. Maj and B.H. Robinson (2003) Properties of human pyruvate dehydrogenase kinase. *Presented in:* Kananaskis, Alberta at the 2003 annual Canadian Genetic Disease Network Annual meeting, May 27-30, 2003.
24. M. Maj and R.S. Gupta (2001) The effect of pentavalent ions on the activity of adenosine kinase. *Presented in:* Orlando, Florida at the 2001 annual meeting of the American Society for Biochemistry and Molecular Biology.
25. M. Maj, B. Singh and R.S. Gupta (2000) Structure-activity of adenosine kinase. *Presented in:* Ottawa, Ontario at the 2000 meeting of the Canadian Federation of Biological Societies.
26. M. Maj and R.S. Gupta (1998) Biochemical and structural studies of adenosine kinase. *Presented in:* Hamilton, Ontario at the 1998 annual meeting of the Department of Biomedical Sciences Research Day.
27. M. Maj and R.S. Gupta (1998) The influence of inorganic phosphate on the activity of adenosine kinase. *Presented in:* Washington, D.C. at the 1998 annual meeting of the American Society for Biochemistry and Molecular Biology.
28. M. Maj (1996) A comparative study of protoheme and heme D catalases: role of the heme and heme pocket in catalysis and ligand binding. *Presented in:* Vienna, Austria at the 1996 Plant Peroxidases: Biochemistry and Physiology International Symposium.
29. M. Maj, P. Nicholls, C. Obinger, P.C. Loewen (1996) Evolution of prokaryotic and eukaryotic catalases: correlation between structure and function. *Presented in:* London, Ontario at the 1996 annual meeting of the Canadian Federation of Biological Societies.
30. M. Maj and P. Nicholls (1995) Evolution of prokaryotic and eukaryotic catalases: correlation between structure and function. *Presented in:* Albany New York at the 1995 annual meeting of Computational Biology.
31. M. Maj and P. Nicholls (1995) Peroxide membrane permeability and catalase activity in bacteria, red blood cells and liposomes: problems of oxidant defense. *Presented in:* Buffalo, New York (SUNY) at the spring 1995 Biomembranes and Structural Protein Symposium.
32. M. Maj, A. Hillar, P.C. Loewen and R. Nicholls (1994) Cyanide binding and inhibition of catalase HPIL. *Presented in:* Montreal Quebec at the 1994 annual meeting of the Canadian Federation of Biological Societies.

Book Chapter

1. J.M. Cameron, M.C. Maj & B.H. Robinson (2008) Deficiency disorders of components of PDH: E2, E3 and E3BP deficiencies IN Alpha lipoic acid: Energy production, antioxidant activity and health effects. ED. M. Patel, CRC Press.

Supervisory/Teaching Experience

1. Stacey Harris, 2017, this former SGU student is getting lab experience to aid in her application for graduate studies
2. Candase Correia, 2017, this former SGU student is getting practical lab experience to aid in her application for work in Grenada

3. Godwill James, 2015, this SGU clinical instructor was my Graduate Student for a time but left for a very good position in England
4. Jane Addis, 2005-2011, Research Technician II working under my supervision for the mitochondrial contribution of Parkinson's disease.
5. Beverly Francis, 2006-2011, Ph.D. candidate at the University of Toronto Centre for Research in Neurodegenerative Diseases, studying under Dr. Howard Mount. Over the last four years, I have instructed Beverly in the art of respiratory chain enzyme assays. Many of these assays required optimization for utility with mouse brain homogenate.
6. Gulanaar Hassam, 2007-2010, Clinical Technician in the Metabolic Genetics Laboratory whom I supervised with the teaching of basic biochemical concepts as they pertained to assaying patient samples for lysosomal storage diseases.
7. Dina Grespan, 2008-2010, Clinical Technician in the Metabolic Genetics Laboratory whom I supervised with the teaching of basic biochemical concepts as they pertained to patient samples analysis by thin layer chromatography, GC/MS analysis of organic acids, MS/MS analysis of plasma amino acids and acylcarnitines.
8. Betty Wan, 2008-2010, Resource Technologist new to the Metabolic Genetics Laboratory whom I supervised with the teaching of basic biochemical concepts as they pertained to patient samples analysis by thin layer chromatography, GC/MS analysis of organic acids, MS/MS analysis of plasma amino acids and acylcarnitines and HPLC analysis of plasma amino acids
9. Nisa Mullaithilaga, University of Toronto volunteer student under my supervision, Winter/Spring 2009-2010, working under my supervision to continue experiments for the project "Effectors of mitochondrial activity"
10. Ankit Sinha, University of Toronto student fulfilling requirements for supervised study project in Life Sciences Co-Op Department Winter/Spring 2009-2010. I selected this student to work with Dr. Andreas Schulze. My role with this student is minor, assisting with experimental design and problem solving.
11. Niroshan Sriskandarajah, University of Toronto student under my supervision, fulfilling requirements for supervised study project in Life Sciences Co-Op Department Summer 2009
12. Ilona Tkachvova, Research Technician working under my supervision of the mitochondrial contribution of Parkinson's disease
13. Ilona Tkachyova, Seneca College co-op student under my supervision, fulfilling the requirements in the Faculty of Technology, Jan 2008-Aug. 2008
14. Vinci Hung, University of Toronto student under my supervision, fulfilling requirements for supervised study project in Life Sciences Co-Op Department Summer 2007
15. Jisoo Lee, Summer student under my supervision, 2007 & 2008.
16. Ikhenna Browne, University of Toronto student under my supervision, fulfilling requirements for supervised study project in Life Sciences Co-Op Department Summer 2007
17. Bhavank Shah, University of Toronto student under my supervision, fulfilling requirements for supervised study project in Life Sciences Co-Op Department Fall to Spring 2007
18. Saurabh Gupta, University of Toronto student under my supervision, fulfilling requirements for supervised study project in Life Sciences Co-Op Department Summer and Fall 2006

19. Nicola Jamieson, Sir Sanford Flemming College student under my supervision, recipient of Samuel Lunenfield Summer Studentship award 2006.
20. Anita Wedge, B.Sc. technician under my supervision, Sept 2003 -Dec 2005
21. Saurabh Gupta, University of Toronto student under my supervision, fulfilling requirements for supervised study project in Life Sciences Department winter term 2005
22. Johnathan Woo, summer student under my supervision, fulfilling requirements for McMaster University Health Science 3HO3 course 2005
23. Nicola Jamieson, volunteer under my supervision, summer 2005 learning laboratory techniques appropriate for a student enrolled in Forensic Science at Sir Sanford Flemming College
24. Kelvin Law, summer student under my supervision, 2004 and 2005
25. Anna Fluroescu, under my supervision, summer student 2002
26. Teaching assistant, McMaster University, 1996-2001, 6Q03 - Biochemical Pharmacology.
27. Teaching assistant, Brock University, 1994-1996, 2F01 - Principles of Molecular and Cellular Biology
28. Teaching assistant, Brock University, 1994-1996, 3P91 - Metabolic and Biophysical Processes

Intellectual Property and Patent Pending

1. Recombinant vectors and expressed protein for the creation of mono-clonal antibodies against pyruvate dehydrogenase kinases, isoforms 1-4 and pyruvate dehydrogenase phosphatases 1&2, in collaboration with MitoSciences of Eugene Oregon.
2. US Provisional 61/193.728. "A method of treating Mitochondrial Disease" 4 compounds which corrects activity in COX variants of Leigh syndrome.

Journal Editor

1. Webmed Central: Open Access Biomedical Publisher using Post Publication Peer Review

Professional Societies

Canadian Society of Biological, Molecular and Cellular Biology
 United Mitochondrial Disease Foundation
 Society for the Study of Inborn Errors of Metabolism

Eward Marshall MD, MSC, MSMEd
Independence Ave, St Georges Grenada
Telephone:1-473-4064820
E-mail: marshallward@gmail.com

EDUCATION

ACADEMIC BACKGROUND

- **University of Havana** – Havana Cuba 1999 - 2005
M.D. Doctor of Medicine
- **Lake Erie College of Osteopathic Medicine** – Erie, Pennsylvania present
Candidate Doctor of Philosophy Medical Education
- **Lake Erie College of Osteopathic Medicine** – Erie, Pennsylvania 2016 - 2018
MSMEd. Master of Science in Medical Education
- **St George's University School of Medicine** – St George's Grenada 2008 - 2010
MSC- Master of Science in Anatomy
- **St George's University School of Medicine** – St Georges Grenada 2005 - 2006
Post Graduate Certification – Medical Internship

PROFESSIONAL DEVELOPMENT AND CERTIFICATIONS

- **University of South Wales United Kingdom**– Diploma/Sports Medicine 2020
- **St George's University** – St Georges Grenada 2018
PALS – Pediatric Advanced Life Support
- **St George's University - St Georges Grenada** 2018
ATLS – Advanced Trauma Life Support
- **St George's University – St Georges Grenada** 2017
ACLS- Advanced Cardiac Life Support
- **St George's University- St Georges Grenada** 2017
BLS- Basic Life Support
- **Item Writing 101: Multiple Choice Items with Realistic Clinical Scenarios** 2016
National Board of Medical Examiners

EMPLOYMENT

ACADEMIC APPOINTMENTS

St George's University - St George's Grenada

Associate Professor of Anatomical Sciences

2013 –Present

Responsible for teaching courses in Anatomy, Histology and Embryology, including lecture and laboratory activities, evaluating students, contributing to academic planning and development of SGU curriculum by preparing course syllabi, course outlines, and lecture materials.

Lab activities consists of small group discussion, cadaveric specimens, radiological teaching of the anatomical region, history and physical and ultrasound.

Academic advising for Terms 1 and Terms 2 for medical students with deficient grades and not meeting promotion standards.

College Director of Peabody College

2018-2019

Responsibilities:

- Mentorship of 150-200 students per semester
- Liaison between these students and the University Administration on any changes/updates in academic policies.
- Planning of specific educational interventions for students in academic difficulties.
- Leadership of a multidisciplinary team of College specific academic advisors, learning strategists and wellness associates.
- Tracking and documentation of the academic progress of all College students until graduation.
- Assisting with matching students with clinical mentors and career advisors
- General advice on USMLE Examination
- General advice on residency interviews and matching into a clinical specialty.
- Coordinating and participation in College specific activities that promote student wellness.

Course Director Human Undergraduate Physiology BIOL 441

2016- 2017

Responsibilities:

- Preparation and delivery of course content
- Writing multiple choice questions for exams and quizzes
- Supervision of small group discussion
- Planning and collaborating with the Department of Education remedial sessions for students in academic difficult.
- Submission of reports on student academic progress to the Director of the Pre-med program and the Dean of Arts and Sciences.

Course Director of Human Gross and Developmental Anatomy BIOL 550

2012- 2015

Responsibilities:

- Co-ordination of exams and course content between True Blue Campus Grenada and Keith B Taylor Global Scholars program in Newcastle England.
- Preparation and delivery of course material and end of term evaluation reports
- Supervision and quality control for the anatomical specimens used for labs.
- Monitoring of online course material
- Training of clinical tutors and research fellows for small group, wet lab, and ultrasound activities
- Writing and supervising integrated simulation cases for year 1 students
- Planning and organization of the OSCE exam for year 1 students
- Selection of Anatomy questions for Basic Science Comprehensive Examination 1 (BSCE1) at the end of year 1
- Selection of Anatomy questions for Basic Science Comprehensive Examination 2 (BSCE 2) at the end of year 2
- Planning and collaborating with the Department of Educational Services remedial sessions for students in academic difficulty.

Assistant Professor of Anatomical Science

2009 -2012

Course Director Human Undergraduate Anatomy

2009 -2011

Responsibilities:

- Preparation and delivery of course content
- Writing multiple choice questions for exams and quizzes
- Supervision of small group discussion
- Planning and collaborating with the Department of Educational Services remedial sessions for students in academic difficulty.
- Submission of reports on student academic progress to the Director of the Pre-med program and the Dean of Arts and Sciences
- Lectures on learning strategies and introduction to medical school

Course Director for the Anatomy Dissection Selective

2009- 2011

Responsibilities:

- Teaching Term 2 students dissection skills
- Preparation of cadaveric specimens for research
- Preparation of cadaveric specimens for lab activities and Final Exams
- Lab safety
- Body donor program

Course Director BIOL 101 – Anatomy and Physiology for the Health Sciences

2009-2011

Responsibilities:

- Preparation and delivery of course content
- Writing multiple choice questions for exams and quizzes
- Supervision of small group discussion
- Planning and collaborating with the Department of Education remedial sessions for students in academic difficulty.
- Submission of reports on student academic progress to the Director of the Pre-med program and the Dean of Arts and Sciences
- Lectures on learning strategies and Introduction to Health Education.

Course Director BIOL 202 – Anatomy and Physiology for the Health Sciences

2009-2011

Responsibilities:

- Preparation and delivery of course content
- Writing multiple choice questions for exams and quizzes
- Supervision of small group discussion
- Planning and collaborating with the Department of Education Services remedial sessions for students in academic difficulty.
- Submission of reports on student academic progress to the Director of the Pre-med program and the Dean of Arts and Sciences
- Lectures on learning strategies and Introduction to Health Education.

Instructor of Anatomical Science

2007 – 2009

Anatomy Lab Director

Responsibilities:

- Training and evaluation of students participating in the dissection selective
- Preparation of cadaveric specimens for dissection selective
- Preparation of cadaveric specimens for research
- Preparation of cadaveric specimens for lab activities and Final Exams
- Supervision and appraisal of Lab technicians
- Logistics for Mock Anatomy Practical
- Maintenance of lab equipment and Ultrasound machines.

Clinical Tutor – Department of Clinical Skills

2006-2007

Responsibilities:

- Facilitation of small group discussion in History Taking and Physical Examination. Terms 1-5 in the School of Medicine.
- Facilitation of Anatomy lab activities and small group discussion Term 1

- Facilitation of Physiology lab activities Term 2
- Department of Education tutor to remediate students in academic difficulty in Anatomy, Histology, Physiology and Pathology
- Review USLME world questions with students considered at high risk as they prepare for USMLE Step 1 examination.
- Training of standardized patients for Physical Examination and History Taking labs.
- Grading of SOAP notes for OSCE 1 and 2 examination
- Grading of Professional Portfolios
- Clinical preceptor for Simulation activities

Clinical Preceptor: Clinical Cases for pre-med Students – Department of Physiology

2006-2007

Responsibilities:

- Facilitation of small group discussion using a problem-based learning approach to clinical cases.
- Grading of reflection assignments and research articles
- Monitoring of online clinical case discussion forums
- Grading of final group and individual presentations
- Assessment of professionalism, history taking skills for the 4 patient encounters at the St Georges General Hospital Grenada.

Additional Teaching experience:

Medical Academic Coordinator Summer Academy
St George's University

2008-2012

Responsibilities:

- Planning of lectures in musculoskeletal, cardiovascular, and nervous system anatomy for High School and College students
- History and Physical examination in musculoskeletal, cardiovascular, and nervous system
- Coordinating Hospital visits

Adjunct Anatomy lecturer- Grenada School of Nursing

Fall 2008

T. A. Marryshow Community College
Tanteen
St George's
Grenada

Responsibilities

- Preparation and delivery of course content in Anatomy and Physiology including the cardiovascular, renal, respiratory, endocrine, nervous, musculoskeletal, and endocrine systems.
- Lab activities using platinated cadavers.
- Preparation and submission of multiple-choice questions for the exam to the Faculty responsible for Basic Sciences in Nursing

Facilitator - Medical Spanish Selective

2009-2011

Responsibilities

- Preceptor of clinical case presentations in Spanish
- Content expert on the correct usage of Spanish medical terminology in patient encounters.
- Culture competency issues

Visiting Professor Post Graduate Anatomy and Histology

2018-present

Department of Cell Biology
Harvard Medical School
Boston
Massachusetts
USA

Responsibilities:

- Facilitation of Anatomy/Histology Clinical Cases in Musculoskeletal, Cardiovascular, Respiratory and Central Nervous system.
- Teaching full body dissection skills to Masters in Anatomy and other Allied Health Care professionals

Visiting Professor in Medical Education

Feb -May 2020

Lake Erie College of Osteopathic Medicine
Erie
Pennsylvania

Responsibilities:

- Problem Based Learning facilitator (PBL) for year 1 and 2.
- Adjunct professor for Online Master's in Medical Education with specific responsibilities for Clinical Teaching and Curriculum evaluation.
- Adjunct professor for Inter-professional education for Medical, Dental and Pharmacy students
- Online facilitator of Inter-Professional Education for year 1 and 2 students
- EXCEL-USMLE training sessions for Term 1 and Term 2 students
- Planning committee for the Annual Pioneering Research in Medical Education (PRIME) Conference April 2020.
- Assisting medical students with medical education research

Clinical Appointments:

St George's University - St George's Grenada

2008-2012

Clinical Instructor: University Health Services

Responsibilities:

- General medical complaints
- Student medical leave of absence forms
- General medical emergencies and the overseas transfer of students and faculty to the USA and Canada
- General wellness of the University community
- Coordinating Health fairs with Government of Grenada and St George's University Student Organizations
- Member of the Disaster Preparedness Team

Government of Grenada - Botanical Gardens St George's Grenada

2006- present

Locum House Officer: Accident and Emergency Department
St George's General Hospital
St George's
Grenada.

Private Practice – Family Medical Practitioner
Independence Avenue
Tempe
St Georges
Grenada

2006-present

Medical Licensure: Grenada Medical Council registration # 770

Clinical Observerships:

Department of Emergency Medicine
Hacensack Medical Center
Hacensack
New Jersey USA

June 2010

Department of Surgery
Advent Health Tampa
3100 East Fletcher Ave
Tampa Florida
USA

June 2011

Accident and Emergency Medicine Department
Eric Williams Medical Centre
Mt Hope
Trinidad

December 2012

Accident and Emergency Medicine Department
Port of Spain General Hospital
Port of Spain
Trinidad

January 2014

RESEARCH

PUBLICATIONS:

Klaassen, Z., Marshall, E., Tubbs, R. S., Louis Jr, R. G., Wartmann, C. T., & Loukas, M. (2011). Anatomy of the ilioinguinal and iliohypogastric nerves with observations of their spinal nerve contributions. *Clinical Anatomy*, 24(4), 454-461.

Pontell, M. E., Scali, F., Marshall, E., & Enix, D. (2013). The obliquus capitis inferior myodural bridge. *Clinical anatomy*, 26(4), 450-454.

Scali, F., Pontell, M. E., Enix, D. E., & Marshall, E. (2013). Histological analysis of the rectus capitis posterior major's myodural bridge. *The Spine Journal*, 13(5), 558-563.

Scali, F., Pontell, M. E., Welk, A. B., Malmstrom, T. K., Marshall, E., & Kettner, N. W. (2013). Magnetic resonance imaging investigation of the atlanto-axial interspace. *Clinical anatomy*, 26(4), 444-449.

Pontell, M. E., Scali, F., Enix, D. E., Battaglia, P. J., & Marshall, E. (2013). Histological examination of the human obliquus capitis inferior myodural bridge. *Annals of Anatomy-Anatomischer Anzeiger*, 195(6), 522-526.

Pontell, M., Scali, F., & Marshall, E. (2011). A unique variation in the course of the musculocutaneous nerve. *Clinical Anatomy*, 24(8), 968-970.

Books

Contributions to dissection and content in the following:

Loukas, M., Benninger, B., & Tubbs, R. S. (2018). *Gray's Clinical Photographic Dissector of the Human Body E-Book*. Elsevier Health Sciences.

Abrahams, P. H., Spratt, J. D., Loukas, M., Van Schoor, A. N., & Hutchings, R. T. (2013). *McMinn and Abrahams' Clinical Atlas of Human Anatomy E-Book: with STUDENT CONSULT Online Access*. Elsevier Health Sciences.

Loukas, M., Tubbs, R. S., Abrahams, P. H., & Carmichael, S. W. (2015). *Gray's Anatomy Review E-Book*. Elsevier Health Sciences.

Presentations:

Marshall, E., (2000). *Clinical considerations of Subarachnoid Bleeds in the Black population in Matanzas Cuba.* Research day poster presentation for Annual Meeting of the Clinical Specialties Hospital Faustino Perez Matanzas Cuba.

Marshall, E., (2003). *Learning outcomes for Bilingual Instruction in Medicine for Caribbean Medical Students in Cuba.* Research day poster presentation for Annual Meeting of the Clinical Specialties. Hospital Faustino Perez Matanzas Cuba

Marshall, E., (2005). *Comparison of Cuban Medical Education with Latin America and the Caribbean, Strengths and Weaknesses.* Research day poster presentation for Annual Meeting of the Clinical Specialties Hospital Faustino Perez Matanzas Cuba

Marshall, E., (2009). *Chairi Network in the Heart and its Clinical significance.* Windref Research Institute St George's University School of Medicine.

Ali, I., **Marshall, E.,** Turner, B., Snosek, M., Tubbs, R.S., Anderson & Loukas, M. (2012). *The Anatomy of the Aortic Root.* 37 Annual Meeting American Association of Clinical Anatomist St George's University, True Blue St George's Grenada West Indies.

Loukas, M. Hage, R., Burns, D., Jordan, R., Rao, V., Curry, B., Brahim, F., **Marshall, E.,** Bubb, K., Wade, A., George, R., Barhuah, S. (2012). *Quo Vadis: Teaching anatomy to 1,300 medical students per year at St. George's University.* 37th Annual Meeting American Association of Clinical Anatomist, St George's University, True Blue, St Georges Grenada

Roach, T., Prior, A., **Marshall, E.,** Wade, A., Tubbs, S., & Loukas, M. (2012). *An endoscopic approach to the inferior vena cava.* 37th Annual Meeting American Association of Clinical Anatomists, St George's University, True Blue, St George's Grenada

Marshall, E., (2017). *Introduction of a competency-based Internship program for Surgical Interns at the St George's General Hospital.* Research Day Lake Erie School of Osteopathic Medicine, Erie Pennsylvania

Marshall, E., (2019). *Advances in Neuro-trauma and their practicality for doctors at the St George's General Hospital Grenada.* Journal Club Department of Anatomical Sciences, St George's University, True Blue, St Georges Grenada.

SERVICE

- Committee Member Faculty affairs
- Committee Member Judicial Affairs
- Committee Member Health and Safety
- Committee Member Admissions School of Medicine
- Chair of Subcommittee for Curriculum Development (2016-2018)
- Chair of Faculty Development Committee 2021 -
- Chair of Clinical Tutor Fellowship Management Committee (2010-2019)
- Committee member CAAPS (2010- present)
- Faculty Supervisor, Health Fairs
- Faculty Volunteer, Admissions Outreach Events
- Faculty Advisor Surgery Club
- Faculty Advisor Anesthesiology Club
- Faculty Advisor Diagnostics in Medicine
- Chief Proctor for NBME exams in Year 1 and Year 2
- Search Committee member for Anatomical Sciences, Physiology, and Introduction to Clinical Medicine
- Chair of Faculty Development Committee School of Medicine

References:

Gerald A. Greenhouse
Lecturer on Cell Biology/Anatomy
Dept of Cell Biology LHRRB B 06
Harvard Medical School

240 Longwood Avenue
Boston, MA 02115
617-432-0415
gerald_greenhouse@hms.harvard.edu

Shivayogi Bhusnurmath, MD, FRCPath (London)
Dean Academic Affairs
Co-chair and Course Director,
Department of Pathology
St George's University School of Medicine,
St. Georges, Grenada, West Indies
Tel: 1-473-444-1464
Email: sbhusnurmath@sgu.edu
New York Office - +1-631-665-8500

Alan J. Detton Ph.D.
Assistant Professor of Pathology & Cell Biology at CUMC
Columbia University, Vagelos College of Physicians and Surgeons
630 West 168th Street
New York, NY 10032
adetton@gmail.com

Mark Terrell Ed.D
Assitant Dean of Medical Education
Institutional Director of Faculty Development & Interprofessional Education
Director – MS in Medical Education Program & Director of Educational Research
Professor of Anatomy & Biostatics
Lake Erie College of Osteopathic Medicine
1858 W Grandview, Blvd, Erie PA 16509
Office: 814-860-5121 ; Fax: 814-866-8411
Email: mterrell@lecom.edu

KERRY NIGEL MITCHELL

P.O. Box 3289, St. George's, Grenada, W.I.
+1 (473) 459 – 0275 | kerrymitchell@outlook.com
ORCID: <https://orcid.org/0000-0002-0150-8303>

EDUCATION

Doctorate, *summa cum laude*, Biological Sciences, 2016
Universidad Autónoma de Aguascalientes, México

- *Research Group: Toxicology and Environmental Bioengineering*

Bachelor's, Environmental Sciences, 2011
Universidad Autónoma de Aguascalientes, México

RESEARCH INTERESTS

Occupational exposure to carcinogens, spatial and temporal distribution of ambient particulate matter; adverse health effects of polluted air; environmental risk assessment and remediation

TEACHING AND RESEARCH EXPERIENCE

Assistant Professor 2018 - present
Department of Public Health and Preventive Medicine, St. George's University, Grenada

- Master of Public Health – Environmental and Occupational Health Track Lecturer
- Basic Principles of Medicine III – Environmental and Occupational Health Lecturer

Instructor 2016 - 2018
Department of Public Health and Preventive Medicine, St. George's University, Grenada

- Master of Public Health - Environmental and Occupational Health Track Lecturer

Lecturer 2012 - 2016
Department of Biology, Universidad Autónoma de Aguascalientes, México

- Undergraduate Courses - Introduction to Environmental Issues, Global Change, Water Pollution, Remediation Technologies

Visiting Researcher 2015
Environmental and Biochemical Sciences Group, The James Hutton Institute, United Kingdom

- Research Focus - Mobility and bioavailability of metals in contaminated soils amended with biochar, unprocessed organic matter and iron oxides

Visiting Researcher 2015
Department of Environmental Geosciences, The Czech University of Life Sciences, Czech Republic

- Research Focus - Sequential column extraction of metals from contaminated soils amended with biochar and unprocessed organic matter

Internship 2010
The Public Water and Sewer Commission of the Municipality of Aguascalientes, Aguascalientes, México

- Research Focus - *Design of an activated carbon-based filter for the reduction of fluoride content in drinking water*

Student Researcher 2010
Universidad Autónoma de Guadalajara, Guadalajara, México

- Research Focus - *Determination of the effect of the microalgae *Phaodactylum tricornutum* used as a bio-fertilizer in seed germination parameters in three varieties of tomato under varied saline stress*. Under the direction of Dr. Froylan Espinoza Escalante, funded by the Mexican Academy of Sciences

Student Researcher 2009
Universidad Autónoma de San Luis Potosí, Mexico, 2009

- Research Focus - *Use of sulphates during the uptake of cadmium by plant species *Typha latifolia**

ST. GEORGE'S UNIVERSITY ADMINISTRATIVE RESPONSIBILITIES

Dean of Students, Assistant Dean 2021 – present
SOM Honors Selective I & II, Co-Director 2021 – present
Electives – Public Health During Disease Outbreaks, Course Director 2020 – present
BPM502 - Basic Principles of Medicine III, Course Director 2019 – present
BPM502 - Basic Principles of Medicine III, Public Health Assessment Tools, Discipline Manager 2019 – 2020
PUBH807 – Principles of Environmental Health, Co-Course Director 2017 – present
PUBH849 – Environmental Toxicology, Course Director 2017 – present

ST. GEORGE'S UNIVERSITY SERVICE

SGU Iota Epsilon Alpha (IEA), Faculty Advisor	2021 – present
St. George's University Institutional Review Board, Vice Chair	2020 – present
St. George's University Institutional Review Board, Secretary	2019 – 2020
St. George's University Institutional Review Board, non-executive member	2018 – 2019
Department of Public Health and Preventive Medicine Admissions and Graduate Committee, member	2018 – present
Department of Public Health and Preventive Medicine Research and Scholarly Activity Committee, member	2018 – present

PROFESSIONAL SERVICE

Reviews Editor	2021 – present
Editorial Board of Soil Pollution and Remediation, <i>Frontiers in Soils Science</i>, Lausanne Switzerland; ISSN:2673-8619 (Online)	

Ad-Hoc Journal Reviewer	2017 – present
- Environmental Science and Pollution Research, Springer Berlin Heidelberg; ISSN: 0944-1344 (Print), 1614-7499 (Online) - Bragantia Revista de Ciências Agronômicas, Instituto Agronômico de Campinas; ISSN: 0006-8705 (Print) / 1678-4499 (Online)	

Consultant	2020 – present
The Grenada National Ecosystem Assessment; Caribbean Natural Resources Institute	

Thesis Advisor	2014 – present
<i>Optimization of recovery and concentration methods for the isolation of SARS-CoV-2 in Wastewater Based Epidemiological (WBE) surveillance.</i> Karla Farmer-Díaz, Ph.D. in Microbiology, St. George's University, ongoing <i>Characterization of biochars for soil remediation.</i> Celeste Viridiana Mendoza Gonzalez, Ph.D. in Biological Sciences, Autonomous University of Aguascalientes (Mexico), ongoing <i>Study of the metal fractionation in contaminated soils and sediments after amendment with pyrolysed and non pyrolysed biomass.</i> Diana Alejandra López de la Torre, B.Sc. in Environmental Sciences, Autonomous University of Aguascalientes (Mexico), successfully defended in 2016 <i>Optimization of the biochar production process.</i> Edgar Mora González, B.Sc. in Energy Engineering, Polytechnic University of Aguascalientes (Mexico), successfully defended in 2015 <i>Physicochemical characterization and evaluation of the nutritional quality of stabilized bio-solids and composted material for its potential use as soil amendments.</i> Diego Rivero Luna, B.Sc. in Environmental Sciences, Autonomous University of Aguascalientes (Mexico), successfully defended in 2014	

Thesis Review Committee, External Thesis Reviewer	2017
<i>Chemical Stabilization of Zinc from Contaminated Soil Using Nano Zero-Valent Iron and Iron Oxides</i>, Emily Thompson, M.Sc. Czech University of Life Sciences Prague, 2017	

Item Writer for the Certified in Public Health Exam Study Guide	2017 - 2018
Association of Schools and Programs of Public Health	

PUBLICATIONS

Peer-reviewed journal articles

- Mitchell, K.,** Moreno-Jimenez, E., Jones, R., Zheng, L., Trakal, L., Hough, R., & Beesley, L. (2020). Mobility of arsenic, chromium and copper arising from soil application of stabilised aggregates made from contaminated wood ash. *Journal of Hazardous Materials*, 393(122479), 1–10. <https://doi.org/10.1016/j.jhazmat.2020.122479>
- Mitchell, K.,** Mendoza-González, C. V., Ramos-Gómez, M. S., Yamamoto-Flores, L., Guerrero-Barrera, A. L., Macías-Medrano, R., & Avelar-González, F. J. (2020). The effect of low-temperature biochar and its non-pyrolyzed composted biosolids source on the geochemical fractionation of Pb and Cd in calcareous river sediments. *Environmental Earth Sciences*, 79(7), 1–8. <https://doi.org/10.1007/s12665-020-08908-5>
- Ray, E., & **Mitchell, K.** (2019). Environmental Atrazine Exposure and Endocrine Health: Implications for Rural Communities in Midwestern United States. *Public Health - Topics, Themes and Trends*, 11(4), 37–53; *corresponding author*
- Flores de la Torre, J. A., **Mitchell, K.,** Ramos Gómez, M. S., Guerrero Barrera, A. L., Yamamoto Flores, L., & Avelar González, F. J. (2018). Effect of plant growth on Pb and Zn geoaccumulation in 300-year-old mine tailings of Zacatecas, México. *Environmental Earth Sciences*, 77(10), 0. <https://doi.org/10.1007/s12665-018-7563-7>
- Mitchell, K.,** Trakal, L., Sillerova, H., Avelar-González, F. J., Guerrero-Barrera, A. L., Hough, R., & Beesley, L. (2018). Mobility of As, Cr and Cu in a contaminated grassland soil in response to diverse organic amendments; a sequential column leaching experiment. *Applied Geochemistry*, 88, 95–102. <https://doi.org/10.1016/j.apgeochem.2017.05.020>
- Trakal, L., Raya-Moreno, I., **Mitchell, K.,** & Beesley, L. (2017). Stabilization of metal(loid)s in two contaminated agricultural soils: Comparing biochar to its non-pyrolysed source material. *Chemosphere*, 181, 150–159. <https://doi.org/10.1016/j.chemosphere.2017.04.064>
- Mitchell, K. N.,** Ramos Gómez, M. S., Guerrero Barrera, A. L., Yamamoto Flores, L., Flores de la Torre, J. A., & Avelar González, F. J. (2016). Evaluation of Environmental Risk of Metal Contaminated Soils and Sediments Near Mining Sites in Aguascalientes, Mexico. *Bulletin of Environmental Contamination and Toxicology*, 97(2), 216–224. <https://doi.org/10.1007/s00128-016-1820-9>

Book Chapters

- Forde, M., Izurieta, R., Ormeci, B., Arellano, M., & **Mitchell, K.** (2019). Water and Health. In G. Roldan, J. Tundisi, B. Jimenez, K. Vammen, H. Vaux, E. Gonzalez, & M. Doria (Eds.), *Water Quality in the Americas - Risks and Opportunities* (pp. 27–36). Mexico City: The Inter-American Network of Academies of Sciences IANAS.
- **Mitchell, K.**, Forde, M. S., & Neptune, A. (2019). Water Quality in the Americas - Grenada. In G. Roldan, J. Tundisi, B. Jimenez, K. Vammen, H. Vaux, E. Gonzalez, & M. Doria (Eds.), *Water Quality in the Americas - Risks and Opportunities* (pp. 353–365). Mexico City: IANAS The Inter-American Network of Academies of Sciences.

Presentations & Conference Proceedings

- Bogollagama, M., Khan, T., Forde, M., Compton, S., Mendes, J., Edwards, O., & **Mitchell, K.** *corresponding author* (2021). Nutrient concentrations in surface and subterranean water sources in the Southern Region of Grenada. *Caribbean Science Symposium on Water Magazine*, 21–22.
- Dirienzo, N., **Mitchell, K.**, Forde, M., Rainham, D., & Villeneuve, P. J. (2021). *Temporal trends in ambient fine particulate matter air pollution, and the impacts of COVID-19 on this pollution in Grenada, West Indies*. 4th Life Sciences Day - Carleton University, Ottawa.
- Khan, T., & **Mitchell, K.** *corresponding author* (2021). *Evaluation of the Association between Maternal Exposure to Indoor Air Pollutants and Low Birth Weight*. 65th Annual Health Research Conference, Virtual.
- **Mitchell, K.** (2021a). *Air Pollution - A Public Health Emergency?* Seminario de Investigación MCBQ- Universidad Autónoma de San Luis Potosí, San Luis Potosí, Mexico - Virtual.
- **Mitchell, K.** (2021b). *Efectos del Cambio Climático en la Salud Comunitaria*. Webinar de Organización Dominicana de Estudiantes de Medicina (ODEM) & One Health Lessons, Virtual.
- **Mitchell, K.**, Avelar-González, F. J., Guerrero-Barrera, A. L., Ramos-Gómez, M. S., & Yamamoto-Flores, L. (2021). Evaluating the potential mobility of Cd in contaminated calcareous sediments amended with biosolids and biochar. *SETAC Europe 31st Annual Meeting - 2021 - Global Challenges. An Emergency for Environmental Sciences - Abstract Book*, 202.
- **Mitchell, K.**, Edwards, O., Forde, M., Punch, B., Khan, T., & Bogollagama, S. (2021). *Priority setting for occupational carcinogen exposure among doctors*. 65th Annual Health Research Conference.
- **Mitchell, K.**, Forde, M., Smith, M., Villeneuve, P., & Dirienzo, N. (2020, November). *Preliminary monitoring of ambient particulate matter mass concentrations in Grenada*. Virtual Public Health Conference - Relevance, Creativity & Innovation, Grenada; Virtual.
- Flores de la Torre, J. A., **Mitchell, K.**, Ramos-Gomez, M. S., Yamamoto-Flores, L., Peña-Cabriaes, J. J., Guerrero-Barrera, A. L., & Avelar-González, F. J. (2017). *Effect of Cortaderia Selloana and Sporobolus airoides on the geoaccumulation index of Pb*. 14th International Phytotechnologies Conference, Montreal.
- Mark-George, I., Sealy, H., Mc Lawrence, J., **Mitchell, K.**, & Enoe, J. (2017, October). *The public health impacts of the influx of Sargassum seaweed on the residents of Soubise, Grenada in 2015*. Phi Zeta Research Emphasis and Research Day, St. George's University.
- **Mitchell, K.**, Avelar-González, F., Guerrero-Barrera, A., Ramos-Gómez, M., & Yamamoto-Flores, L. (2017, October). *Fractionation of Pb in contaminated calcareous sediments amended with biosolids and biochar*. Phi Zeta Research Emphasis and Research Day, St. George's University, St. George's University.
- Flores de la Torre, J. A., Ramirez-Ramirez, F. S., **Mitchell, K. N.**, Ramos-Gomez, M. S., Yamamoto-Flores, L., Guerrero-Barrera, A. L., & Avelar-Gonzalez, J. A. (2016). *Caracterización Fisicoquímica y Distribución de Plomo en Residuos Mineros Zacatecanos*. 17 Seminario de Investigación, Aguascalientes, Mexico.
- Beesley, L., **Mitchell, K.**, Mollon, L., & Norton, G. J. (2015). Mobility and toxicity of heavy metal(loid)s arising from contaminated wood ash application to a pasture grassland soil. *COST Action FP1407 1st Conference - Life Cycle Assessment, EPDs and Modified Wood*, 1–3.
- **Mitchell, K. N.**, Avelar Gonzalez, F. J., Guerrero Barrera, A. L., Thalasso Siret, F., Ramos Gomez, M. S., & Flores Yamamoto, L. (2014). Characterization of River Sediments Polluted by Mining Activities in Asientos, Aguascalientes. *5th Congreso Internacional - La Investigación En El Posgrado*.
- **Mitchell, K.**, Ramos-Gómez, M., Guerrero-Barrera, A., Yamamoto-Flores, L., Thalasso-Siret, F., & Avelar-González, F. (2014). Physicochemical Evaluation of Soils and Sediments Near Mining Operations in Asientos, Aguascalientes. *Environmental Biotechnology and Engineering - 2014*, 376–389.

PROFESSIONAL DEVELOPMENT

• Postgraduate Certificate in Applied Biostatistics , The Harvard Clinical and Translational Science Center	2021 - present
• RCR Basic Course Basic Sciences (Medical) – RCR, CITI Program	2019
• Environmental Risk Assessment , SETAC Latin America, Colombia	2019
• Geographic Information Systems (GIS) Management , IPICYT, Mexico	2018
• Protecting Human Research Participants , National Institutes of Health (NIH) Office of Extramural Research	2017
• Global Health: An Interdisciplinary Overview , Université de Genève (<i>Coursera</i>)	2017
• Epidemiology: The Basic Science of Public Health , The University of North Carolina at Chapel Hill (<i>Coursera</i>)	2017
• Effective Project Planning and Evaluation in Health Research , St. George's University, Grenada	2017
• Environmental Impact Assessment , San Luis Potosí Institute of Scientific Research and Technology, Mexico	2016
• Scientific Writing , The National Council of Science and Technology, Mexico	2014
• Toxicology and Ecotoxicology of Nanomaterials , National Academy of Environmental Sciences, Mexico	2009
• Advanced Spanish (Level 5) and Mexican Culture , Universidad Nacional Autónoma de México, Mexico	2005 - 2006

AWARDS AND GRANTS

- St. George's University SGRI 16019
- Ph.D. Research Scholarship #337049, Consejo Nacional de Ciencia y Tecnología, Mexico

2016

2012

ADDITIONAL PROFESSIONAL EXPERIENCE

The Birmingham Institute, Aguascalientes, México

Environmental Studies Laboratory, Autonomous University of Aguascalientes, Aguascalientes, Mexico

Aviation Services of Grenada, Grenada

The Computer Store Grenada, Grenada

2010 – 2012

2010

2002 - 2005

1999 - 2002

PROFESSIONAL MEMBERSHIPS

- Grenada Public Health Association
- Society of Environmental Toxicology and Chemistry

LANGUAGES

- English, *Native language*
- Spanish, *Full proficiency*

REFERENCES

Dr. Luke Beesley - Researcher

Environmental and Biochemical Sciences Research Group

The James Hutton Institute, Aberdeen, Scotland

Email: luke.beesley@hutton.ac.uk

Tel: +44 (0) 844 928 5428

Dr. Lukáš Trakal - Professor / Researcher

Department of Environmental Geosciences,

Czech University of Life Sciences Prague, Prague, Czech Republic

E-mail: trakal@fzp.czu.cz

Tel.: +42 (0) 224 383 864

Dr. Maria Ramos Nino - Professor / Researcher

Dept of Microbio, Immuno, Pharma

St. George's University, Grenada

Email: mramosni@sgu.edu

Tel: +1 473 444 4174 ext.3466

Curriculum Vitae

Dr. Josh D. Neufeld

Professor; Department of Biology
University of Waterloo
200 University Avenue West
Waterloo, Ontario, Canada N2L 3G1

Phone: +1 (519) 888-4567 ext. 38344

Fax: +1 (519) 746-0614

Email: jneufeld@uwaterloo.ca



EDUCATION

- 2005 **Ph.D. University of British Columbia**, Vancouver, Canada
Supervisor: Dr. William W. Mohn
Thesis title: *Insight into soil microbial ecology through the development and application of serial analysis of ribosomal sequence tags (SARST) and a habitat-specific microarray*
- 2000 **M.Sc. PAPRICAN and McGill University**, Montreal, Canada
Supervisor: Dr. Frederick S. Archibald
Thesis title: *Development of a quantitative method for nitrogen cycle gene detection in activated sludge*
- 1998 **B.Sc. McGill University**, Montreal, Canada
Project supervisor: Dr. Roger Knowles
Graduated with Great Distinction

PERFORMANCE RECOGNITION

- 08/2024 **Service to the Society Award**, International Society for Microbial Ecology (ISME)
- 03/2024 **Ontario Undergraduate Student Alliance Teaching Award**, OUSA
- 12/2023 **Outstanding Faculty Performance Award**, University of Waterloo
- 04/2022 **Online Teaching Award**, Centre for Extended Learning, University of Waterloo
- 09/2020 – 08/2027 **Member of the College of New Scholars of the Royal Society of Canada**
- 05/2019 – 05/2026 **University Research Chair**, University of Waterloo
- 04/2016 **Outstanding Faculty Performance Award**, University of Waterloo
- 05/2014 **Excellence in Science Teaching Award**, Faculty of Science, University of Waterloo
- 04/2014 **Federation of Students Excellence in Undergraduate Teaching Award**, FEDS
- 03/2014 **Ontario Undergraduate Student Alliance Teaching Award**, OUSA
- 06/2013 **Fisher Scientific Award**, Canadian Society for Microbiologists
- 05/2013 **Outstanding Faculty Performance Award**, University of Waterloo
- 02/2013 **Jack Carlson Teaching Excellence Award**, Biology, University of Waterloo
- 02/2013 **Waterloo Region Top 40 under 40**, Waterloo Record
- 04/2010 **Outstanding Faculty Performance Award**, University of Waterloo
- 09/2006 **Young Microbiologist of the Year**, Society for General Microbiology
- 05/2005 – 04/2007 **Canada-UK Millennium Research Award**, NSERC
- 05/2005 – 04/2007 **Postdoctoral Fellowship**, NSERC
- 08/2004 **Best Poster Award**, 10th International Society for Microbial Ecology meeting
- 09/2003 – 04/2005 **Killam Predoctoral Fellowship**
- 08/2003 **Best oral presentation**, American Society for Microbiology NW branch meeting
- 05/2001 – 05/2003 **Postgraduate Scholarship B**, NSERC
- 10/2000 **Second prize oral presentation**, Canadian Pulp and Paper Research Seminars
- 05/1999 – 05/2001 **Postgraduate Scholarship A**, NSERC
- 04/1998 – 04/1999 **Bourse de maîtrise**, FCAR
- 06/1998 **Girvin-Robertson Prize in Microbiology**, McGill University
- 06/1998 **Gerry Friars Undergraduate Research Project Award**, McGill University
- 08/1996 – 04/1998 **Dean's Honour List**, McGill University
- 11/1997 **Eliza M. Jones Award**, McGill University
- 11/1997 **Gray Prize in Microbiology**, McGill University
- 03/1997 **Golden Key National Honour Society Member**

Curriculum Vitae

RELEVANT WORK EXPERIENCE

Dates	Position	Supervisor
07/2016 – present	Professor Department of Biology, University of Waterloo	
07/2012 – 06/2016	Associate Professor Department of Biology, University of Waterloo	
07/2007 – 06/2012	Assistant Professor Department of Biology, University of Waterloo	
03/2005 – 05/2007	Postdoctoral Fellow Stable isotope probing and metagenomics of marine methylotrophs: towards understanding the impact of climate change on the ocean ecosystem.	Dr. Colin Murrell University of Warwick
09/2002 – 12/2002	Teaching Assistant	Dr. Wade Bingle
09/2001 – 12/2001	Microbial Ecology Laboratory (401)	UBC
05/1997 – 04/1998	Research Assistant Studied the ability of methanotrophs and nitrifiers to co-oxidize CH ₄ and NH ₄ ⁺ , and the role of allylsulfide as a differential inhibitor of these processes.	Dr. Roger Knowles McGill University
09/1997 – 12/1997	Teaching Assistant Lab Methods in Microbiology <i>Nominated for best teaching assistant.</i>	Dr. Edmund Idziak McGill University
01/1996 – 08/1996	Research Assistant Developed and monitored recycling and waste reduction initiatives for Environment Canada.	Mr. Ted MacDonald Environment Canada Hull, Canada
05/1995 – 08/1995	Research Assistant Tested the antimicrobial and mutagenic properties of lignin, a potential food supplement for livestock.	Dr. Edmund Idziak McGill University

Curriculum Vitae

RESEARCH FUNDING

Investigators	Funding Agency and Title	Amount (per annum)	Project Period
J.D. Neufeld	NSERC Discovery (Nitrification and beyond: ecology and activity of nitrifiers in engineered aquatic environments)	80,000	2025 – 2030
J.D. Neufeld	AMTD Global Talent Postdoctoral Fellowship (Aerobic methane oxidation in anoxic waters of boreal shield lakes: mechanisms, models, and microorganisms)	80,000	2023 – 2025
J.D. Neufeld	NSERC Alliance (Validation of ammonia-oxidizing archaea and comammox Nitrospira for commercial application)	30,000	2022 – 2025
J.D. Neufeld	NSERC Alliance (Integrated molecular profiling to explore the microbiology of deep geological repository components for storage of used nuclear fuel)	560,000	2022 – 2027
L.A. Hug J.D. Neufeld	Climate Action and Awareness Fund (CAAF) (Mitigation of methane emission hot-spots from municipal landfills)	1,284,395 (25,000 to Neufeld)	2022 – 2027
J.D. Neufeld	NSERC Discovery (Exploring nitrification within engineered aquatic environments)	50,000	2019 – 2025
W. Parker, J.D. Neufeld M. Servos	NSERC Alliance (Evaluation of Factors Affecting Performance of a Hybrid MABR Process at Full Scale)	~25,000	2020 – 2023
J. Noel (Western) and investigators	ORF (The Environmental Impact of Engineered Materials Degradation in Porous Consolidated Media)	~2,000,000 (~200k per year to Waterloo)	2018 – 2023
J.D. Neufeld, A.C. Doxey	NSERC CRD (Analysis of Nucleic Acids from Difficult Media: Method Optimization for Bentonite Clays and Rock Cores Associated with Deep Geological Repositories for Nuclear Waste)	150,000	2018 – 2022
J.D. Neufeld	Nuclear Waste Management Organization (NWMO) contract research (Extraction, sequencing, and bioinformatic analysis of DNA derived from difficult media: method optimization for bentonite clays and rock cores associated with deep geological repositories for nuclear waste)	91,250	2017 – 2022
J.D. Neufeld	Nuclear Waste Management Organization (NWMO) contract research (Evaluation of the merits of core and groundwater for characterization of microorganisms in crystalline rock)	61,750	2017 – 2018
B. McConkey J.D. Neufeld	POLAR grant	50,000	2017 – 2020
J.D. Neufeld	NSERC, Engage (Tetra Tech) (Identification of ammonia oxidizing bacteria and archaea within industrial wastewater treatment system bioreactors)	25,000	2017 – 2017
S. Schiff et al.	NSERC, Strategic Projects (Natural Stable Isotopes of Iron: A new tool to trace Fe cycling for management of risk from harmful cyanobacterial blooms in lakes and reservoirs)	30,000	2016 – 2019

Curriculum Vitae

L. Hug J.D. Neufeld	CIHR Planning and Dissemination Grant	10,000	2016 – 2017
J.D. Neufeld	Nuclear Waste Management Organization (NWMO) contract research	60,000	2016 – 2017
J.D. Neufeld	Nuclear Waste Management Organization (NWMO) contract research	60,000	2015 – 2016
J.D. Neufeld	U.S. Department of Energy Joint Genome Institute Small-scale metagenome sequencing grant.	Services in lieu of funding	2016 – 2017
J.D. Neufeld	NSERC, Engage (SiREM) (Protocol Development to Enable High-throughput Sequencing of 16S rRNA Genes for Industry-Specific Sample Analysis)	25,000	2016 – 2017
H-S Lee (Engineering) & co-investigators	NSERC, Strategic Projects (Innovative technologies for controlling dissolved methane and nitrogen in anaerobic wastewater treatment)	35,000	2015 – 2018
J.D. Neufeld	CFI, Infrastructure Operating Fund	24,850	2015 – 2016
J.D. Neufeld	Water Institute, Seed Grant (Microbiology of Experimental Lakes Area; ELA)	25,000	2015 – 2016
J.D. Neufeld	NSERC, Engage (SCODA for DNA purification)	25,000	2013
J.D. Neufeld	NSERC, Engage Plus (Archaeal aquarium supplement)	25,000	2014 – 2015
J.D. Neufeld	NSERC, Engage (Archaeal aquarium supplement)	25,000	2014
J.D. Neufeld	NSERC, RTI (Liquid-handling robot)	87,375.52	2014
J.D. Neufeld	NSERC, Discovery Grant	61,000	2014 – 2019
J.D. Neufeld	NSERC, Discovery Grant	43,000	2013
P. Bercik (McMaster) & co- investigators	CIHR (The role of the gut microbiota in Irritable Bowel Syndrome)	266,326 (50% PDF and 25% technician for Neufeld)	2011 – 2015
I. Clark (UOttawa) & co-investigators	Agriculture and Agri-Food Canada; AGGP (Anammox in agriculture soils related to drainage practices)	25,000 (for one MSc)	2011 – 2013
J.D. Neufeld & V. Taylor (McMaster)	University of Waterloo and McMaster Bioinformatics Grants (The role of the gut microbiota in clinical depression)	23,000 (one MSc for Neufeld)	2011 – 2013
J.D. Neufeld	Early Researcher Award (Ultra-deep sequencing for characterizing complex microbial communities)	150,000	2010 – 2015
S. Schiff (Earth Sciences, UW & co-investigators)	NSERC, Strategic Projects Grant (Grand River Nitrogen Cycling)	186,805 (one PhD for Neufeld)	2009 – 2013
D. Smith (McGill) & co-investigators	NSERC, Strategic Projects Grant (Biochar amendments and soil microbiology)	192,300 (one PhD for Neufeld)	2009 – 2013
T. Charles (Biology, UW) & co-investigators	NSERC, Strategic Grant (Soil metagenomics)	295,017 (one PhD for Neufeld)	2009 – 2013
J.D. Neufeld	CFI, Leader's Opportunity Fund (Integrated Facility for Community Structure and Function)	150,000	2009
J.D. Neufeld	ORF-Research Infrastructure	150,000	2009
J.D. Neufeld	CIHR Catalyst Grant (Baseline for human microbiome)	100,000	2009

Curriculum Vitae

J.D. Neufeld	NSERC, Discovery Grant (Microbial ecology and diversity)	24,000	2008 – 2013
I. Clark (UOttawa) & co-investigators	NSERC, Strategic Projects Grant (Anammox in groundwater)	162,323 (one MSc for Neufeld)	2008 – 2012
M. Hausner (Ryerson) & co- investigators	NSERC, Strategic Projects Grant (Cellulose-degrading consortia)	159,033 (two MSc for Neufeld)	2008 – 2012
J.D. Neufeld	UW Startup Grant	85,000	2007
Trevor Charles and co-investigators	UW International Research Partnership Grants	13,750	2012
Trevor Charles and co-investigators	OGI Genomics Project Development (GPD) Workshop Program	10,000	2012

LIST OF PUBLICATIONS (H-index 59; updated from Google Scholar in September 2024)

Articles in Refereed Journals

(Underlined names are trainees from the University of Waterloo)

1. Ali S, Jenkins B, Cheng J, Stavropoulos A, Che G, Ahmadi A, **Neufeld JD**, Charles T, Ingalls B, Doxey AC. 2024. Comparative proteomics identifies a Ca²⁺-dependent adhesin required for biofilm formation in *Pseudoalteromonas tunicata*. NPJ Biofilms Microbiomes. Submitted.
2. Christiansen CT, Engel K, Hall M, **Neufeld JD**, Walker VK, Grogan P. 2024. Soil depth is more important than seasonal time in determining bacterial community composition down through the active layer and permafrost transition in mesic low Arctic tundra. Soil Biol. Biochem. In revision.
3. Beaver RC, **Neufeld JD**. 2024. Microbial ecology of the terrestrial subsurface. ISME J. 18: wrae091.
4. Virgin TL, Sonthiphand P, Coyotzi S, Hall MW, Venkiteswaran JJ, Cejudo E, Elgood RJ, Schiff SL, **Neufeld JD**. 2024. Microbial communities change along the 300 km length of the Grand River for extreme high- and low-flow regimes. Can. J. Microbiol. 70: 289-302.
5. Ford SE, Engel K, Brady A, Warr O, Sherwood Lollar G, **Neufeld JD**, Sherwood Lollar B, Slater GF. Deep terrestrial saline fluids harbor an indigenous microbial community dominated by *Candidatus Frackibacter*. Nat Geosci. In revision.
6. Deng Y, Umbach AK, **Neufeld JD**. 2024. Nonparametric richness estimators Chao1 and ACE must not be used with amplicon sequence variant data. ISME J. 18: wrae106.
7. McKnight MM, **Neufeld JD**. 2024. Microbial community analysis of biofilters reveals a dominance of either comammox *Nitrospira* or archaea as ammonia oxidizers in freshwater aquaria. Appl. Environ. Microbiol. 90: e00104-24.
8. Beaver RC, Vachon MA, Tully CS, Engel K, Spasov E, Binns WJ, Noël JJ, **Neufeld JD**. 2024. Impact of dry density and incomplete saturation on microbial growth in bentonite clay for nuclear waste storage. J Appl. Microbiol. 135: lxae053.
9. Wei X, Tan H, Lobb B, Zhen W, Wu Z, Parks DH, **Neufeld JD**, Moreno-Hagelsieb G, Doxey AC. 2024. AnnoView enables large-scale analysis, comparison, and visualization of microbial gene neighborhoods. Brief. Bioinform. 25: bbae229.
10. Reis PCJ, Tsuji JM, Weiblen C, Schiff SL, Scott M, Stein LY, **Neufeld JD**. 2024. Enigmatic persistence of aerobic methanotrophs in oxygen-limiting freshwater habitats. ISME J. 18: wrae041.
11. Tsuji JM, Shaw NA, Nagashima S, Venkiteswaran JJ, Schiff SL, Hanada S, Tank M, **Neufeld JD**. 2024. Anoxygenic phototrophic *Chloroflexota* member uses a Type I reaction center. Nature. 627: 915-922.
12. Umbach AK, Fernando C, Hill JE, **Neufeld JD**. 2023. Evaluating *cpn60* for high-resolution profiling of the mammalian skin microbiome. 3: 69.
13. Engel K, Ford SE, Binns WJ, Diomidis N, Slater GF, **Neufeld JD**. 2023. Stable microbial community in compacted bentonite after five years of exposure to natural granitic groundwater. mSphere. 8: e0004823.
14. Ospino MC, Engel K, Ruiz Navas S, Binns WJ, Doxey AC, **Neufeld JD**. 2023. Evaluation of multiple displacement amplification for metagenomic analysis of low biomass samples. ISME Commun. 4: ycae024.
15. Hamilton EF, Juurakko CL, Engel K, **Neufeld JD**, Casselman JM, Greer CW, Walker VK. 2023. Environmental impacts on skin microbiomes of sympatric High Arctic salmonids. Fishes 8: 214.
16. Hamilton EF, Juurakko CL, Engel K, Van Coeverden de Groot PJ, Casselman JM, Greer CW, **Neufeld JD**, Walker VK. 2023. Characterization of skin-and intestine microbial communities in migrating high Arctic lake whitefish and cisco. Arct. Sci. 10: 125-139.
17. **Neufeld JD**. 2023. Microbes 'R' us. Environ. Microbiol. 25: 177-178.
18. Bai X, McKnight MM, **Neufeld JD**, Parker WJ. 2023. Simultaneous nitrification, denitrification, and phosphorus removal from municipal wastewater at low temperature. Bioresour. Technol. 368: 128261.

Curriculum Vitae

19. Liu K, Schiff SL, Wu L, Molot LA, Venkiteswaran JJ, Paterson MJ, Elgood RJ, Tsuji JM, **Neufeld JD**. 2022. Large fractionation in iron isotopes implicates metabolic pathways for iron cycling in boreal shield lakes. *Environ. Sci. Technol.* 56: 14840-14851.
20. Fremin BJ, Bhatt AS, Kyripides NC, and the Global Phage Small Open Reading Frame (GP-SmORF) Consortium. 2022. Thousands of small, novel genes predicted in global phage genomes. *Cell Rep.* 39: 110984.
21. Bai X, McKnight MM, **Neufeld JD**, Parker WJ. Nitrogen removal pathways during simultaneous nitrification, denitrification, and phosphorus removal under low temperature and dissolved oxygen conditions. *Bioresour. Technol.* 354: 127177.
22. Al-Ajeel S, Spasov E, Sauder LA, McKnight MM, **Neufeld JD**. 2022. Ammonia-oxidizing archaea and complete ammonia-oxidizing bacteria in water treatment systems. *Wat. Res. X.* 15: 100131.
23. Beaver RC, Engel K, Binns WJ, **Neufeld JD**. 2022. Microbiology of barrier component analogues of a deep geological repository. *Can. J. Microbiol.* 68: 73-90.
24. Vachon MA, Engel K, Beaver RC, Slater GF, Binns WJ, **Neufeld JD**. 2021. Fifteen shades of clay: distinct microbial community profiles obtained from bentonite samples by cultivation and direct nucleic acid extraction. *Sci Rep.* 11: 22349.
25. Umbach AK, Stegemeier AA, **Neufeld JD**. 2021. Archaea are rare and uncommon members of the mammalian skin microbiome. *mSystems* 6: e00642-21.
26. SL Garcia SL, Mehrshad M, Buck M, Tsuji JM, **Neufeld JD**, McMahon KD, Bertilsson S, Greening C, Peura S. 2021. Freshwater *Chlorobia* exhibit metabolic specialization among cosmopolitan and endemic populations. *mSystems* 6: e01196-20.
27. Min D, Doxey AC, **Neufeld JD**. 2021. AXIOME3: Automation, eXtension, and Integration Of Microbial Ecology. *GigaScience.* 10: giab006.
28. Gromala M, **Neufeld JD**, McConkey BJ. 2021. Monitoring microbial populations and antibiotic resistance gene enrichment associated with Arctic waste stabilization ponds. *Appl. Environ. Microbiol.* 87: e02914-20.
29. Element G, Engel K, **Neufeld JD**, Casselman JM, Van Coeverden de Groot PJ, Walker VK. 2021. Distinct intestinal microbial communities of two sympatric anadromous Arctic salmonids and the effects of migration and feeding. *Arct. Sci.* In press.
30. Gwak JH, Jung MY, Hong H, Kim JG, Quan ZX, Reinfelder JR, Spasov E, **Neufeld JD**, Wagner M, Rhee S-K. 2020. Archaeal nitrification is constrained by copper complexation with organic matter in municipal wastewater treatment plants. *ISME J.* 14:335-346.
31. Sauder LA, Albertsen M, Engel K, Schwarz J, Nielsen PH, Wagner M, **Neufeld JD**. 2020. Correction: Cultivation and characterization of *Candidatus Nitrosocosmicus exaquare*, an ammonia-oxidizing archaeon from a municipal wastewater treatment system. *ISME J.* 14: 2366.
32. Tsuji JM, Tran N, Schiff SL, Venkiteswaran JJ, Molot LA, Tank M, Hanada S, **Neufeld JD**. 2020. Anoxygenic photosynthesis and iron-sulfur metabolic potential of *Chlorobia* populations from seasonally anoxic Boreal Shield lakes. *ISME J.* 14: 2732-2747.
33. Pronk GJ, Mollage A, Engel K, Milojevic T, Smeaton C, Rezanezhad F, **Neufeld JD**, Van Cappellen P. 2020. Carbon turnover and microbial activity in an artificial soil under imposed cyclic drainage and imbibition. *Vadose Zone J.* 19: e20021.
34. Lobb B, Hodgson R, Lynch MDJ, Mansfield MJ, Cheng J, Charles TC, **Neufeld JD**, Craig PM, Doxey AC. 2020. Time series resolution of the fish necrobiome reveals a decomposer succession involving toxigenic bacterial pathogens. *mSystems.* 5:e00145-20.
35. Lu X, Taylor AE, Myrold DD, **Neufeld JD**. 2020. Expanding perspectives of soil nitrification to include ammonia-oxidizing archaea and comammox bacteria. *Soil Sci. Soc. Am. J.* 84: 287-302.
36. Element G, Engel K, **Neufeld JD**, Casselman JM, van Coeverden de Groot P, Greer CW, Walker VK. 2020. Seasonal habitat drives intestinal microbiome composition in anadromous Arctic char (*Salvelinus alpinus*). *Environ. Microbiol.* 22: 2993-3609.
37. Spasov E, Tsuji J, Hug LA, Doxey AC, Sauder LA, Parker WJ, **Neufeld JD**. 2020. High functional diversity among *Nitrospira* populations that dominate rotating biological contactor microbial communities in a municipal wastewater treatment plant. *ISME J.* 14: 1857-1872.
38. Lu X, Heal KR, Ingalls AE, Doxey AC, **Neufeld JD**. 2019. Metagenomic and chemical characterization of soil cobalamin production. *ISME J.* 14: 53-66.
39. Cavaco MA, St. Louis VL, Engel K, St. Pierre KA, Schiff SL, Stibal M, **Neufeld JD**. 2019. Freshwater microbial community diversity in a rapidly changing high Arctic watershed. *FEMS Microbiol. Ecol.* 95: fiz161.
40. Engel K, Coyotzi S, Slater G, McKelvie J, **Neufeld JD**. 2019. Stability of microbial community profiles associated with compacted bentonite from the Grimsel Underground Research Laboratory. *mSphere.* 4:e00601-19.
41. Bergstrand LH, **Neufeld JD**, Doxey AC. 2019. Pygenprop: a Python library for interactive programmatic exploration and comparison of organism Genome Properties. *Bioinformatics.* 35: 5063-5065.
42. Engel K, Coyotzi S, Vachon M, McKelvie JR, **Neufeld JD**. 2019. Validating DNA extraction protocols for quantitative and qualitative microbial analyses of Wyoming MX-80 bentonite clay. *mSphere.* 4:e00334-19.

Curriculum Vitae

43. Hamilton EF, Element G, van Coeverden de Groot P, Engel K, **Neufeld JD**, Shah V, Walker VK. 2019. Anadromous Arctic char microbiomes: bioprospecting in the High Arctic. *Front. Bioeng. Biotechnol.* 7: 32.
44. Ross AA, Hoffmann AR, **Neufeld JD**. 2019. The skin microbiome of vertebrates. *Microbiome.* 7: 79.
45. Duguma D, Hall MW, Smartt CT, Debboun M, **Neufeld JD**. 2019. Microbiota variations in *Culex nigripalpus* disease vector mosquito of West Nile virus and Saint Louis Encephalitis from different geographic origins. *PeerJ.* 6: e6168.
46. Bik HM, Alexiev A, Aulakh SK, Bharadwaj L, Flanagan J, Haggerty JM, Hird SM, Jospin G, Lang JM, Sauder LA, **Neufeld JD**, Shaver A, Sethi A, Eisen JA, Coil DA. 2019. Microbial community succession and nutrient cycling responses following perturbations of experimental saltwater aquaria. *mSphere.* 4: e00043-19.
47. Lee J, Alrashed W, Engel K, **Neufeld JD**, Yoo K, Lee H-S. 2019. Methane-based denitrification kinetics and syntrophy in a membrane biofilm reactor at low methane pressure. *Sci. Total Environ.* 695:133818.
48. Lu X, Nicol GW, **Neufeld JD**. 2018. Differential responses of soil ammonia-oxidizing archaea and bacteria to temperature and depth under two different land uses. *Soil Biol. Biochem.* 120: 272-282.
49. Sauder LA, Engel K, Lo C-C, Chain PSG, **Neufeld JD**. 2018. Cultivation and characterization of *Candidatus Nitrosotenuis aquarius*, an ammonia-oxidizing archaeon from a freshwater aquarium biofilter. *Appl. Environ. Microbiol.* 84: e01430-18.
50. Ross AA, Müller K, Weese JS, **Neufeld JD**. 2018. Comprehensive skin microbiome analysis reveals the uniqueness of human skin and evidence for phyllosymbiosis within the class Mammalia. *Proc. Natl. Acad. Sci. U. S. A.* 115: E5786-E5795.
51. Alrashed W, Lee J, Park J, Rittmann BE, Tang Y, **Neufeld JD**, Lee HS. 2018. Hypoxic methane oxidation coupled to denitrification in a membrane biofilm. *Chem. Eng. J.* 348: 745-753.
52. Ross AA, Doxey AC, **Neufeld JD**. 2017. The skin microbiome of cohabiting couples. *mSystems.* 2:e00043-17.
53. Schiff S, Tsuji J, Wu L, Venkiteswaran J, Molot L, Elgood R, Paterson M, **Neufeld JD**. 2017. Millions of boreal shield lakes can be used to probe archaean ocean biogeochemistry. *Sci. Rep.* 7:46708.
54. Kvas S, Rahn J, Engel K, **Neufeld JD**, Villeneuve PJ, Trevors JT, Lee H, Scroggins RP, Beaudette LA. 2017. Development of a microbial test suite and data integration method for assessing microbial health of contaminated soil. *J. Microbiol. Meth.* 143: 66-77.
55. Thompson LR et al. 2017. A communal catalogue reveals Earth's multiscale microbial diversity. *Nature.* 551: 457-463.
56. Cheng J, Romantsov T, Engel K, Doxey AC, Rose DR, **Neufeld JD**, Charles TC. 2017. Functional metagenomics reveals novel β -galactosidases not predictable from gene sequences. *PLOS ONE.* 12:e0172545.
57. Gao Y, Lee J, **Neufeld JD**, Park J, Rittmann B, Lee H-S. 2017. Anaerobic oxidation of methane coupled with extracellular electron transfer to electrodes. *Sci. Rep.* 7:5099.
58. Duguma D, Hall MW, Smartt CT, **Neufeld JD**. 2017. Temporal variations of microbiota associated with the immature stages of two Florida *Culex* mosquito vectors. *Microb. Ecol.* 74: 979-989.
59. Sauder LA, Albertsen M, Schwarz J, Nielson P, Wagner M, **Neufeld JD**. 2017. Cultivation and characterization of *Candidatus Nitrosocosmicus exaquare*, an ammonia-oxidizing archaeon from a municipal wastewater treatment system. *ISME J.* 11:1142-1157.
60. **Neufeld JD**. 2017. Direct-geneFISH: tuning up microscopic and molecular methodologies for targeted cell visualization. *Environ. Microbiol.* 19:3-4.
61. De Palma G, Lynch MDJ, Lu J, Dang VT, Deng Y, Jury J, Umeh G, Miranda P, Pigrau M, Sidani S, Pinto Sanchez MI, Philip V, McLean PG, Moreno-Hagelsieb G, Surette MG, Bergonzelli GE, Verdu EF, Britz-McKibbin P, **Neufeld JD**, Collins SM, Bercik P. 2017. Microbiota from irritable bowel syndrome patients with diarrhea and comorbid anxiety alters gut and brain function of gnotobiotic mice. *Sci. Transl. Med.* 9:eaaf6397.
62. Duguma D, Hall MW, Smartt CT, **Neufeld JD**. 2017. Effects of organic amendments on microbiota associated with the *Culex nigripalpus* mosquito vector of the Saint Louis and West Nile viruses. *mSphere.* 2:e00387-16.
63. Seuradje BJ, Oelbermann M, **Neufeld JD**. 2016. Depth-dependent influence of different land-use systems on bacterial biogeography. *FEMS Microbiol. Ecol.* 93:fiw239.
64. Hall MW, Singh N, Ng KF, Tenenbaum H, **Neufeld JD**, Beiko R, Senadheera D. 2017. Inter-personal diversity and temporal dynamics of dental, tongue, and salivary microbiota in the healthy oral cavity. *NPJ Biofilms Microbiomes.* 3:2
65. Coyotzi S, Petrenko P, Clark ID, Lapen DR, Van Cappellen P, Doxey AC, **Neufeld JD**. 2017. Agricultural soil denitrifiers possess extensive nitrite reductase gene diversity. *Environ. Microbiol.* 19:1189-1208.
66. Lu X, Seuradje BJ, **Neufeld JD**. 2017. Biogeography of soil thaumarchaeota in relation to soil depth and land usage. *FEMS Microbiol. Ecol.* 93:fiw246.
67. **Neufeld JD**. 2017. Migrating SSU rRNA gene surveys to the metagenomics era. *Environ. Microbiol.* 9:23-24.
68. Aqeel H, Basuvaraj M, Hall M, **Neufeld JD**, Liss SN. 2016. Microbial dynamics and properties of aerobic granules developed in a laboratory scale sequencing batch reactor with an intermediate filamentous bulking stage. *Appl. Microbiol. Biotechnol.* 100: 447-460.
69. Nesme J et al. 2016. Back to the future of soil metagenomics. *Front. Microbiol.* 7: 73.
70. Lynch MDJ, **Neufeld JD**. 2016. SSUnique: Detecting sequence novelty in microbiome surveys. *mSystems.* 1: e00133-16.

Curriculum Vitae

71. Sauder LA, Ross A, **Neufeld JD**. 2016. Nitric oxide scavengers differentially inhibit ammonia oxidation in ammonia-oxidizing archaea and bacteria. *FEMS Microbiol. Lett.* 363: fnw052.
72. Coyotzi S, Pratscher J, Murrell JC, **Neufeld JD**. 2016. Targeted metagenomics of active microbial populations with stable-isotope probing. *Curr. Opin. Biotechnol.* 41: 1-8.
73. Duguma D, Hall MW, Rugman-Jones P, Stouthamer R, Terenius O, **Neufeld JD**, Walton WE. 2015. Developmental succession of the microbiome of *Culex* mosquitoes. *BMC Microbiol.* 15: 140.
74. Ross AA, **Neufeld JD**. 2015. Microbial biogeography of a university campus. *Microbiome.* 3: 66.
75. Lam KN, Cheng J, Engel K, **Neufeld JD**, Charles TC. 2015. Current and future resources for functional metagenomics. *Front. Microbiol.* 6: 1996.
76. Petrenko P, Kurtz DA, Lobb B, **Neufeld JD**, Doxey AC. 2015. MetAnnotate: function-specific taxonomic profiling and comparison of metagenomes. *BMC Biology.* 13: 92.
77. Jensen S, Lynch MDJ, Ray JL, **Neufeld JD**, Hovland M. 2015. Norwegian deep-water coral reefs: cultivation and molecular analysis of planktonic microbial communities. *Environ. Microbiol.* 17: 3597-3609.
78. Duguma D, Hall M, Rugman-Jones P, **Neufeld JD**, Stouthamer R, Walton WE. 2015. Bti dose rate affects microbial communities and nutrient dynamics in experimental aquatic microcosms. *J. Appl. Ecol.* 52: 763-773.
79. Duguma D, Hall MW, Rugman-Jones P, Stouthamer R, Terenius O, **Neufeld JD**, Walton WE. 2015. Developmental succession of the microbiome of *Culex* mosquitoes. *BMC Microbiol.* 15: 140.
80. Kennedy K, Hall MW, Lynch MDJ, Moreno-Hagelsieb G, **Neufeld JD**. 2014. Evaluating bias for Illumina-based bacterial 16S rRNA gene profiles. *Appl. Environ. Microbiol.* 80: 5717-5722.
81. Lynch MDJ, **Neufeld JD**. 2015. Microbial ecology of the rare biosphere. *Nat. Rev. Microbiol.* 13: 217-229.
82. Gilbert JA and **Neufeld JD**. 2014. Life in a world without microbes. *PLoS Biol.* 12: e1002020.
83. Shi Y, Xiang X, Shen C, Chu H, **Neufeld JD**, Walker VK, Grogan P. 2015. Soil bacterial and eukaryotic microbial distributions among vegetation types in a low Arctic tundra landscape. *Appl. Environ. Microbiol.* 81: 492-501.
84. Barret M, Gagnon N, Morissette B, Kalmokoff ML, Topp E, Brooks SPJ, Matias F, **Neufeld JD**, Talbot G. 2015. Phylogenetic identification of methanogens assimilating acetate-derived carbon in dairy and swine manures. *Syst. Appl. Microbiol.* 38: 56-66.
85. Verastegui Y, Cheng J, Engel K, Kolczynski D, Mortimer S, Romanstov T, Hall M, McConkey BJ, Rose DR, Scott B, Charles TC, **Neufeld JD**. 2014. Multi-substrate isotope labeling and metagenomic analysis of active soil bacterial communities. *mBio.* 5: e01157-14.
86. O'Doherty KC, **Neufeld JD**, Brinkman FSL, Gardner H, Guttman DS, Beiko RG. 2014. Conservation and stewardship of the human microbiome. *Proc. Natl. Acad. Sci. U. S. A.* 11: 14312-14313.
87. Doxey AC, Kurtz DA, Lynch MDJ, Sauder LA, **Neufeld JD**. 2014. Aquatic metagenomes implicate *Thaumarchaeota* in global cobalamin production. *ISME J.* 9: 461-471.
88. Sonthiphand P, Hall MW, **Neufeld JD**. 2014. Biogeography of anaerobic ammonia-oxidizing (anammox) bacteria. *Front. Microbiol.* 5: 399.
89. Cheng J, Pinnell L, Engel K, **Neufeld JD**, Charles TC. 2014. Versatile broad-host-range cosmids for construction of high quality metagenomic libraries. *J. Microbiol. Meth.* 99: 27-34.
90. Lam KN, Engel K, Vey G, Hall MW, Cheng J, **Neufeld JD**, Charles TC. 2014. Evaluation of a pooled strategy for high-throughput sequencing of cosmid clones from metagenomic libraries. *PLOS ONE.* 9: e98968.
91. Galimanis V, Hall MW, Singh N, Lynch MDJ, Goldbert M, Tenenbaum H, Cvitkovitch DG, **Neufeld JD**, Senadheera DB. 2014. Bacterial community composition of chronic periodontitis and novel oral sampling sites for detecting disease indicators. *Microbiome.* 2: 32.
92. Pinnell LJ, Dunford E, Ronan P, Hausner M, **Neufeld JD**. 2014. Recovering glycoside hydrolase genes from active tundra cellulolytic bacteria. *Can. J. Microbiol.* 60: 469-476.
93. Bartram AK, Jiang X, Lynch MDJ, Masella A, Nicol GW, Dushoff J, **Neufeld JD**. 2014. Exploring links between pH and bacterial community composition in soils from the Craibstone Experimental Farm. *FEMS Microbiol. Ecol.* 87: 403-415.
94. Sonthiphand P, **Neufeld JD**. 2014. Nitrifying bacteria mediate aerobic ammonia oxidation and urea degradation within the Grand River. *Aquat. Microb. Ecol.* 73:151-162.
95. Bagchi S, Vlaeminck SE, Sauder L, Mosquera M, **Neufeld JD**, Boon N. 2014. Temporal and spatial community dynamics of ammonia oxidizing archaea and bacteria in aquarium biofilters. *PLOS ONE.* 9: e113515.
96. Duguma D, Rugman-Jones P, Kaufman MG, Hall M, **Neufeld JD**, Stouthamer R, Walton WE. 2013. Bacterial communities associated with *Culex* mosquito larvae and two emergent aquatic plants of bioremediation importance. *PLoS ONE.* 8: e72522.
97. Zamanzadeh M, Parker WJ, Verastegui Y, **Neufeld JD**. 2013. Biokinetic and molecular studies of methanogens in phased anaerobic digestion systems. *Bioresour. Technol.* 149: 318-326.
98. Lynch MDJ, Masella AP, Hall MW, Bartram AK, **Neufeld JD**. 2013. AXIOME: automated exploration of microbial diversity. *GigaScience.* 2: 3.
99. Sonthiphand P, Cejudo E, Schiff S, **Neufeld JD**. 2013. Wastewater effluent impacts ammonia-oxidizing prokaryotes of the Grand River, Canada. *Appl. Environ. Microbiol.* 79: 7454-7465.
100. Engel K, Ashby D, Brady SF, Cowan DA, Doerner J, Edwards EA, Fiebig K, Martens EC, McCormac D, Mead DA, Miyazaki K, Moreno-Hagelsieb G, O'Gara F, Reid A, Rose DR, Simonet P, Sjöling S, Smalla K, Streit WR,

Curriculum Vitae

- Tedman-Jones J, Valla S, Wellington EMH, Wu C, Liles MR, Neufeld JD, Sessitsch A, Charles TC. 2013. Meeting Report: 1st International Functional Metagenomics Workshop May 7–8, 2012, St. Jacobs, Ontario, Canada. *Stand. Genomic Sci.* 8: 106-111.
101. Sonthiphand P, **Neufeld JD**. 2013. Evaluating primers for profiling anaerobic ammonia-oxidizing bacteria within freshwater environments. *PLoS ONE*. 8: e57242.
102. Zamanzadeh M, Parker WJ, Verastegui Y, **Neufeld JD**. 2012. Biokinetics and bacterial communities of propionate oxidizing bacteria in phased anaerobic sludge digestion systems. *Water Res.* 47: 1558-1569.
103. Barret M, Gagnon N, Kalmokoff M, Topp E, Verastegui Y, Brooks SPJ, Matias F, **Neufeld JD**, Talbot G. 2013. Identification of *Methanoculleus* spp. as active methanogens in a swine manure storage tank. *Appl. Environ. Microbiol.* 79: 424-433.
104. Sauder L, Peterse F, Schouten S, **Neufeld JD**. 2012. Low-ammonia niche of ammonia-oxidizing archaea in rotating biological contactors of a full-scale municipal wastewater treatment plant. *Environ. Microbiol.* 14: 2589-2600.
105. Lynch MDJ, Bartram AK, **Neufeld JD**. 2012. Targeted recovery of novel phylogenetic diversity from next-generation sequence data. *ISME J.* 6: 2067-2077.
106. Robertson WD, Moore T, Spoelstra J, Li L, Elgood R, Clark ID, Schiff SL, Aravena R, **Neufeld JD**. 2012. Natural attenuation of septic system nitrogen by anammox. *Ground Wat.* 50: 541-553.
107. Engel K, Pinnell L, Cheng J, Charles TC, **Neufeld JD**. 2012. Nonlinear electrophoresis for purification of soil DNA for metagenomics. *J. Microbiol. Meth.* 88: 35-40.
108. Stearns JC, Lynch MDJ, Senadheera DB, Tenenbaum HC, Goldberg MB, Cvitkovitch DG, Croitoru K, Moreno-Hagelsieb G, **Neufeld JD**. 2011. Bacterial biogeography of the human digestive tract. *Scientific Reports.* 1: 170.
109. Masella AP, Bartram AK, Brown DG, Truszkowski JM, **Neufeld JD**. 2012. PANDAseq 2.0: Paired-eND Assembler for Illumina sequences. *BMC Bioinformatics.* 13: 31.
110. **Neufeld JD**, Engel K, Cheng J, Moreno-Hagelsieb G, Rose DR, Charles TC. 2011. Open resource metagenomics: a model for sharing metagenomic libraries. *Stand Genomic Sci.* 5: 203-210.
111. Moore T, Xing Y, Lazenby B, Schiff S, Robertson W, Timlin R, Lanza S, Cathryn Ryan M, Aravena R, Fortin D, Clark I, **Neufeld JD**. 2011. Prevalence of anaerobic ammonium-oxidizing bacteria in contaminated groundwater. *Environ. Sci. Technol.* 45: 7217-7225.
112. Avrahami S, Jia Z, **Neufeld JD**, Murrell JC, Conrad R, Küsel K. 2011. Active autotrophic ammonia oxidizing prokaryotes from simulated stream biofilms respond to temperature manipulation under two ammonium loads. *Environ. Microbiol.* 77: 7329-7238.
113. Sauder L, Engel K, Stearns JC, Masella AP, Pawlizyn R, **Neufeld JD**. 2011. Aquarium nitrification revisited: Thaumarchaeota are the dominant ammonia oxidizers in freshwater aquarium biofilters. *PLoS ONE.* 6: e23281.
114. Kristiansen A, Lindholm S, Feilberg A, Nielsen PH, **Neufeld JD**, Nielsen JL. 2011. Butyric acid- and dimethyl disulphide-assimilating microorganisms in a biofilter treating air emissions from a pig facility. *Appl. Environ. Microbiol.* 77: 8595-8604.
115. Jansson J, **Neufeld JD**, Moran MA, Gilbert, JA. 2011. Omics for understanding microbial functional dynamics. *Environ. Microbiol. Rep.* 14: 1-3.
116. Chu H, **Neufeld JD**, Walker VK, Grogan P. 2011. The influence of vegetation type on the dominant soil bacteria, archaea and fungi in a low Arctic tundra landscape. *Soil. Sci. Soc. Am. J.* 75: 1756-1765.
117. Yilmaz P *et al.* 2011. Minimum information about a marker gene sequence (MIMARKS) and minimum information about any (x) sequence (MIXS) specifications. *Nat. Biotechnol.* 29: 415-420.
118. Bartram A, Lynch MDJ, Stearns JC, Moreno-Hagelsieb G, **Neufeld JD**. 2011. Generation of multi-million 16S rRNA gene libraries from complex microbial communities by assembling paired-end Illumina reads. *Appl. Environ. Microbiol.* 77: 3846-3852. *Featured cover image for this issue.*
119. Dunford E, **Neufeld JD**. 2010. DNA stable-isotope probing. *J Vis. Exp.* 42: e2027.
120. Bartram AK, Poon C, **Neufeld JD**. 2009. Nucleic acid contamination of glycogen used in nucleic acid precipitation and assessment of linear polyacrylamide as an alternative co-precipitant. *Biotechniques.* 47: 1019–1022. *Twice nominated by Faculty of 1000 Biology.*
121. Moussard H, Stralis-Pavese N, Bodrossy L, **Neufeld JD**, Murrell JC. 2009. Identification of active methylotrophic bacteria inhabiting surface sediment of a marine estuary. *Environ. Microbiol. Rep.* 1: 424-433.
122. Jensen S, **Neufeld JD**, Birkeland NK, Hovland M, Murrell JC. 2008. Methane assimilation and trophic interactions with marine *Methylobacterium* in deep-water coral reef sediment off the coast of Norway. *FEMS Microbiol. Ecol.* 66: 320-330.
123. Jensen S, **Neufeld JD**, Hovland M, Murrell JC. 2008. Insight into the microbial community structure of a Norwegian deep-water coral reef environment. *Deep Sea Res.* 55: 1554-1563.
124. **Neufeld JD**, Li J, Mohn WW. 2008. Scratching the surface of the rare biosphere with ribosomal sequence tag primers. *FEMS Microbiol. Lett.* 283: 146-153.
125. Binga E, Lasken R, **Neufeld JD**. 2008. Something from (almost) nothing: the impact of multiple displacement amplification on microbial ecology. *ISME J.* 2: 233-241.
126. Chen Y, Dumont MG, **Neufeld JD**, Bodrossy L, Stralis-Pavese N, McNamara N, Ostle N, Briones MJJ, Murrell JC. 2008. Revealing the uncultivated majority: combining DNA stable-isotope probing, multiple displacement

Curriculum Vitae

- amplification and metagenomic analyses of uncultivated *Methylocystis* in acidic peatlands. *Environ. Microbiol.* 10: 2609-2622.
127. **Neufeld JD**, Boden R, Moussard H, Schäfer H, Murrell JC. 2008. Substrate-specific clades of active marine methylotrophs associated with a phytoplankton bloom in a temperate coastal environment. *Appl. Environ. Microbiol.* 74: 7321-7328.
 128. **Neufeld JD**, Chen Y, Dumont MG, Murrell JC. 2008. Marine methylotrophs revealed by stable-isotope probing, multiple displacement amplification and metagenomics. *Environ. Microbiol.* 10: 1526-1535.
 129. **Neufeld JD**, Schäfer H, Boden R, McDonald IR, Murrell JC. 2007. Stable-isotope probing implicates *Methylophaga* spp. and novel Gammaproteobacteria in marine methanol and methylamine metabolism. *ISME J.* 1: 480-491.
 130. **Neufeld JD**, Murrell JC. 2007. Witnessing the last supper of uncultivated microbial cells with Raman-FISH. *ISME J.* 1: 269-270.
 131. **Neufeld JD**, Wagner M, Murrell JC. 2007. Who eats what, where and when? Isotope-labelling experiments are coming of age. *ISME J.* 1: 103-110.
 132. **Neufeld JD**, Vohra J, Dumont MG, Lueders T, Manefield M, Friedrich M, Murrell JC. 2007. DNA stable isotope probing. *Nat. Protoc.* 2: 860-866.
 133. Booth T, Gilbert J, **Neufeld JD**, Ball J, Thurston M, Chipman K, Joint I, Field D. 2007. Handlebar: A flexible, web-based inventory manager for handling barcoded samples. *Biotechniques.* 42: 300-302.
 134. **Neufeld JD**, Dumont MG, Vohra J, Murrell JC. 2007. Methodological considerations for the application of stable isotope probing in microbial ecology. *Microbiol. Ecol.* 53: 435-442.
 135. Dumont MG, **Neufeld JD**, Murrell JC. 2006. Isotopes as tools for microbial ecologists. *Curr. Opin. Biotech.* 17: 57-58.
 136. **Neufeld JD**, Mohn WW, de Lorenzo V. 2006. Composition of microbial communities in hexachlorocyclohexane (HCH) contaminated soils from Spain revealed with a habitat-specific microarray. *Environ. Microbiol.* 8: 126-140.
 137. Mohn WW, Mertens B, **Neufeld JD**, Verstraete W, de Lorenzo V. 2006. Distribution and phylogeny of hexachlorocyclohexane-degrading bacteria in soils from Spain. *Environ. Microbiol.* 8: 60-68.
 138. **Neufeld JD**, Mohn WW. 2005. Unexpectedly high bacterial diversity in arctic tundra relative to boreal forest soils, revealed with serial analysis of ribosomal sequence tags. *Appl. Environ. Microbiol.* 71: 5710-5718.
 139. **Neufeld JD**, Mohn WW. 2005. Fluorophore-labeled primers improve the sensitivity, versatility, and normalization of denaturing gradient gel electrophoresis. *Appl. Environ. Microbiol.* 71: 4893-4896.
 140. Leckie SE, Prescott CE, Grayston SJ, **Neufeld JD**, Mohn WW. 2004. Characterization of humus microbial communities in two adjacent forest types that differ in nitrogen availability. *Microb. Ecol.* 48: 29-40.
 141. **Neufeld JD**, Yu Z, Lam W, Mohn WW. 2004. Serial analysis of ribosomal sequence tags (SARST): a high-throughput method for profiling complex microbial communities. *Environ. Microbiol.* 6: 131-144.
 142. Leckie SE, Prescott CE, Grayston SJ, **Neufeld JD**, Mohn WW. 2004. Comparison of chloroform fumigation-extraction, phospholipid fatty acid, and DNA methods to determine microbial biomass in forest humus. *Soil Biol. Biochem.* 36: 529-532.
 143. **Neufeld JD**, Driscoll BT, Knowles R, Archibald FS. 2001. Quantifying functional-gene populations: a comparison of gene abundance and corresponding enzymatic activity using denitrification and nitrogen fixation in pulp and paper mill effluent treatment systems. *Can. J. Microbiol.* 47: 925-934.
 144. Gauthier F, **Neufeld JD**, Driscoll BT, Archibald FS. 2000. Coliform bacteria and nitrogen fixation in pulp and paper mill effluent treatment systems. *Appl. Environ. Microbiol.* 66: 5155-5160.
 145. **Neufeld JD**, Knowles R. 1999. Inhibition of nitrifiers and methanotrophs from an agricultural humisol by allylsulfide and its implications for environmental studies. *Appl. Environ. Microbiol.* 65: 2461-2465.

Curriculum Vitae

Chapters, Books, magazines

(Underlined names are HQP from University of Waterloo)

1. Jameson E, Taubert M, Angel R, Coyotzi S, Chen Y, Eyice Ö, Schäfer H, Murrell JC, **Neufeld JD**, Dumont MG. 2023. DNA-, RNA-, and Protein-Based Stable-Isotope Probing for High-Throughput Biomarker Analysis of Active Microorganisms. *Metagenomics*, Humana, New York, NY pgs. 261-282.
2. Wessner DR, Dupont C, Charles TC, **Neufeld JD**. 2021. *Microbiology*. 3rd edition. Wiley.
3. Mijndonckx K, Monsieurs P, Černá K, Hlaváčková V, Steinova J, Burzan B, Bernier-Latmani R, Boothman C, Miettinen H, Matschiavelli N, Cherkouk A, Jroundi F, Merroun M, Engel K, **Neufeld JD**, Leys N. 2021. Molecular techniques for understanding microbial abundance and activity in geodisposal. In *The Microbiology of Nuclear Waste*. Elsevier.
4. Cheng J, Lam KN, Engel K, Hall MW, **Neufeld JD**, Charles TC. 2017. A collection of metagenomic cosmid libraries suitable for functional screening in Proteobacteria. *Functional Metagenomics: Tools and Applications*. Springer.
5. Wessner DR, Dupont C, Charles TC, **Neufeld JD**. 2017. *Microbiology*. 2nd edition. Wiley.
6. **Neufeld JD**. 2017. Methods to detect specific individuals and groups in communities. *Hydrocarbon Microbiology*. Timmis K (Ed.) Springer Berlin Heidelberg.
7. Hernandez Garcia M, **Neufeld JD**, Dumont MG. 2017. Enhancing functional metagenomics of complex microbial communities using stable isotopes. *Functional Metagenomics: Tools and Applications*. Berlin, DE, Springer-Verlag.
8. Jameson E, Taubert M, Coyotzi S, Chen Y, Eyice Ö, Schäfer H, Murrell JC, **Neufeld JD**, Dumont MG. 2017. DNA-, RNA-, and protein-based stable-isotope probing for high-throughput biomarker analysis of active microorganisms. *Metagenomics: Methods and Protocols*. Springer New York.
9. Green SJ, Leigh MB, **Neufeld JD**. 2017. Denaturing gradient gel electrophoresis (DGGE) for microbial community analysis. *Hydrocarbon Microbiology*. Timmis K (Ed.) Springer Berlin Heidelberg.
10. Grob C, Taubert M, Howat AM, Burns OJ, Chen Y, **Neufeld JD**, Murrell JC. 2017. Generating enriched metagenomes from active microorganisms with DNA stable isotope probing. *Hydrocarbon Microbiology*. Timmis K (Ed.) Springer Berlin Heidelberg.
11. Leigh MB, Taylor L, **Neufeld JD**. 2017. Clone libraries of ribosomal RNA gene sequences for characterization of bacterial and fungal communities. *Hydrocarbon Microbiology*. Timmis K (Ed.) Springer Berlin Heidelberg.
12. Taubert M, Grob C, Howat AM, Burns OJ, Chen Y, **Neufeld JD**, Murrell JC. 2016. Analysis of active methylotrophic communities: when DNA-SIP meets high throughput technologies. *Microbial Environmental Genomics in Methods in Molecular Biology*. Springer Berlin Heidelberg. pp. 235-255.
13. Ionescu D, Overholt WA, Lynch MDJ, **Neufeld JD**, Naqib A, and Green SJ. 2016. Microbial community analysis using high-throughput amplicon sequencing. *Manual of Environmental Microbiology*. Wiley.
14. **Neufeld JD**. 2013. Unravelling the mysteries of aquarium filter microbiology. *Practical Fishkeeping Magazine*.
15. Charles TC, **Neufeld JD**. Open Resource Metagenomics. In *Encyclopedia of Metagenomics*. Nelson KE (Ed.) Springer-Verlag Berlin Heidelberg. DOI: 10.1007/SpringerReference_349774
16. Green SJ, **Neufeld JD**. 2013. Microbial community analysis of environmental samples with next-generation sequencing. In *Molecular Microbial Ecology Manual (MME)*, 3rd edition. Kowalchuk, GA, de Bruijn, FJ, Head, IM, Akkermans, AD, and van Elsas, JD (Eds.) Kluwer Academic Publishing, pp. 543-568.
17. **Neufeld JD**. 2012. Strangers in your home: Archaea thrive in aquarium biofilters. *Kitchener Waterloo Aquarium Society newsletter*. Cover story for March 2012 issue.
18. **Neufeld JD**. 2012. Strangers in your home: Archaea thrive in aquarium biofilters. *Victorian Cichlid Society newsletter*. April 2012 issue, reprinting of Kwas article.
19. **Neufeld JD**. 2012. Ecology and Innovation: Archaea in wastewater treatment. *Splash Pad*. Volume 3, Issue 1. (Newsletter for The Water Institute at UW)
20. Pinnell LJ, Charles TC, **Neufeld JD**. 2010. Stable-isotope probing and metagenomics. *Stable Isotopes in Microbial Molecular Ecology*. Whiteley A, Murrell JC (Eds.) ASM Press.
21. Chen Y, Dumont MG, **Neufeld JD**, McNamara NP, Murrell JC. 2010. Towards "focused metagenomics": a case study combining DNA stable-isotope probing, multiple displacement amplification and metagenomics. *Handbook of Molecular Microbial Ecology I: Metagenomics and Complementary Approaches*. de Bruijn FJ (Ed.) Wiley/Blackwell.
22. Chen Y, **Neufeld JD**, Dumont MG, Friedrich M, Murrell JC. 2010. Metagenomic analysis of isotopically enriched DNA. *Methods Mol. Biol.* 668: 67-75.
23. Leigh MB, Taylor L, **Neufeld JD**. 2010. Clone libraries of ribosomal RNA gene sequences for characterization of bacterial and fungal communities. *Hydrocarbon Microbiology*. Timmis K (Ed.) Springer Berlin Heidelberg. pp. 3969-3993.
24. Gilbert JA, Zhang K, **Neufeld JD**. 2010. Multiple displacement amplification. *Hydrocarbon Microbiology*. Timmis K (Ed.) Springer Berlin Heidelberg. pp. 4255-4263.
25. Green SJ, Leigh MB, **Neufeld JD**. 2010. Denaturing gradient gel electrophoresis (DGGE) for microbial community analysis. *Hydrocarbon Microbiology*. Timmis K (Ed.) Springer Berlin Heidelberg. pp. 4137-4158.

Curriculum Vitae

26. **Neufeld JD**, Mohn WW. 2006. Assessment of microbial phylogenetic diversity based on environmental nucleic acids. In *Molecular Identification, Systematics, and Population Structure of Prokaryotes*. Stackebrandt (Ed.) Heidelberg:Springer-Verlag, pp. 219-260.
27. **Neufeld JD**, Yu Z, Lam W, Mohn WW. 2004. SARST, Serial Analysis of Ribosomal Sequence Tags. In *Molecular Microbial Ecology Manual (MMEM)*, 2nd edition. Kowalchuk, GA, de Bruijn, FJ, Head, IM, Akkermans, AD, and van Elsas, JD (Eds.) Kluwer Academic Publishing, pp. 543-568.

Technical Reports

(Underlined names are HQP from University of Waterloo)

1. Beaver RC, Usman MO, Ford SE, Vachon MA, Engel K, Simpson MJ, Slater GF, **Neufeld JD**. 2020. Analysis of a Miocene era bentonite deposit from Japan. (NWMO, Technical memo)
2. Engel K, Ford SE, Vachon MA, Beaver RC, Slater GF, and **Neufeld JD**. 2019. Evaluation of the merits of core and groundwater for characterization of microorganisms in crystalline rock. (NWMO; Technical memo)
3. Engel K, Coyotzi S, Slater GF, **Neufeld JD**. 2018. Development of protocols for sampling and assessment of bentonite and environmental samples associated with in situ proof tests of engineered barrier systems. Research report for the Nuclear Waste Management Organization (NWMO; NWMO-TR-2018-04).
4. Slater GF, **Neufeld JD**, Sherwood Lollar B. 2018. Development of microbial characterization techniques for crystalline rock. Research report for the Nuclear Waste Management Organization (NWMO; NWMO-TR-2018-05).

Curriculum Vitae

INVITED SPEAKER PRESENTATIONS

(All listed invited addresses are University of Waterloo affiliation)

2024	Shedding light on the evolution of anoxygenic photosynthesis by exploring Boreal Shield lake bacteria. Invited presentation for Cornell University microbiology seminar series, Cornell University, Ithaca, New York.
2024	Ecology and activity of aerobic methanotrophs in seemingly anoxic Boreal Shield lake water. Invited oral presentation at the "Biogeochemical Cycles" ELSA Mini-Symposium, University of East Anglia, Norwich, UK
2023	Shedding light on the evolution of anoxygenic photosynthesis by exploring Boreal Shield lake bacteria. Invited presentation at the Applied and Environmental Microbiology Gordon Research Conference, South Hadley, MA, USA
2023	Microbes in the water: shining new light on anoxygenic photosynthesis. Keynote presentation for the First ISME-Africa Symposium and Bioinformatics Training Workshop, Yamoussoukro, Côte d'Ivoire, Africa
2023	Shining new light on the evolution of microbial photosynthesis through cultivation and metagenomics of Boreal Shield lake water. Keynote presentation for "Microbes in Norwich" symposium, University of East Anglia, Norwich, UK
2023	Microbiology of barrier components of a deep geological repository for used nuclear fuel. Invited oral presentation for the Extreme Environments workshop, University of East Anglia, Norwich, UK
2023	Microbes in the water: shining new light on anoxygenic photosynthesis. Invited oral presentation for the "Microbes in the Bush" retreat, Johannesburg, South Africa.
2023	Lessons learned about publishing as an Editor in Chief of The ISME Journal. Invited oral presentation for the ISME meeting, South Africa.
2023	Microbiology of barrier systems for nuclear waste storage. Oral presentation at an annual tour of the Nuclear Waste Management Organization, Mississauga, Ontario, Canada
2023	Anoxygenic phototrophic Chloroflexota member uses a Type I reaction center. Oral presentation for the Canadian Society for Microbiologists, Halifax, Nova Scotia, Canada.
2023	Shedding light on the evolution of anoxygenic phototrophy through cultivation of Boreal Shield lake bacteria. Invited presentation for the Department of Biology seminar series, Queen's University, Kingston, Ontario, Canada
2022	This is fine: a scientist's reflections on making friends with failure. Keynote lecture to the BioZone conference. University of Toronto, Toronto, Ontario, Canada.
2022	Microbial ecology of engineered and natural barriers intended for a deep geological repository of used nuclear fuel. Invited presentation for the Montana State University, Bozeman, Montana, US
2022	Microbial ecology of engineered and natural barriers intended for a deep geological repository of used nuclear fuel. Invited Microbial Ecology Webinar for the Chinese Association for Microbial Ecology (CAME)
2021	Ecology of ammonia oxidizers in engineered aquatic environments. Invited oral presentation for the Hebrew University of Jerusalem, Israel
2021	The influence of host species on the mammalian skin microbiome. Invited oral presentation for the 8th Beneficial Microbes Conference (BMC2021)
2021	Exploring metabolic mysteries of ammonia-oxidizing archaea in rotating biological contactors. Invited plenary lecture for the Chinese Association for Microbial Ecology (CAME)
2021	Microbiology and Water. Invited oral presentation for the Indigenous Knowledge Workshop, Toronto, Ontario, Canada
2021	Ecology of ammonia oxidizers in engineered aquatic environments. Invited oral presentation for the Comammox Research Platform, University of Vienna, Vienna, Austria
2021	Microbial analysis of crystalline rock. Invited presentation for the 2021 Geoscience Webinar: Geosynthesis Studies to Support License Applications
2020	Enigmatic ecology of ammonia oxidizers in engineered aquatic environments. Invited oral presentation for the Department of Biochemistry and Microbiology Fermentation Webinar, Rutgers University, New Jersey
2020	Diving into wastewater nitrification through novel metagenomic analyses. Invited keynote presentation for the Earth and Life Systems Alliance Workshop on Metagenomics, University of East Anglia, UK
2020	Microbial analysis of natural and engineered barrier components for predicting the stability of a used nuclear fuel repository. Invited oral presentation for the Ontario Research Fellowship annual progress meeting, Western University, Ontario, Canada
2020	Methane microbiology. Invited oral presentation for the Methane Workshop, The Water Institute, University of Waterloo, Ontario, Canada
2019	The enigmatic ecology of ammonia oxidation in a municipal wastewater treatment system. Invited oral presentation for Ryerson University
2019	Academic-industry partnerships for exploring the microbiology of nuclear waste management. Invited oral presentation for the Community Liason Committee, South Bruce

Curriculum Vitae

2019	Academic-industry partnerships for exploring the microbiology of nuclear waste management. Invited oral presentation for the Community Liason Committee, Township of Huron Kinloss
2019	Through a glass (less) darkly: resolving wastewater nitrification through metagenomics. Invited oral presentation for the Pioneers of Metagenomics - Environment and Health 2019 session at the Genome-centric Metagenomics Workshop 2019, Calgary, Alberta, Canada.
2019	Microbiology of a deep geological repository. Invited oral presentation for the Nuclear Waste Management Organization (NWMO). Waterloo, Ontario, Canada.
2019	The Environmental Impact of Engineered Materials Degradation in Porous Consolidated Media. Invited oral presentation for the Nuclear Waste Management Organization (NWMO). Toronto, Ontario, Canada.
2019	Investigating microorganisms present in DGR components and assess their potential impacts on long-term containment and isolation of used nuclear fuel. Invited oral presentation for the Nuclear Waste Management Organization (NWMO). Toronto, Ontario, Canada.
2019	Nitrogen cycle revisited: which microbes remove ammonia in aquarium filters? Invited oral presentation for the Kitchener Waterloo Aquarium Society. Waterloo, Ontario, Canada.
2019	The (un)usual suspects: who oxidizes ammonia in the Guelph wastewater treatment plant? Invited oral presentation for the Institut national de la recherche scientifique (INRS), Montreal, Quebec, Canada.
2019	Oral presentation skills for scientific communication. Invited workshop leader within the Professional Skills Workshop at the 2019 annual meeting of the Canadian Society of Microbiologists (CSM), Sherbrooke, Quebec, Canada.
2019	Bring Louis Pasteur back to life: the power of storytelling and performance art in a microbiology classroom. Invited oral presentation for the Forum for Microbiology Education (FOME) at the 2019 annual meeting of the Canadian Society of Microbiologists (CSM), Sherbrooke, Quebec, Canada.
2018	Human skin microbiome: etwas hautnah erleben ("up close and personal"). Selected oral presentation to the public of Leipzig, Germany, for the "Night of the Microbes" associated with the biannual meeting of the International Society for Microbial Ecology (ISME). A video can be viewed here .
2018	Microbiology of Materials Corrosion Test borehole modules. Invited oral presentation for the Nuclear Waste Management Organization (NWMO) 16th Annual Geoscience Seminar in Toronto, Ontario.
2018	Development and validation of nucleic acid-based methods for bentonite. Invited oral presentation for the Nuclear Waste Management Organization microbiology workshop with international partners in Toronto, Ontario.
2018	Multivariate statistics for metagenomics. Invited oral presentation for the Statistics in Metagenomics workshop, University of Waterloo, Waterloo, Ontario
2018	The enigmatic ecology of ammonia oxidation within engineered water treatment system environments. Invited oral presentation for Wendy Keenleyside's microbial ecology class at the University of Guelph, Guelph, Ontario.
2018	Recursion: the loops that make the world go round. Invited oral presentation for the Bridges Lecture Series, University of Waterloo, Waterloo, Ontario.
2017	Microbial ecology: a discipline caught in the headlights of discovery. Invited oral presentation for Wendy Keenleyside's microbial ecology class at the University of Guelph, Guelph, Ontario.
2017	Life in a World Without Microbes. Invited oral presentation for Open Doors Waterloo Region, Waterloo, Ontario.
2017	The enigmatic ecology of ammonia oxidation within engineered water treatment system environments. Invited oral presentation to the Department of Biology at the University of Waterloo, Waterloo, Ontario.
2017	Bacterial Biogeography of the rare Charitable Research Reserve. Invited oral presentation for the rare Bedrock Club annual meeting, Cambridge, Ontario.
2017	Microbial ecology: a story. Invited oral presentation for the University of Waterloo Bioinformatics Club (BIC), Waterloo, Ontario.
2017	Biophysical interactions in biopore networks: Understanding biotic contributions to GHG production using novel molecular methodologies. Invited oral co-presentation with Lori Philips (Agriculture and Agri-Food Canada) at the Agricultural Greenhouse Gases Program (AGGP) meeting, Ottawa, Ontario.
2017	Perspectives for metagenomics in Canada. Invited oral presentation for Agricultural and Agri-Foods Canada EcoBionics Workshop, Ottawa, Ontario.
2017	Career strategies: charitable selfishness at work. Invited oral presentation for the Early Career and Graduate Student Workshop at the ICoN5 conference, Vienna, Austria.
2017	The enigmatic ecology of ammonia oxidation within engineered water treatment system environments. Invited oral presentation at the ICoN5 conference, Vienna, Austria.
2016	Soil metagenomics - deciphering big data. Invited speaker for round table at the 16th International Symposium on Microbial Ecology, ISME, Montreal, Quebec.
2016	Microbial ecology: a discipline caught in the headlights of discovery. Invited oral presentation for Wendy Keenleyside's microbial ecology class at the University of Guelph, Guelph, Ontario.

Curriculum Vitae

2016	Applications of ammonia-oxidizing archaea to wastewater treatment. Invited oral presentation for the 16th International Symposium on Microbial Ecology, ISME, Montreal, Quebec.
2016	Optimization of DNA extraction from bentonite clay for microbial community analysis. Invited oral presentation for the MaCoTe Partner Meeting, Nuclear Waste Management Organization, Toronto, Ontario.
2016	Applications of ammonia-oxidizing archaea to wastewater treatment. Invited oral presentation for the Canadian Society of Microbiologists Annual Conference, University of Toronto, Toronto, Ontario.
2016	Targeting soil metagenomics to the taxa and functions that matter. Invited oral presentation for the 3rd Thünen Symposium on Soil Metagenomics, Braunschweig, Germany.
2016	Freshwater ammonia-oxidizing archaea: workhorses for wastewater treatment applications? Invited oral presentation for the University of Uppsala, Uppsala, Sweden.
2016	Metabolic enigma of ammonia-oxidizing archaea from engineered aquatic environments. Invited oral presentation for the Department of Physical and Environmental Science's invited speaker series (iSPEAC-invited Speakers in Physics, Environmental science, And Chemistry), University of Scarborough, Scarborough, Ontario.
2016	Freshwater ammonia-oxidizing archaea: workhorses for wastewater treatment applications? Invited oral presentation for the Guelph Wastewater Treatment Plant, Guelph, Ontario.
2015	What would happen if all microbes disappeared? Invited oral presentation for Joe Grabowski's Grade 6 class, St. John Catholic School, Guelph, Ontario.
2015	Making sense of ammonia-oxidizing archaea. Invited oral presentation at the Earth & Life Science Alliance seminar series, University of East Anglia, UK.
2015	Enigmatic ammonia-oxidizing archaea from the Guelph Wastewater Treatment Plant. Invited oral presentation for Wendy Keenleyside's microbial ecology class at the University of Guelph, Guelph, Ontario.
2015	Enigmatic ammonia-oxidizing archaea: a puzzle of microscopic proportions. Invited oral presentation for the Department of Microbiology seminar series, University of Manitoba, Manitoba.
2015	Exploring denitrification in agricultural soils through stable-isotope probing and metagenomics. Invited oral presentation at the Microbial Eco-genomics in Agriculture symposium, Galilee Mountains, Israel
2015	Enigmatic ammonia-oxidizing archaea from the Guelph Wastewater Treatment Plant. Invited oral presentation for the School of Environmental Sciences seminar series.
2015	Evolution and ecology of Thaumarchaeota within engineered freshwater environments. Invited oral presentation at the Gordon Research Conference, Mount Holyoke College, Massachusetts.
2015	Identifying the most valuable players of the microbial world. Invited oral presentation at the INRA Forestry Centre, Nancy, France.
2015	Thaumarchaeota hold the black queen of marine vitamin B ₁₂ production. Invited oral presentation at the 13th Symposium on Bacterial Genetics and Ecology (BAGECO13), Milan, Italy
2015	Exploring denitrification in agricultural soils through stable-isotope probing and metagenomics. Invited oral presentation for the Environmental Microbial Genomics Group, Ecole Centrale de Lyon, France.
2015	Active agricultural soil denitrifiers possess extensive nitrite reductase gene diversity. Invited oral presentation at the SBME Group Meeting (University of Western Australia).
2015	From my office to the ocean (and back again): Thaumarchaeota, metabolism, and global vitamin B ₁₂ production. Invited Earth and Environment DEETALKS presentation at the University of Western Australia, Perth, Australia.
2014	From engineered environments, to the ocean, and back again: Thaumarchaeota, metabolism, and global vitamin B ₁₂ production. Invited oral presentation at Michigan State University.
2014	A perfect storm of scientific serendipity implicates Thaumarchaeota in global vitamin B ₁₂ production. Invited oral presentation at the Ecology, Evolution, and Behaviour seminar series at Queen's University.
2014	All shook up: a story of outreach through inreach for an academic department. Invited oral presentation for the Chemical Engineering seminar series at Queen's University.
2014	Exploration and exploitation of soil microbial communities: targeting the microbes and enzymes that matter. Invited oral presentation at the IGERT in Cross-Scale Biogeochemistry and Climate seminar series at Cornell University.
2014	Tracking Microbial Communities of the Grand River Watershed. Invited oral presentation for the Water Institute Research Symposium. University of Waterloo, Waterloo, Ontario.
2014	Tragedy of the Microbial Commons. Invited oral presentation for TEDxUW, Kitchener, Ontario.
2014	Exploring microbial communities for targeted genome recovery. Invited oral presentation for the UW-Soochow New Collaborations Workshop. University of Waterloo, Waterloo, Ontario.
2014	Tragedy of the Gut Microbiome Commons. Invited oral presentation for NERD FEST 2014, Kitchener, Ontario.
2014	Welcome to the Faculty of Science. Multiple invited oral presentations for potential new students attending the March Open House, University of Waterloo, Waterloo, Ontario.

Curriculum Vitae

2014	The role of intestinal microbiota in irritable bowel syndrome. Invited oral presentation for the Canadian Digestive Diseases Week (CDDW), Toronto, Ontario.
2014	Tragedy of the microbial commons. Invited oral presentation for the All Science Challenge, University of Waterloo, Waterloo, Ontario.
2013	All shook up: a story of outreach through inreach for an academic department. Invited oral presentation for the Department of Chemical Engineering Seminar Series, Queen's University, Kingston, Ontario.
2013	Exploration and exploitation of soil microbial communities: targeting the microbes and enzymes that matter. Invited oral presentation for the Biogeochemistry, Environmental Science, and Sustainability (BESS) seminar series, Cornell University, Ithaca, New York.
2013	The human microbiome. Invited oral presentation for Joe Grabowski's Grade 6 class, St. John Catholic School, Guelph, Ontario.
2013	Where did you come from, Where did you go? Invited oral presentation at the University of Chicago, Chicago, Illinois.
2013	Where did you come from, Where did you go? Invited oral presentation for the University of Waterloo Bioinformatics Club.
2013	Microbial community analysis using 16S rRNA gene based techniques. Invited oral presentation for the Walkerton Clean Water Centre, Walkerton, Ontario.
2013	Freshwater ammonia oxidation: a curious case of scientific serendipity. Invited oral presentation for the Department of Biology Seminar Series, Waterloo.
2013	Beyond the black stump of microbial ecology. Invited oral presentation for the Department of Natural Resource Sciences seminar series, McGill University (Macdonald Campus), Montreal.
2013	Nitrogen cycle revisited: archaeal aquarium supplement assessment. Invited oral presentation for Rolf C. Hagen, Montreal.
2013	Multivariate exploration of microbial communities. Invited oral presentation for the 2 nd Soil Metagenomics Workshop, Braunschweig, Germany
2013	Multi-substrate isotope labeling and metagenomic analysis of active soil bacterial communities. Invited oral presentation for the 2 nd Soil Metagenomics Workshop, Braunschweig, Germany
2013	Coupled multi-substrate isotope labeling and functional metagenomic analysis of active soil bacterial communities. Invited oral presentation for the Canadian Society for Microbiologists, Carleton University, Ottawa.
2013	Panning for molecular gold: pursuing the microbes that matter. Invited oral presentation at the Université de Lyon, Lyon, France.
2013	Beyond the black stump of microbial ecology. Fisher Award Lecture for the Canadian Society for Microbiologists, Carleton University, Ottawa.
2013	Building basic and applied research projects from a perfect storm of nitrogen cycle serendipity. Invited oral presentation for the Department of Biology Seminar Series, Waterloo.
2013	Building a hypothesis into both basic and applied research projects: a case study of scientific serendipity. Invited oral presentation to the Biology Grad Student Association, Waterloo.
2013	Beyond the black stump of microbial ecology: novel molecular techniques for studying soil communities. Invited oral presentation at the University of Ontario Institute of Technology.
2013	Beyond the black stump of microbial ecology: novel molecular techniques for studying soil communities. Invited oral presentation at Université de Sherbrooke, Québec, Québec.
2013	Beyond the black stump of microbial ecology: novel molecular techniques for studying soil communities. Invited oral presentation at CSIRO, Perth, Australia.
2012	Red sky in the morning: computational challenge of next-generation sequence data. Invited oral presentation at the University of Waterloo Bioinformatics club, Waterloo, Ontario.
2012	Microbial ecology and big data: essential bedfellows? Invited oral presentation at the University of Tennessee, Knoxville, Tennessee
2012	SIP 2.0: multi-substrate isotope labeling and metagenomic analysis of active soil bacterial communities. Invited oral presentation at the SSSA International Annual Meeting, Soil Metagenomics Symposium, Cincinnati, Ohio
2012	Coupling Stable-Isotope Probing and Functional Metagenomics. Invited oral presentation at the International Functional Metagenomics Workshop, St. Jacob's, Ontario
2012	Exploring the uncharted microbial frontier through the targeted recovery of taxonomic novelty. Invited oral presentation at Dalhousie University, Halifax, Nova Scotia.
2012	Combining molecular and computational tools for targeted explorations of taxonomic novelty. Invited oral presentation at Argonne National Labs, Chicago, IL
2012	Exploring archaeal ecology and metabolism in engineered freshwater environments. Invited oral presentation at the Environmental and Water Resources Engineering seminar series, University of Michigan, Michigan.

Curriculum Vitae

2012	Our bodies, our microbes, ourselves. Invited oral presentation for the Extended Learning Opportunities seminar series, Erin, Ontario.
2012	Aquarium microbial ecology: a living room approach to citizen science. Invited oral presentation at the Citizen Science Workshop, University of California David, California.
2011	Niche differentiation of ammonia-oxidizing archaea and bacteria in rotating biological contactors treating municipal wastewater. Invited oral presentation at the Gordon Research Conference, Mount Holyoke College, Massachusetts.
2011	Establishing microbial taxonomic baselines with new molecular tools. Invited oral presentation at the Michael G. DeGroote Institute for Infectious Disease Research Seminar Series, McMaster University, Hamilton, Ontario, Canada.
2011	Leveraging next-generation sequencing to make a dent in the black box of microbial diversity. Invited oral presentation at the AAFC Guelph Food Research Centre Seminar Series, University of Guelph, Guelph, Ontario, Canada.
2011	Nitrogen cycle revisited: the ecology of ammonium oxidation in freshwater environments. Invited oral presentation for the Roger Knowles Tribute symposium, Canadian Society of Microbiologists Annual Meeting, St. John's, Newfoundland
2010	Stable-isotope probing of active community members. Invited oral presentation at the Canadian Society of Microbiologists Annual Meeting, McMaster University, Hamilton, Ontario.
2010	Microbial Ecology for the 'Uninitiated'. Invited oral presentation in Earth Science graduate course (N-isotopes; Schiff S).
2010	Exploring the black box of soil microbial diversity with ultra-deep Illumina sequencing of ribosomal RNA genes. Invited oral presentation, University of British Columbia.
2010	Career building during and after international postdoctoral studies. Invited oral presentation at the Cell Signals Workshop on International Collaboration in Research Training. Toronto, Ontario.
2010	Our microbial world. Invited oral presentation at Resurrection Catholic Secondary School. Kitchener, Ontario.
2010	Who are we? Our bodies and our microbial inhabitants. Invited oral presentation at St. Mary's High School. Catholic School Board professional day activity. Kitchener, Ontario.
2010	Nitrification revisited: the great aquarium experiment PART II. Invited oral presentation at the Kitchener Waterloo Aquarium Society meeting. Waterloo, Ontario.
2010	Next-generation sequencing technologies and the data deluge. Invited oral presentation in BIOL 465 (Current Topics in Bioinformatics).
2009	A stranger in your home: Crenarchaea in freshwater aquarium filters. Invited speaker at the Biology Brown Bag Seminar Series 'Bell Ringer'. University of Waterloo, Waterloo, Ontario.
2009	Ultra-deep sequencing for community surveys: a methodological game changer for microbial ecologists. Invited oral presentation at Queen's University. Kingston, Ontario.
2009	Ammonia oxidation revisited: new players in new places. Invited oral presentation at the University of Warwick. Coventry, UK.
2009	Microbial Ecology for the 'Uninitiated'. Invited oral presentation in Earth Science graduate course (N-isotopes; Schiff S).
2009	Our microbial world. Invited Dean's Lecture Series presentation at the Jumpstart orientation event. University of Waterloo. Waterloo, Ontario.
2009	Discovering new players in new places: novel aerobic and anaerobic ammonia oxidizers in unique freshwater environments. Invited oral presentation at the Biogeochemistry seminar series, Wood's Hole Oceanographic Institute (WHOI), Massachusetts, USA.
2009	Nitrification revisited: the great aquarium experiment. Invited oral presentation at the Kitchener Waterloo Aquarium Society meeting. Waterloo, Ontario.
2009	Challenges in characterizing the microbiome. Invited oral presentation at the Farncombe Institute Workshop. Ancaster, Ontario.
2009	Increasing student engagement through classroom integration of personalized digital interviews with leading international scholars. Invited oral presentation at Opportunities and New Directions (OND): A Research Conference on Teaching and Learning. University of Waterloo.
2009	From paparazzi to investigative journalism: answering the five Ws (and one H) of microbial ecology. Invited Keynote lecture at the University of Waterloo Graduate Student Symposium.
2009	Personal baggage: new approaches for exploring the diversity of our microbial inhabitants. Invited oral presentation at the Farncombe Institute noon rounds, McMaster University.
2009	Exploring strange new microbial worlds by accessing the rare biosphere. Invited oral presentation at Brock University Biology Seminar Series.
2009	Mining microbial communities for novel diversity and function. Invited oral presentation at the University of Waterloo Biology Seminar Series.

Curriculum Vitae

2009	Peeling back the layers of microbial diversity to expose the rare biosphere and explore its potential contribution to industry. Invited oral presentation at the University of Toronto Mississauga Biology Seminar Series.
2009	Plumbing the depths of the rare biosphere with ultra-deep ribosomal sequence tag profiles. Invited oral presentation at the Advancing the Science of Limnology and Oceanography (ASLO) Aquatic Sciences Meeting, Nice, France.
2008	Accessing the diversity of complex microbial communities: the footpath behind and the highway ahead. Invited oral presentation at the Canadian Society for Microbiology. Calgary, Canada.
2008	Targeting the identity and function of uncultured microorganisms with stable-isotope probing and metagenomics. Invited oral presentation for the Integrative Biology Group, Wilfrid Laurier University. Waterloo, Canada.
2008	Microbial life on us: can new molecular methods untie the Gordian knot? Invited oral presentation for the CIHR Matrix Dynamics group, Toronto, Canada.
2007	Microbial ecology of marine methylotrophs. Oral presentation for the University of Waterloo Aquatic Ecology group.

Curriculum Vitae

CONFERENCE PRESENTATIONS

(Underlined names are trainees from the University of Waterloo)

1. Beaver RC, Punch R, Perry C, Tully CS, Engel K, Vachon MA, Binns WJ, Kim CS, Noël JJ, **Neufeld JD**. 2024. Microbial ecology of engineered barrier components of a deep geological repository for used nuclear fuel. Poster presentation for Clay Conference 2024, Hannover, Germany.
2. Beaver RC, Punch R, Perry C, Tully CS, Engel K, Vachon MA, Binns WJ, Kim CS, Noël JJ, **Neufeld JD**. 2024. Microbial ecology of engineered barrier components of a deep geological repository for used nuclear fuel. Poster presentation for the International Society for Microbial Ecology meeting. Cape Town, South Africa.
3. Weiblen C, Tsuji JM, Reis PCJ, Sauvageau D, Schiff SL, **Neufeld JD**, Stein LY. 2024. Survival strategies of aerobic gammaproteobacterial methanotrophs in oxygen-deficient lakes. Poster presentation for the International Society for Microbial Ecology meeting. Cape Town, South Africa.
4. Punch R, Beaver RC, Engel K, Stroes-Gascoyne S, Binns WJ, **Neufeld JD**. 2024. Microbial ecology of engineered barrier components of a deep geological repository for used nuclear fuel. Poster presentation for the Canadian Society for Microbiology (CSM) annual meeting. London, Ontario, Canada.
5. Tsuji J, Shaw N, Nagashima S, Venkiteswaran J, Schiff S, Watanabe T, Fukui M, Hanada S, Tank M, **Neufeld JD**. 2024. Phototrophic Chloroflexota member using a Type I reaction center sheds new light on the evolution and ecology of photosynthesis. Poster presentation for the Canadian Society for Microbiology (CSM) annual meeting. London, Ontario, Canada.
6. Reis P, Deng Y, Tsuji J, Weiblen C, Schiff S, Scott M, Dumont M, Stein L, **Neufeld JD**. 2024. Methanotrophic activity under O₂ limitation in Boreal Shield lake waters. Poster presentation for the Canadian Society for Microbiology (CSM) annual meeting. London, Ontario, Canada.
7. Skrobonja A, Nielsen C, **Neufeld JD**, Yates AG. 2024. Impact of phosphorus loading patterns on stream biofilm microbial communities. Poster presentation for the Canadian Society for Microbiology (CSM) annual meeting. London, Ontario, Canada.
8. Cornell C, **Neufeld JD**. 2024. Phylogenomic analysis of the *Candidatus Nitrosocosmicus* genus and related archaea. Poster presentation for the Canadian Society for Microbiology (CSM) annual meeting. London, Ontario, Canada.
9. Koziaeva V, Engel K, **Neufeld JD**. 2024. Evaluation of digital PCR for 16S rRNA gene detection of low biomass environmental samples. Poster presentation for the Canadian Society for Microbiology (CSM) annual meeting. London, Ontario, Canada.
10. Engel K, Ford SE, Sidhu H, Diomidis N, Behazin M, Kim CS, Binns WJ, Keech PG, Slater GF, **Neufeld JD**. 2024. Decadal stability of microbial community profiles from bentonite clay exposed to subsurface groundwater conditions. Poster presentation for the Canadian Society for Microbiology (CSM) annual meeting. London, Ontario, Canada.
11. McKnight M, Graham A, Szabolcs N, **Neufeld JD**. 2024. Microbial community succession of home aquarium biofilters associated with early dominance of comammox *Nitrospira*. Poster presentation for the Canadian Society for Microbiology (CSM) annual meeting. London, Ontario, Canada.
12. Ali S, Jenkins B, Cheng J, Stavropoulos A, Che G, Ahmadi A, **Neufeld JD**, Charles T, Ingalls B, Doxey AC. 2024. Hypothetical protein VCBS is a Ca-dependent adhesin required for biofilm development by *Pseudoalteromonas tunicata*. Poster presentation for the Canadian Society for Microbiology (CSM) annual meeting. London, Ontario, Canada.
13. Beaver RC, Tully CS, Binns WJ, Noël JJ, **Neufeld JD**. 2024. Microbial analysis of bentonite clay within anoxic pressure vessels simulating a deep geological repository for used nuclear fuel. Poster presentation for the Canadian Society for Microbiology (CSM) annual meeting. London, Ontario, Canada.
14. Umbach AK, Szabolcs N, Sauder LA, **Neufeld JD**. 2024. Influence of fish load on nitrifying community succession in freshwater aquarium biofilters. Oral presentation for the Canadian Society for Microbiology (CSM) annual meeting. London, Ontario, Canada.
15. Tsuji JM, Watanabe T, Nobu MK, Kashiwabara T, **Neufeld JD**, Imachi H, Fukui M. 2024. Global biogeography of a highly novel and iron-associated photosynthetic bacterium. Oral presentation for the Canadian Society for Microbiology (CSM) annual meeting. London, Ontario, Canada.
16. Stofer LBV, Punch R, Beaver R, Engel K, **Neufeld JD**, Slater GF. 2024. PLFA assessment of bentonite-associated microbial communities: Influence of water activity and comparison to a DGR analogue. Oral presentation for the Goldschmidt Conference, Chicago, Illinois, USA.
17. Sidhu H, Engel K, Koziaeva V, Kim CS, **Neufeld JD**, Slater G. 2024. Low phospholipid fatty acid abundances in Cobourg Formation rock core and water samples: implications for long-term stability of Canada's deep geological repository for used nuclear fuel. Poster presentation for the Goldschmidt Conference, Chicago, Illinois, USA.
18. Beaver RC, Engel K, Binns WJ, **Neufeld JD**. 2023. Microbiology of barrier component analogues of a deep geological repository. Oral presentation for the Natural Analogue Working Group NAWG-17 Workshop. Zadar, Croatia.

Curriculum Vitae

19. Perry CM, Beaver RC, Engel K, Punch R, Binns WJ, **Neufeld JD**. 2023. Effect of temperature on microbial growth from bentonite clay. Poster presentation for Canadian Society for Microbiology (CSM) annual meeting. Halifax, Nova Scotia, Canada.
20. Umbach AK, Szabolcs NA, Sauder LA, **Neufeld JD**. 2023. Succession of freshwater aquarium nitrifying communities in response to fish load. Poster presentation for Canadian Society for Microbiology (CSM) annual meeting. Halifax, Nova Scotia, Canada.
21. McKnight MM, **Neufeld JD**. 2023. Microbial communities of freshwater aquarium biofilters dominated by either comammox *Nitrospira* or archaea as ammonia oxidizers. Poster presentation for Canadian Society for Microbiology (CSM) annual meeting. Halifax, Nova Scotia, Canada.
22. Punch R, Beaver RC, Engel K, Stroes-Gascoyne S, Binns WJ, **Neufeld JD**. 2023. Microbial viability in Wyoming MX-80 bentonite clay at varying water activities. Poster presentation for Canadian Society for Microbiology (CSM) annual meeting. Halifax, Nova Scotia, Canada.
23. Engel K, Ford SE, Diomidis N, Slater GF, Behazin M, Binns WJ, Keech PG, **Neufeld JD**. 2023. Temporally stable microbial community profiles in highly compacted bentonite exposed to natural groundwater. Poster presentation for the 5th Canadian Conference on Waste Management, Decommissioning and Environmental Restoration. Canadian Nuclear Society. Niagara Falls, Ontario, Canada.
24. Punch R, Beaver RC, Engel K, Stroes-Gascoyne S, Binns WJ, **Neufeld JD**. 2023. Impact of water activity on microbial growth in bentonite clay. Poster presentation for the 5th Canadian Conference on Waste Management, Decommissioning and Environmental Restoration. Canadian Nuclear Society. Niagara Falls, Ontario, Canada.
25. Beaver RC, Vachon MA, Tully CS, Spasov E, Engel K, Binns WJ, Noël JJ, **Neufeld JD**. 2023. Identifying conditions that suppress microbial growth in a deep geological repository for used nuclear fuel storage. Poster presentation for the 5th Canadian Conference on Waste Management, Decommissioning and Environmental Restoration. Canadian Nuclear Society. Niagara Falls, Ontario, Canada.
26. Perry CM, Beaver RC, Engel K, Punch R, Binns WJ, **Neufeld JD**. 2023. Effect of temperature on microbial growth from bentonite clay. Poster presentation for the 5th Canadian Conference on Waste Management, Decommissioning and Environmental Restoration. Canadian Nuclear Society. Niagara Falls, Ontario, Canada.
27. Spasov E, Tully CS, Engel K, Beaver RC, Binns WJ, Noël JJ, **Neufeld JD**. 2023. Microbial analysis of saturated bentonite exposed to a low oxygen marine environment. Poster presentation for the 5th Canadian Conference on Waste Management, Decommissioning and Environmental Restoration. Canadian Nuclear Society. Niagara Falls, Ontario, Canada.
28. Umbach AK, Fernando C, Hill JE, **Neufeld JD**. 2022. Validating the *cpn60* gene for high-resolution profiling of the mammalian skin microbiome. Oral presentation for Canadian Society for Microbiology (CSM) annual meeting. Guelph, Ontario, Canada.
29. Spasov E, Tully CS, Engel K, Beaver RC, Binns WJ, Noël JJ, **Neufeld JD**. 2022. Microbiological analysis of saturated bentonite exposed to a low oxygen marine environment. Poster presentation for Canadian Society for Microbiology (CSM) annual meeting. Guelph, Ontario, Canada.
30. McKnight MM, **Neufeld JD**. 2022. Microbial communities of freshwater aquarium biofilters dominated by either comammox *Nitrospira* or archaea as ammonia oxidizers. Poster presentation for Canadian Society for Microbiology (CSM) annual meeting. Guelph, Ontario, Canada.
31. Beaver RC, Vachon MA, Tully CS, Spasov E, Engel K, Binns WJ, Noël JJ, **Neufeld JD**. 2022. Identifying conditions that suppress microbial growth in a deep geological repository for used nuclear fuel. Poster presentation for Canadian Society for Microbiology (CSM) annual meeting. Guelph, Ontario, Canada.
32. Punch R, Beaver RC, Engel K, Stroes-Gascoyne S, Binns WJ, **Neufeld JD**. 2022. Microbial viability in Wyoming M8-80 bentonite clay at varying water activities. Poster presentation for Canadian Society for Microbiology (CSM) annual meeting. Guelph, Ontario, Canada.
33. Virgin TL, Sonthiphand P, Coyotzi S, Hall MW, Venkiteswaran JJ, Cejudo E, Elgood RJ, Schiff SL, **Neufeld JD**. 2022. Longitudinal Grand River sampling reveals a strong influence of seasonal flow rate on river microbial communities. Poster presentation for Canadian Society for Microbiology (CSM) annual meeting. Guelph, Ontario, Canada.
34. Beaver RC, Vachon MA, Tully CS, Spasov E, Engel K, Binns WJ, Noël JJ, **Neufeld JD**. 2022. Identifying conditions that suppress microbial growth in bentonite clay intended for use in a deep geological repository for used nuclear fuel. Oral presentation for the GAC-MAC annual meeting, Halifax, Nova Scotia, Canada.
35. Tully C, Beaver RC, Spasov E, Engel K, Binns WJ, Zagidulin D, **Neufeld JD**, Noël JJ. 2022. Evaluating the influence of compaction density on the corrosion of copper materials in bentonite clay. Oral presentation for the Long-Term Containment conference in Switzerland.
36. Tsuji JM, Shaw NA, Nagashima S, Venkiteswaran JJ, Schiff SL, Watanabe T, Fukui M, Hanada S, Tank M, **Neufeld JD**. 2022. Revisiting the evolution of photosynthesis with discovery of a Type I reaction center-utilizing *Chloroflexota* phototroph. Oral presentation for the Japan Geoscience Union Meeting.
37. Tsuji JM, Shaw NA, Nagashima S, Venkiteswaran JJ, Schiff SL, Watanabe T, Fukui M, Hanada S, Tank M, **Neufeld JD**. 2022. Cultivation of a phototrophic *Chloroflexota* member using a Type I reaction center sheds new light on the ecology and evolution of photosynthesis. Oral presentation for the International Society for Microbial Ecology meeting.

Curriculum Vitae

38. Umbach AK, **Neufeld JD**. 2020. Archaea are rare biosphere members of mammalian skin microbiomes. Poster presentation at the Unity in Diversity ISME Virtual Microbial Ecology Summit.
39. Al-Ajeel S, **Neufeld JD**. 2020. Impact of nitrification inhibitors on the activity of comammox *Nitrospira* from the rotating biological contactors of a municipal wastewater treatment plant. Poster presentation at the Unity in Diversity ISME Virtual Microbial Ecology Summit.
40. Vachon MA, Engel K, Beaver RC, Binns WJ, **Neufeld JD**. 2020. Fifteen shades of clay: distinct microbial community profiles obtained from bentonite samples by cultivation and direct nucleic acid extraction. Poster presentation at the Unity in Diversity ISME Virtual Microbial Ecology Summit.
41. Spasov E, Tully C, Engel K, Beaver R, Binns WJ, Noël J, **Neufeld JD**. 2020. Characterization of microbial community profiles and culturable bacteria in highly compacted bentonite exposed to a high-pressure marine environment. Poster presentation at the Unity in Diversity ISME Virtual Microbial Ecology Summit.
42. Beaver RC, Engel K, Binns WJ, **Neufeld JD**. 2020. Microbiology of barrier component analogues of a deep geological repository. Poster presentation at the Unity in Diversity ISME Virtual Microbial Ecology Summit.
43. McKnight MM, **Neufeld JD**. 2020. Either comammox *Nitrospira* or archaea dominate as ammonia oxidizers within freshwater aquarium biofilters. Poster presentation at the Unity in Diversity ISME Virtual Microbial Ecology Summit.
44. Bergstrand L, Navas S, Doxey A, **Neufeld JD**. 2020. Micromeda: a platform to annotate and visualize genomic and metagenomic functional profiles. Poster presentation at the Unity in Diversity ISME Virtual Microbial Ecology Summit.
45. Ospino MC, Engel K, Binns WJ, **Neufeld JD**. 2020. Evaluation of multiple displacement amplification methods for metagenomic analysis of low biomass samples. Poster presentation at the Unity in Diversity ISME Virtual Microbial Ecology Summit.
46. Engel K, Ford SE, Diomidis N, Slater G, Binns J, **Neufeld JD**. 2020. Temporally stable bentonite microbial community profiles from the Grimsel Underground Research Laboratory. Poster presentation at the Unity in Diversity ISME Virtual Microbial Ecology Summit.
47. Ford SE, Engel K, Binns J, McKelvie J, **Neufeld JD**, Slater GF. 2020. Characterization of the rate of phospholipid hydrolysis under abiotic conditions. Goldschmidt.
48. Tsuji JM, Schiff SL, Tran N, Venkiteswaran JJ, Elgood RJ, Molot LA, **Neufeld JD**. 2019. Ecology of phototrophic iron-oxidizing bacteria in Canadian Boreal Shield lakes. Oral presentation at the Canadian Society for Microbiologists annual meeting, Sherbrooke, Quebec, Canada.
49. Back DY, Else B, Hanson M, Wong C, **Neufeld JD**, McConkey B, Mundy CJ. 2019. The impact of wastewater outflow on local primary production in Cambridge Bay, Nunavut. Poster presentation at the annual Marine Environmental Observation Prediction and Response Network (MEOPAR) meeting, Victoria, British Columbia, Canada.
50. Walker VK, Element G, Hamilton E, Moniz K, van Coeverden de Groot P, Shah V, Greer CW, Engel K, **Neufeld JD**, Qitsualik J. 2019. Exploring microbiomes in traditionally important wild Arctic salmonids. Poster presentation at the Canadian Society for Microbiologists annual meeting, Sherbrooke, Quebec, Canada.
51. Gromala M, **Neufeld JD**, McConkey BJ. 2019. Microbial communities of a Canadian Arctic wastewater treatment system. Poster presentation at the Canadian Society for Microbiologists annual meeting, Sherbrooke, Quebec, Canada.
52. Thijs S, Bullen N, Coyotzi S, Vangronsveld J, Holben W, Hug L, **Neufeld JD**. 2018. GenOme Resolution by Density-gradient Isopycnic ANalysis (GORDIAN) for sequence-based microbial community analysis. Poster presentation at the Flemish Supercomputer User Day, Hasselt, Belgium.
53. Cavaco M, St. Louis V, Engel K, St. Pierre K, Stibal M, **Neufeld JD**. 2018. Characterizing microbial communities in a rapidly changing and glacially dominated High Arctic watershed. Poster presentation at the European Geosciences Union General Assembly, Vienna, Austria.
54. Schiff SL, Tsuji JM, Lui K, Wu L, Venkiteswaran JJ, Molot LA, Elgood RJ, Paterson MJ, Higgins S, **Neufeld JD**. 2017. Novel metabolic processes discovered by stable isotopic analysis. Oral presentation for the Society of Canadian Limnologists (SCL), Edmonton, Alberta.
55. Thijs S, Bullen N, Coyotzi S, Vangronsveld J, Holben W, Hug L, **Neufeld JD**. 2018. GenOme Resolution by Density-gradient Isopycnic ANalysis (GORDIAN) for sequence-based microbial community analysis. Poster presentation at the International Society for Microbial Ecology Conference, Leipzig, Germany.
56. Tsuji JM, Schiff SL, Thompson KJ, Crowe SA, Liu K, Venkiteswaran JJ, Elgood RJ, Molot LA, **Neufeld JD**. 2018. Complex phototrophic ecology in a seasonally anoxic boreal shield lake. Oral presentation at the International Society for Microbial Ecology Conference, Leipzig, Germany.
57. Lee J, Alreshad W, Engel K, **Neufeld JD**, Lee HS. 2018. Methane-utilizing denitrification with a membrane biofilm reactor (MBfR). Poster presentation at the IWA World Water Congress & Exhibition, Tokyo, Japan.
58. Bullen NP, Coyotzi S, Thijs S, Vangronsveld J, Holben WE, Hug LA, **Neufeld JD**. 2018. GenOme Resolution by Density-gradient Isopycnic ANalysis (GORDIAN) for sequence-based microbial community analysis. Oral presentation at the Canadian Society of Microbiologists Annual Conference, University of Manitoba, Winnipeg, Manitoba.

Curriculum Vitae

59. Tsuji JM, Schiff SL, Wu L, Venkiteswaran JJ, Molot L, Elgood RJ, Paterson MJ, **Neufeld JD**. 2017. Exploring the functional potential of seasonally anoxic boreal shield lake Archaean ocean analogues. Student poster competition presentation at the Canadian Society of Microbiologists Annual Conference, University of Waterloo, Waterloo, Ontario. Winner of ISME-8 poster award.
60. Spasov E, Sauder LA, **Neufeld JD**. 2017. Organic carbon source utilization by an ammonia-oxidizing archaeon. Poster presentation at the Canadian Society of Microbiologists Annual Conference, University of Waterloo, Waterloo, Ontario.
61. Singh DR, Trifonov VH, Hall MW, Cordova M, **Neufeld JD**, Laing LP, Tenenbaum HC, Beiko RG, Senadheera DB. 2017. Plaque bacterial indicators associated with Sjögren's Syndrome. Poster presentation at the Canadian Society of Microbiologists Annual Conference, University of Waterloo, Waterloo, Ontario.
62. Ross AA, **Neufeld JD**. 2017. The mammalian skin microbiome. Oral presentation at the Canadian Society of Microbiologists Annual Conference, University of Waterloo, Waterloo, Ontario.
63. Pronk GJ, Mellage A, Engel K, Milojevic T, Smeaton C, Rezanezhad F, **Neufeld JD**, Van Cappellen P. 2017. Microbial community development in artificial soil columns as affected by water table fluctuations. Poster presentation at the Canadian Society of Microbiologists Annual Conference, University of Waterloo, Waterloo, Ontario.
64. Lu X, Heal KR, Ingalls AE, Doxey AC, **Neufeld JD**. 2017. Microbial production of vitamin B12 in soil. Poster presentation at the Canadian Society of Microbiologists Annual Conference, University of Waterloo, Waterloo, Ontario.
65. Engel K, Keech P, McKelvie J, **Neufeld JD**. 2017. Optimization of genomic DNA extraction from MX-80 bentonite clay for microbial community analysis. Poster presentation at the Canadian Society of Microbiologists Annual Conference, University of Waterloo, Waterloo, Ontario.
66. Coyotzi Alcaraz SV, Sonthiphand P, Hall MW, Venkiteswaran J, Cejudo E, Elgood R, Schiff SL, **Neufeld JD**. 2017. Microbial biogeography of the Grand River reveals strong spatial gradients and flow-dependent allochthonous microorganisms. Oral presentation at the Canadian Society of Microbiologists Annual Conference, University of Waterloo, Waterloo, Ontario.
67. Qitsualik J, Element G, Li P, Clemente-Carvalho R, Hamilton E, Chapman J, Moniz K, Casselman J, Greer C, **Neufeld JD**, Muir D, Guttman D, Schott S, Loughheed S, van Coeverden de Groot P, Walker VK. 2017. Approaches to the understanding of Arctic salmonid stock resources on and near King William Island, Nunavut. Poster presentation at the ArcticNet Annual Scientific Meeting, Québec City, Québec.
68. Back D, Small K, Else B, Hanson M, Wong C, **Neufeld JD**, McConkey B, Mundy CJ. 2017. The impact of wastewater outflow on local primary production in Cambridge Bay, Nunavut. Poster presentation at the ArcticNet Annual Scientific Meeting, Québec City, Québec.
69. Cavaco M, St. Louis V, Engel K, St. Pierre K., **Neufeld JD**. 2017. Characterizing microbial communities in a rapidly changing high Arctic watershed. Poster presentation at the ArcticNet Annual Scientific Meeting, Québec City, Québec.
70. Lu X, Seuradje BJ, Nicol G, **Neufeld JD**. 2016. Biogeography and temperature response of thaumarchaeota along soil depth profiles under different land usage. Poster presentation at the Canadian Society of Microbiologists Annual Conference, University of Toronto, Toronto, Ontario.
71. Lu X, Seuradje BJ, Nicol G, **Neufeld JD**. 2016. Biogeography and temperature response of thaumarchaeota along soil depth profiles under different land uses. Poster presentation at the International Society for Microbial Ecology conference, Montreal, Quebec.
72. Ross AA, Doxey AC, **Neufeld JD**. 2016. The skin microbiome of cohabitating couples. Poster presentation at the Canadian Society of Microbiologists Annual Conference, University of Toronto, Toronto, Ontario.
73. Ross AA, Doxey AC, **Neufeld JD**. 2016. The skin microbiome of cohabitating couples. Poster presentation at the International Society for Microbial Ecology conference, Montreal, Quebec.
74. Tsuji J, Schiff S, Wu L, Venkiteswaran J, Molot L, Elgood R, Paterson M, **Neufeld JD**. 2016. Millions of boreal shield lakes may be used to simulate the microbial ecology of the Archaean Eon ocean. Oral presentation at the Canadian Society of Microbiologists Annual Conference, University of Toronto, Toronto, Ontario.
75. Tsuji J, Schiff S, Wu L, Venkiteswaran J, Molot L, Elgood R, Paterson M, **Neufeld JD**. 2016. Millions of boreal shield lakes can serve as modern-day analogues for studying the microbial ecology of the Archaean Eon ocean. Poster presentation at the International Society for Microbial Ecology conference, Montreal, Quebec.
76. Coyotzi S, Doxey AC, Clark ID, Lapen DR, Van Cappellen P, **Neufeld JD**. 2016. Active agricultural soil denitrifiers possess extensive nitrite reductase gene diversity. Poster presentation at the International Society for Microbial Ecology conference, Montreal, Quebec.
77. Seuradje BJ, Oelbermann MM, **Neufeld JD**. 2016. Bacterial biogeography of the *rare* Charitable Research Reserve. Poster presentation at the Canadian Society of Microbiologists Annual Conference, University of Toronto, Toronto, Ontario.
78. Wu L, Schiff S, Venkiteswaran JJ, Liu K, Molot LA, Neufeld JD. 2015. Iron isotope systematics in a eutrophic lake. Poster presentation at the AGU fall meeting, San Francisco, California.

Curriculum Vitae

79. Schiff SL, Tsuji JM, Venkiteswaran JJ, Molot LA, Elgood RJ, Aukes PJK, Paterson MJ, **Neufeld JD**. 2017. Is there Photoferrotrophy in the anoxic hypolimnion of boreal shield lakes? Poster presentation at the AGU fall meeting, San Francisco, California.
80. Schiff SL, Tsuji JM, Venkiteswaran JJ, Molot LA, Elgood RJ, Aukes PJK, Paterson MJ, **Neufeld JD**. 2017. Millions of boreal shield lakes can be used to probe biogeochemistry and metabolism in modern systems and the archaic ocean. Society for Canadian Limnologists. Montreal, Quebec.
81. Hall MW, Singh N, Kester FN, Lam DK, Golberg MB, Tenenbaum HC, **Neufeld JD**, Beiko R, Senadheera DB. 2016. Open wide! Peering into temporal stability and interpersonal variations of tongue, supragingival, and salivary microbiota. Poster presentation at Dentistry Research Day. University of Toronto, Ontario.
82. Trifonov VH, Hall MW, Cordova M, **Neufeld JD**, Laing L, Tenenbaum HC, Beiko R, Senadheera DB. 2016. Harnessing the oral microbiome to develop a novel plaque-based pathogen monitoring method for Sjogren's syndrome. Poster presentation at Dentistry Research Day. University of Toronto, Ontario.
83. Gao Y, Coyotzi S, **Neufeld JD**, Lee H-S. 2015. Anaerobic oxidation of methane (AOM) on conductive surfaces in a microbial electrochemical cell (MEC). Poster presentation at the WWD research fair. Wilfrid Laurier, Ontario.
84. Hall MW, Singh N, Ng KF, Tenenbaum H, Neufeld JD, Beiko R, Senadheera D. 2015. Longitudinal analysis of the dental, tongue, and salivary oral microbiome. Network for Canadian Oral Health Research. University of Toronto, Ontario.
85. Wu L, Schiff S, Liu K, Molot LA, Venkiteswaran JJ, Elgood R, **Neufeld JD**. 2015. Iron isotope systematics in a eutrophic lake. Poster presentation at the American Geophysical Union, Montreal, Quebec.
86. Ibsen M, Kumar A, **Neufeld JD**, Kirkwood AE. 2014. The role of *Cladophora glomerata* as a refuge for fecal bacteria and antibiotic resistance genes in an urbanized near-shore zone of Lake Ontario. Poster presentation at the International Association for Great Lakes Research (IAGLR).
87. Seuradge B, Hall M, Oelbermann M, **Neufeld JD**. 2014. Bacterial biogeography of the *rare* Charitable Research Reserve. Oral presentation for the *rare* Charitable Research Reserve, Cambridge, Ontario.
88. Duguma D, Hall M, Rugman-Jones P, Neufeld JD, Stouthamer R, Walton WE. 2014. Influence of a mosquito control treatment on bacterial communities associated with *Culex tarsalis* larvae. Poster presentation at the Society for Vector Ecology Congress, San Antonio, Texas.
89. Seuradge B, Hall M, Oelbermann M, **Neufeld JD**. 2014. Bacterial biogeography of the *rare* Charitable Research Reserve. Oral presentation for the ASA, CSSA, SSSA International Annual Meeting, Long Beach, California.
90. Seuradge B, Hall M, Oelbermann M, **Neufeld JD**. 2014. Bacterial biogeography of the *rare* Charitable Research Reserve. Oral presentation for the 6th Annual Argonne Soil Metagenomics Meeting, Argonne National Laboratory, Chicago, Illinois.
91. Doxey AC, Kurtz DA, Lynch MDJ, Sauder LA, **Neufeld JD**. 2014. Aquatic metagenomes implicate *Thaumarchaeota* in global cobalamin production. Oral presentation for the International Society for Microbial Ecology, Seoul, Korea.
92. Doxey AC, Kurtz DA, Lynch MDJ, Sauder LA, **Neufeld JD**. 2014. Aquatic metagenomes implicate *Thaumarchaeota* in global cobalamin production. Oral presentation for the International Union of Microbiological Societies, Montréal, Québec.
93. Sauder LA, Engel K, Wagner M, **Neufeld JD**. 2014. Introducing *Candidatus Nitrososfontus exaquare* and *Candidatus Nitrosopurus aquariensis*, novel ammonia-oxidizing archaea cultivated from engineered freshwater environments. Oral presentation for the International Society for Microbial Ecology, Seoul, Korea.
94. Sauder LA, Engel K, Wagner M, **Neufeld JD**. 2014. Introducing *Candidatus Nitrososfontus exaquare* and *Candidatus Nitrosopurus aquariensis*, novel ammonia-oxidizing archaea cultivated from engineered freshwater environments. Oral presentation for the International Union of Microbiological Societies, Montréal, Québec.
95. Sonthiphand P, Hall M, Venkiteswaran J, Cejudo E, Elgood R, Schiff S, **Neufeld JD**. 2014. Microbial biogeography of the Grand River. Poster presentation for the International Society for Microbial Ecology, Seoul, Korea.
96. Ross AA, Sauder LA, **Neufeld JD**. 2014. Nitric oxide scavenger hunt: discovery of novel differential inhibitors for ammonia-oxidizing archaea and bacteria. Poster presentation for the International Union of Microbiological Societies, Montréal, Québec.
97. Coyotzi S, **Neufeld JD**. 2013. Active denitrifiers in agricultural soils. Oral presentation at the Canadian Society for Microbiologists, Carleton University, Ottawa.
98. Kennedy K, Stearns JC, Lynch MDJ, Hall MW, **Neufeld JD**. 2013. A comparison of traditional fingerprinting and next-generation sequencing for exploring the human microbiome. Poster presentations at the 2nd Wellcome Trust conference on Exploring Human Host-Microbiome Interactions in Health and Disease. Fitzwilliam College, Cambridge, UK.
99. Sonthiphand P, **Neufeld JD**. Ammonia oxidation within the Grand River. Oral presentation at the 5th International Conference Microbial Ecology and Water Engineering 2013, Ann Arbor, Michigan.
100. Szabolcs N, **Neufeld JD**. Ammonia-oxidizing Archaea and Bacteria in Start-up Aquarium Biofilters. Poster presentation at the 5th International Conference Microbial Ecology and Water Engineering 2013, Ann Arbor, Michigan.

Curriculum Vitae

101. Bagchi S, Vlaeminck SE, Sauder L, Mosquera M, **Neufeld JD**, Boon N. 2013. Temporal and spatial diversity of ammonia oxidizing archaea and bacteria in aquarium biofilters. Poster presentation at the 2nd International Conference on Water Research, Singapore.
102. Vlaeminck SE, Bagchi S, Sauder L, Mosquera M, **Neufeld JD**, Boon N. 2013. Nitrification in aquarium biofilters: temporal and spatial community patterns. Poster presentation at the WEF/IWA Nutrient Removal and Recovery 2013: Trends in Resource Recovery and Use. Vancouver, British Columbia.
103. Lynch MDJ, **Neufeld JD**. 2013. Automated analysis of large ribosomal RNA gene datasets: discovering novel phylogenetic diversity, elusive treatment effects and the species that matter. Oral and poster presentation at the Canadian Society for Microbiologists, Carleton University, Ottawa.
104. Verastegui Pena YM, Cheng J, Engel K, Romantsov T, McConkey B, Charles TC, **Neufeld JD**. 2013. SIP2.0: Coupled multi-substrate isotope labeling and functional metagenomic analysis of active soil bacterial communities. Oral presentation at the Canadian Society for Microbiologists, Carleton University, Ottawa.
105. **Neufeld JD**. 2012. Targeted recovery of novel phylogenetic diversity from next-generation sequence data. Oral presentation at the International Society for Microbial Ecology conference, Copenhagen, Denmark.
106. Bagchi S, Vlaeminck SE, Sauder L, **Neufeld JD**, Verstraete W, Boon N. 2012. Temporal patterns in the abundance and diversity of ammonia oxidizing archaea and bacteria in aquarium biofilters. Poster presentation at the International Society for Microbial Ecology conference, Copenhagen, Denmark.
107. Lynch MDJ, Masella AP, Hall MW, Bartram AK, **Neufeld JD**. 2012. AXIOME and SSUnique: computational tools for automated exploration of microbial diversity and taxonomic novelty. Poster presentation at the International Society for Microbial Ecology conference, Copenhagen, Denmark.
108. Sauder LA, Peterse F, Schouten S, **Neufeld JD**. 2012. Low-ammonia niche of ammonia-oxidizing archaea in a municipal wastewater treatment plant. Poster presentation at the International Society for Microbial Ecology conference, Copenhagen, Denmark.
109. Verastegui Y, Cheng J, Engel K, McConkey B, Charles TC, **Neufeld JD**. 2012. SIP 2.0: Multi-substrate isotope labeling and metagenomic analysis of active soil bacterial communities. Poster presentation at the International Society for Microbial Ecology conference, Copenhagen, Denmark.
110. Sonthiphand P, Cejudo E, Schiff S, **Neufeld JD**. 2012. Microbiology of ammonia oxidation in the Grand River: disentangling molecular signatures of wastewater effluent from autochthonous prokaryotic communities. Poster presentation at the International Society for Microbial Ecology conference, Copenhagen, Denmark.
111. Bartram AK, Backer RGM, Fontoura R, Hongyuan D, Smith DL, Whalen JK, **Neufeld JD**. 2012. Differential effects of biochar amendments on microbial communities of agricultural soils. Poster presentation at the International Society for Microbial Ecology conference, Copenhagen, Denmark.
112. Jensen S, Ray J, Lynch MDJ, **Neufeld JD**, Hovland M. 2012. Comparative analysis of microplankton from the surrounding seawater of two deep-water coral reefs in the Norwegian Sea. Poster presentation at the International Society for Microbial Ecology conference, Copenhagen, Denmark.
113. **Neufeld JD**. 2012. Network analysis for recovering novel phylogenetic diversity from next-generation 16S rRNA gene libraries. Oral presentation at the Canadian Society for Microbiologists. Vancouver, BC.
114. Barret M, Gagnon N, Kalmokoff M, Topp E, **Neufeld JD**, Talbot G. 2012. *Methanoculleus* spp. are major contributors to methane emissions in swine and dairy manure storage tanks. Poster presentation at the Canadian Society for Microbiologists annual meeting, Vancouver, Canada.
115. Stearns JC, Lynch MDJ, Senadheera D, Tenenbaum HC, Goldberg MB, Cvitkovitch DG, Croitoru K, Moreno-Hagelsieb G, **Neufeld JD**. 2011. A baseline microbiome for the healthy human digestive tract. Oral presentation at the American Society for Microbiology Annual General Meeting, New Orleans, Louisiana.
116. Cheng J, Pinnell L, **Neufeld JD**, Charles TC. 2011. Functional selection of cellobiose hydrolyases in a broad-host-range cosmid library of soil DNA. Poster presentation at the American Society for Microbiology Annual General Meeting, New Orleans, Louisiana.
117. Sonthiphand P and **Neufeld JD**. 2011. Abundance of aerobic and anaerobic ammonia-oxidizing organisms along an ammonium transect within the Grand River. Poster presentation at the American Society for Microbiology Annual General Meeting, New Orleans, Louisiana.
118. Bartram AK, Lynch MDJ, Stearns JC, Moreno-Hagelsieb G, **Neufeld JD**. 2011. Unprecedented access to the rare biosphere of an arctic tundra soil sample with next-generation sequencing of 16S rRNA genes. Poster presentation at the American Society for Microbiology Annual General Meeting, New Orleans, Louisiana.
119. Sauder L, **Neufeld JD**. 2011. Low-ammonia niche of ammonia-oxidizing Archaea in wastewater treatment systems. Poster presentation at the American Society for Microbiology Annual General Meeting, New Orleans, Louisiana.
120. Dunford E, Pinnell L, Cheng J, Charles TC, **Neufeld JD**. 2011. Characterization of active cellulolytic consortia from arctic tundra. Poster presentation at the American Society for Microbiology Annual General Meeting, New Orleans, Louisiana.
121. Engel K, Pinnell L, Cheng J, Charles TC, **Neufeld JD**. 2011. Nonlinear electrophoresis for purification of soil samples for metagenomics. Poster presentation at the American Society for Microbiology Annual General Meeting, New Orleans, Louisiana.

Curriculum Vitae

122. Lynch MDJ, Bartram AK, Moreno-Hagelsieb G, **Neufeld JD**. 2011. Phylogenetic investigations into the unclassified rare biosphere of an arctic tundra soil. Poster presentation at the American Society for Microbiology Annual General Meeting, New Orleans, Louisiana.
123. Stearns JC, Lynch MDJ, Senadheera D, Tenenbaum HC, Goldberg MB, Cvitkovitch DG, Croitoru K, Moreno-Hagelsieb G, **Neufeld JD**. 2011. Toward comprehensive taxonomic profiling: a pilot study of the human digestive tract microbiome. Poster presentation at the International Human Microbiome Congress, Vancouver.
124. Sonthiphand P, **Neufeld JD**. 2011. Diversity and abundance of anaerobic ammonia-oxidizing bacteria in the Grand River. Oral presentation at the 46th Central Canadian Symposium on Water Quality Research. Canadian Center for Inland Waters, Burlington, Ontario (February 22-23, 2011).
125. Sauder L, **Neufeld JD**. 2011. Ammonia-oxidizing archaea in rotating biological contactors. Oral presentation at the 46th Central Canadian Symposium on Water Quality Research. Canadian Center for Inland Waters, Burlington, Ontario (February 22-23, 2011).
126. Bartram AK, Lynch MDJ, Nicol GW, Moreno-Hagelsieb G, **Neufeld JD**. 2010. Reading the fine print of soil microbial diversity: multi-million 16S rRNA gene libraries reveal unique distributions of rare taxa. Oral presentation at the Soil Metagenomics conference, Braunschweig, Germany.
127. Cheng J, Romantsov T, Hanchard J, Eshaque B, Engel K, Pinnell L, Verastegui Y, Rose D, **Neufeld JD**, Charles T. 2010. Functional phenotypic screens in diverse bacterial hosts for the isolation of novel genes from soil metagenomes. Oral presentation at the Soil Metagenomics conference, Braunschweig, Germany.
128. Sauder L, Stearns JC, Engel K, Pawliszyn R, **Neufeld JD**. 2010. Life in a fishbowl: Archaea revealed as the dominant ammonia oxidizers in freshwater aquarium biofilters. Poster presentation at the International Society for Microbial Ecology conference, Seattle, Washington.
129. Sauder L, Stearns JC, Engel K, Pawliszyn R, **Neufeld JD**. 2010. Life in a fishbowl: Archaea revealed as the dominant ammonia oxidizers in freshwater aquarium biofilters. Poster presentation at the Rising Stars of Research conference at the University of British Columbia, Vancouver, British Columbia. *Honourable mention*.
130. Moore T, Lazenby B, Schiff S, Robertson W, Fortin D, Lanza S, Ryan C, Aravena R, Clark I, **Neufeld JD**. 2010. Discovery of diverse groundwater-associated communities of anaerobic ammonium oxidizing bacteria. Oral presentation at the International Society for Microbial Ecology conference, Seattle, Washington.
131. Bartram AK, Lynch MDJ, Nicol GW, Moreno-Hagelsieb G, **Neufeld JD**. 2010. Changes in microbial diversity and composition across a pH gradient revealed through fingerprinting and Illumina sequencing of ribosomal DNA. Oral presentation at the International Society for Microbial Ecology conference, Seattle, Washington.
132. Bartram AK, Lynch MDJ, Nicol GW, Moreno-Hagelsieb G, **Neufeld JD**. 2010. Rapid, comprehensive and affordable microbial community surveys enabled by Illumina-based ribosomal RNA gene sequencing. Oral presentation at the International Society for Microbial Ecology conference, Seattle, Washington.
133. Charles TC, Engel K, Hanchard J, Cheng J, Pinnell L, Verastegui Y, Moreno-Hagelsieb G, Rose DR, **Neufeld JD**. 2010. METAMICROBIOME: Collaborative and open access metagenomics for accelerated bioproduct discovery. Poster presentation at the International Society for Microbial Ecology conference, Seattle, Washington.
134. **Neufeld JD**. 2010. Unprecedented long-read datasets illuminate microbial community surveys. Invited oral presentation at the Canadian Society of Microbiologists Annual Meeting, McMaster University, Hamilton, Ontario.
135. **Neufeld JD**. 2010. Stable-isotope probing of active community members. Invited oral presentation at the Canadian Society of Microbiologists Annual Meeting, McMaster University, Hamilton, Ontario.
136. Bartram AK, Lynch MDJ, Nicol GW, Moreno-Hagelsieb G, **Neufeld JD**. 2010. Characterization of soil microbial communities along an experimental pH gradient using both fingerprinting and next generation sequencing of the ribosomal RNA gene. Poster presentation at the Canadian Society of Microbiologists Annual Meeting, McMaster University, Hamilton, Ontario.
137. Dunford E, Pinnell LJ, Verastegui Y, Cheng J, Charles TC, **Neufeld JD**. 2010. Metagenomic characterization of active cellulolytic consortia from arctic tundra. Poster presentation at the Canadian Society of Microbiologists Annual Meeting, McMaster University, Hamilton, Ontario.
138. Engel K, Vogt AA, Moreno-Hagelsieb G, Rose DR, **Neufeld JD**, Charles TC. 2010. Introducing the Canadian MetaMicroBiome Library. Poster presentation at the Canadian Society of Microbiologists Annual Meeting, McMaster University, Hamilton, Ontario.
139. Hanchard J, Cheng J, Eshaque B, **Neufeld JD**, Rose DR. 2010. Bioprospecting for novel glycosidases. Poster presentation at the Canadian Society of Microbiologists Annual Meeting, McMaster University, Hamilton, Ontario.
140. Sauder L, Stearns J, Engel K, Pawliszyn R, **Neufeld JD**. 2010. Investigating crenarchaeal ammonia oxidation in engineered biofilter environments. Poster presentation at the Canadian Society of Microbiologists Annual Meeting, McMaster University, Hamilton, Ontario.
141. Moore T, Lazenby B, Schiff S, Robertson W, Fortin D, Timlin R, Lanza S, Ryan MC, Aravena R, Clark I, **Neufeld JD**. 2010. Anammox bacteria are predominant microbial community members in ammonium-contaminated groundwater. Poster presentation at the Canadian Society of Microbiologists Annual Meeting, McMaster University, Hamilton, Ontario.
142. Stearns JC, Lynch MDJ, Senadheera D, Tenenbaum HC, Goldberg MB, Cvitkovitch DG, Croitoru K, Moreno-Hagelsieb G, **Neufeld JD**. 2010. Investigating the baseline microbiome of the healthy human digestive tract.

Curriculum Vitae

- Poster presentation at the Canadian Society of Microbiologists Annual Meeting, McMaster University, Hamilton, Ontario.
143. Cheng J, Pinnell L, **Neufeld JD**, Charles TC. 2010. Construction of a Gateway® cosmid for functional screening of metagenomic DNA in diverse microbial hosts. Poster presentation at the Canadian Society of Microbiologists Annual Meeting, McMaster University, Hamilton, Ontario.
144. Khan NH, **Neufeld JD**, Taylor WD. 2010. Role of ultraviolet radiation, turbidity and grazers in the mortality of total coliforms and *Escherichia coli* in an impacted stream. Poster presentation at the American Society for Microbiology General Meeting, San Diego, California.
145. **Bartram AK** and **Neufeld JD**. 2010. Characterization of soil microbial communities across a pH gradient using multi-million 16S rRNA gene sequence datasets. Oral presentation at the Graduate Student Research Conference, Waterloo, Ontario.
146. **Moore T** and **Neufeld JD**. 2010. Discovery and characterization of novel anammox communities in contaminated groundwaters. Oral presentation at the Graduate Student Research Conference, Waterloo, Ontario. *Student award for best talk*.
147. **Moore T** and **Neufeld JD**. 2010. Diverse anammox communities discovered in contaminated groundwater environments. Oral presentation at 45th Central Canadian Symposium on Water Quality Research. Canadian Center for Inland Waters, Burlington, Ontario (February 22-23, 2010).
148. **Bartram AK**, Moreno-Hagelsieb G, **Neufeld JD**. 2009. Unprecedented taxonomic coverage of an arctic tundra microbial community provided by ultra-deep sequencing of ribosomal sequence tags. Poster presentation at the Canadian Society for Microbiologists annual meeting, Montreal, Quebec.
149. **Neufeld JD**. 2009. Unravelling the human microbiome with new molecular methodologies. Invited poster presentation at the CIHR Infection and Immunity New Investigator Forum. Toronto, Canada.
150. Deslippe JR, **Neufeld JD**, Mohn WW, Simard SW. 2008. Stable-isotope probing of the mycorrhizosphere of intact dwarf shrubs provides insight into carbon cycling in Low Arctic tundra. 3rd International Polar and Arctic Microbiology Conference, Banff, Canada.
151. Hernandez C, **Neufeld JD**, Diarra M, Marziali A, Dewar K. 2008. SCODA: Purifying DNA from difficult samples for massively parallel sequencing. Poster presentation at the National Conference on Environmental Sampling and Detection for Bio-Threat Agents. Las Vegas, USA.
152. **Neufeld JD**. 2008. Accessing the diversity of complex microbial communities: the footpath behind and the highway ahead. Invited oral presentation at the Canadian Society for Microbiology. Calgary, Canada.
153. Deslippe JR, **Neufeld JD**, Mohn WW, Grayston SJ, Simard SW. 2008. Stable-isotope probing of the mycorrhizosphere of intact dwarf shrubs provides insight into carbon cycling in Low Arctic tundra. Botanical Society of America Conference, Vancouver, Canada.
154. Chen Y, Dumont MG, **Neufeld JD**, Bodrossy L, Stralis-Pavese N, McNamara NP, Ostle N, Briones MJI, Murrell JC. 2008. Stable isotope probing and metagenomics, a powerful combination for microbial ecologists. Poster presentation at the Workshop in Metabolomics and Environmental Biotechnology. Mallorca, Spain.
155. Chen Y, Dumont MG, **Neufeld JD**, Bodrossy L, Stralis-Pavese N, McNamara NP, Ostle N, Briones MJI, Murrell JC. 2008. Revealing the uncultivated majority: combining DNA stable isotope probing, multiple displacement amplification and metagenomic analyses of uncultivated *Methylocystis* in acidic peatlands. Poster presentation at the 12th International Society for Microbial Ecology, Cairns, Australia.
156. Jensen S, **Neufeld JD**, Birkeland NK, Hovland M, Murrell JC. 2008. Insight into the microbial community structure of Norwegian deepwater coral reefs. Poster presentation at the 12th International Society for Microbial Ecology, Cairns, Australia.
157. Jensen S, **Neufeld JD**, Birkeland NK, Hovland M, Murrell JC. 2008. Stable isotope probing identified a methane sustained *Methylobacterium* in the sediment beneath a deep-water coral reef off the coast of Norway. Poster presentation at the Norwegian research council, Norway.
158. Moussard H, Stralis-Pavese N, **Neufeld JD**, Bodrossy L, Murrell JC. 2008. Diversity of active marine methanotrophs and methylotrophs in Colne estuary sediments. Poster presentation at the 162nd Society for General Microbiology meeting, Edinburgh, UK.
159. Schäfer H, **Neufeld JD**, Murrell JC, Boden R. 2008. Microbial degradation of dimethylsulfide. Oral presentation at the 162nd Society for General Microbiology meeting, Edinburgh, UK.
160. **Neufeld JD**, Chen, Y, Dumont M, Moussard H, Murrell JC. 2007. Combining stable-isotope probing, genome amplification and metagenomics: a power tool for microbial ecology. Poster presentation at the Post-Genomics & Proteomics Directed Programme Second Science Meeting, Milton Keynes, UK.
161. Chen Y, Dumont MG, McNamara N, **Neufeld JD**, Bodrossy L, Stralis-Pavese N, Murrell JC. 2007. Combining DNA-based stable isotope probing, whole genome amplification and metagenomic analysis of uncultivated methanotrophs in peatlands. Poster presentation at the 161st Society for General Microbiology meeting, Edinburgh, UK.
162. Chen Y, Dumont MG, McNamara N, **Neufeld JD**, Bodrossy L, Stralis-Pavese N, Murrell JC. 2007. Combining DNA-based stable isotope probing, whole genome amplification and metagenomic analysis of uncultivated

Curriculum Vitae

- methanotrophs in peatlands. Poster presentation at the Jacques Monod conference, Roscoff, France.
163. **Neufeld JD**, Chen, Y, Dumont M, Murrell JC. 2007. Combining stable-isotope probing, genome amplification and metagenomics: a power tool for microbial ecology. Poster presentation at the American Society for Microbiology Annual General Meeting, Toronto, Canada.
 164. Schäfer H, **Neufeld JD**, Murrell JC, Boden R. 2007. New insights into trace gas degradation by marine bacteria. Poster presentation at the "Sequencing the Seas Discussion Meeting", London, UK.
 165. Murrell JC, **Neufeld JD**. 2007. DNA stable-isotope probing to explore C₁ metabolism in the sea. Oral presentation at the "Sequencing the Seas Discussion Meeting", London, UK.
 166. **Neufeld JD**, Chen, Y, Dumont M, Murrell JC. 2007. Combining stable-isotope probing, genome amplification and metagenomics: a power tool for microbial ecology. Poster presentation at the Microbial Observatories meeting, Washington, DC, USA.
 167. **Neufeld JD**, Schäfer H, Boden R, Murrell JC. 2006. Stable isotope probing of the marine environment implicates *Methylophaga* and uncultured *Gammaproteobacteria* in the consumption of methanol and methylamine. Poster presentation at the 11th International Society for Microbial Ecology, Vienna, Austria.
 168. Jensen S, Birkeland N-K, **Neufeld JD**, Murrell C, Hovland M. 2006. Exploring the microbiology of a deep water coral reef outside mid Norway. Oral presentation at the 11th International Society for Microbial Ecology, Vienna, Austria.
 169. **Neufeld JD**, Schäfer H, Boden R, and Murrell JC. 2006. Stable isotope probing of the marine environment implicates *Methylophaga* and uncultured *Gammaproteobacteria* in the consumption of methanol and methylamine. Poster presentation at the Gordon Research Conference, Oxford, UK.
 170. **Neufeld JD**, Schäfer H, Boden R, and Murrell JC. 2006. Methylophages in the spotlight: stable-isotope probing illuminates carbon metabolism in the marine environment. Oral presentation competition at the Society for General Microbiology meeting, York, UK. *Awarded "Young Microbiologist of the Year"*.
 171. **Neufeld JD**, Schäfer H, and Murrell JC. 2006. Stable isotope probing of the marine environment: implication of *Methylophaga* species in the consumption of methanol. Poster presentation at the 158th Society for General Microbiology meeting, Warwick, UK.
 172. Schäfer H, Boden R, **Neufeld JD**, Murrell JC, Kumar S. 2006. Dimethylsulfide degradation by marine bacteria. Poster presented at the 11th International Symposium on Microbial Ecology, Vienna, Austria.
 173. Schäfer H, Boden R, **Neufeld JD**, Murrell JC, Kumar S. 2006. Dimethylsulfide degradation by marine bacteria. Poster presented at the Microbial Basis of One-Carbon Metabolism Gordon Research Conference, Magdalen College Oxford, Oxford, UK.
 174. Boden R, **Neufeld JD**, Murrell JC, Schäfer H. 2006. Stable-isotope probing of dimethylsulfide-degrading bacteria in the marine environment. Poster presented at the 4th International Symposium on DMS(P), University of East Anglia, Norwich, UK.
 175. Boden R, **Neufeld JD**, Murrell JC, Schaefer H. 2005 Diversity of marine dimethylsulfide-degrading bacteria revealed by stable-isotope probing. Poster presentation at the 158th Society for General Microbiology meeting, Warwick, UK.
 176. **Neufeld JD**, Mohn WW, de Lorenzo V. 2005. A habitat-specific microarray: linking specific phylotypes to contaminated soils. Oral presentation at the Molecular Microbial Ecology Group 10th annual group meeting, Norwich, UK.
 177. **Neufeld JD**, Mohn WW. 2004. Microbial community composition of arctic and boreal forest soils determined by Serial Analysis of Ribosomal Sequence Tags (SARST) and denaturing gradient gel electrophoresis (DGGE). Oral and poster presentations at the 10th International Society for Microbial Ecology, Cancun, Mexico. Award granted for best poster.
 178. Leckie, SE, Prescott CE, Grayston SJ, **Neufeld JD**, Mohn WW. 2003. Humus microbial communities and response to silvicultural practices. Poster presentation at the 10th North American Forest Soils Conference, July 20-24, Sault Ste. Marie, Ontario.
 179. Leckie, SE, Prescott CE, Grayston SJ, **Neufeld JD**, Mohn WW. 2003. Humus microbial communities in forests that differ in nitrogen availability. Oral presentation at the Soil Ecology Society Biennial Conference, May 11-14, Palm Springs, California.
 180. **Neufeld JD**, Mohn WW. 2003. Evaluating high-throughput profiling of complex microbial communities by Serial Analysis of Ribosomal Sequence Tags (SARST). Oral presentation at the American Society for Microbiology Northwest branch meeting, Vancouver, Canada. *Award granted for best presentation*.
 181. Leckie, SE, Prescott CE, Grayston SJ, **Neufeld JD**, Mohn WW. 2002. Homogeneity of soil microbial communities in adjacent forests differing in nitrogen cycling. Poster presentation at the Ecological Society of America Annual Meeting, August 4-9, Tucson, Arizona.
 182. Leckie, SE, Prescott CE, Grayston SJ, **Neufeld JD**, Mohn WW. 2002. Molecular investigation of soil microbial communities in forests of northern Vancouver Island. Poster presentation at the Northwest Forest Soils Council Annual Meeting, January 25, Portland, Oregon.
 183. **Neufeld JD**, Yu Z, Lam W, Mohn WW. 2002. Sequence tag analysis of community structure (STACS). Poster presentation at the 102nd Annual General Meeting of the American Society for Microbiology, Salt Lake City, Utah.

Curriculum Vitae

- 184. Neufeld JD**, Knowles R. 1999. Inhibition of nitrifiers and methanotrophs from an agricultural humisol by allylsulfide and its implications for environmental studies. Canadian Society for Microbiology Annual General Meeting, Montreal, Canada

Curriculum Vitae

UNDERGRADUATE TRAINING

Cheng, Nathan

Thesis/Project Title: Microbial analysis of pressure vessel samples

Position: co-op student

2024/01 – 2024/08

Grinchenko, Stefan

Thesis/Project Title: Cultivation of sulfate-reducing bacteria

Position: co-op student

2024/05 – 2024/08

Papp, Shelby

Thesis/Project Title: Optimization of pressure vessel parameters

Position: co-op student

2023/05 – 2023/08

Rabu, Milena

Thesis/Project Title: Microbial analysis of bentonite samples

Position: co-op student

2023/05 – 2028/08

Shen, Kevin

Thesis/Project Title: Development of computational tools for 16S rRNA gene analysis

Position: co-op student

2023/05 – 2023/08

DelMistro, Grace

Thesis/Project Title: Microbiology of archaeal nitrifiers

Position: co-op student

2023/01 – 2023/04

Fernandez, Ana

Thesis/Project Title: Microbial viability method development

Position: Biol 499

2022/09 – 2023/04

Perry, Cailyn

Thesis/Project Title: Microbial analysis of bentonite clay

Position: co-op student

2023/01 – 2023/08

Papp, Shelby

Thesis/Project Title: Work-study lab technician

2023/01 – 04/2023

Perry, Cailyn

Thesis/Project Title: Work-study lab technician

2022/09 – 2022/12

Skrobonja, Anja

Thesis/Project Title: Microbial analysis of bentonite clay

Position: co-op student

2022/04 – 2022/12

Perry, Cailyn

Thesis/Project Title: Microbial analysis of bentonite clay

Position: co-op student

2022/04 – 2022/08

Palermo, Peter

Curriculum Vitae

Thesis/Project Title: Microbial analysis of bentonite clay
Position: co-op student
2022/09 – 2022/12

Virgin, Taylor
Thesis/Project Title: Microbiology of the Grand River
Position: Biol 499
2022/01 – 2022/08

Fernandez, Ana
Thesis/Project Title: Work-study lab technician
2021/01 – 2021/04

Chadha, Anu
Thesis/Project Title: Microbial analysis of bentonite clay
Position: co-op student
2021/01 – 2021/04

Fernandez, Ana
Thesis/Project Title: Microbial analysis of bentonite clay
Position: co-op student
2020/5 – 2020/8

Virgin, Taylor
Thesis/Project Title: Microbiology of bentonite clay
Position: co-op student
2020/5 – 2020/8

Shaw, Nicolette
Thesis/Project Title: Cultivation of *Coprinus comatus*
Position: Biol 499
2019/9 – 2020/4

Cobourne, Zinedine
Thesis/Project Title: Microbiology technician
Position: co-op student technician
2020

Guan, Benny
Thesis/Project Title: Work-study lab technician
2019/1 – 2020/12

Kabir, Fahad
Thesis/Project Title: Work-study lab technician
2018/9 – 2018/12

Umbach, Alex
Thesis/Project Title: Gamer gunk microbiome
Position: 499 project
2018/9 – present

Arizaga, Daniel
Thesis/Project Title: Systems Op Developer
Position: co-op student technician
2018/5 – 2018/8

Vachon, Melody
Thesis/Project Title: Method development for detection of microorganisms in deep subsurface environments
Position: technician
2018/5 – 2018/8

Shaw, Nicolette

Curriculum Vitae

Thesis/Project Title: Cultivation of photoferrotrophs from boreal shield lakes
Position: technician
2018/5 – 2018/8

Al-Ajeel, Sarah

Thesis/Project Title: Cultivation of bacteria that catalyze complete ammonia oxidation (comammox) in wastewater treatment systems
Position: technician
2018/05 – 2018/08

Beaver, Rachel

Thesis/Project Title: Analysis of samples for 16S rRNA gene sequencing
Position: technician
2018/05 – 2018/08

Jao, Riza

Thesis/Project Title: Work-study lab technician
2017/5 – 2018/04

Bullen, Nathan

Thesis/Project Title: Density fractionation of environmental DNA for metagenomic analysis
Position: 499 student
2017/5 – 2018/4

Al-Ajeel, Sarah

Thesis/Project Title: Exploring the role of complete ammonia oxidation (comammox) in wastewater treatment systems
Position: 499 student
2017/05 – 2017/12

Beaver, Rachel

Thesis/Project Title: Enrichment and characterization of methanotrophs from the experimental lakes area
Position: 499 student
2017/05 – 2017/12

Poopalrajah, Rahgavi

Thesis/Project Title: Cultivation and characterization of methanotrophs in boreal lake environments
Position: 499 student
2016/12 – 2017/4

Hayat Mallick, Zunaira

Thesis/Project Title: Cultivation and analysis of a novel Gemmatimonadetes species
Position: 499 student
2016/12 – 2017/4

Yogendirarajah, Keertika

Thesis/Project Title: Application of DNA-based stable-isotope probing for monitoring carbon assimilation into ammonia-oxidizing archaea
Position: 499 student
2016/1 – 2016/5

Albuquerque, Marco

Thesis/Project Title: Establishing the role of Gemmatimonadetes in wastewater communities using comparative genomics
Position: 499 student
2014/9 – 2015/8

Potts, Ryan

Thesis/Project Title: Cultivation of freshwater Thaumarchaeota
Position: 499 student
2014/9 – 2015/4

Ross, Ashley

Curriculum Vitae

Thesis/Project Title: Microbial biogeography of a university campus
Position: 499 student
2014/9 – 2015/4

Tsuji, Jackson
Thesis/Project Title: Targeted exploration of the rare biosphere
Position: 499 student
2014/1 – 2014/8

Ross, Ashley
Thesis/Project Title: Nitric oxide scavengers
Position: Co-op student
2013/5 – 2013/8

Tsuji, Jackson
Thesis/Project Title: Exploring *Gloeobacter* phylogeny in Arctic tundra.
Position: NSERC USRA
2013/5 – 2013/8

Seuradge, Brent
Thesis/Project Title: Soil sample characterization from the rare Charitable Research Reserve
Position: Summer technician
2013/5 – 2013/8

Lobb, Briallen
Thesis/Project Title: Soil restoration microbiology
Position: 499 student
2013/1 – 2013/4

DeMone, Catherine
Thesis/Project Title: Biol 240 course development (conversion to new textbook)
Position: Co-op student
2012/9 – 2013/4

Reid, Chantelle
Thesis/Project Title: Lab and teaching assistance
Position: Volunteer
2012/1 – 2014/4

Mansfield, Mike
Thesis/Project Title: Lab technician
Position: Volunteer
2011/12 – 2014/8

Hall, Michael
Student Degree Start Date: 2009/9
Thesis/Project Title: Bioinformatician
Position: co-op student
2011/9 – 2012/4

Van Dyk, Victoria
Thesis/Project Title: Lab assistance
Position: Volunteer
2011/9 – 2013/4

Isleam, Olgun
Thesis/Project Title: Microbiology course development, lab assistance.
Position: Volunteer
2009/5 – 2009/8

Pawliszyn, Richard
Thesis/Project Title: Exploring ammonia-oxidizing archaea in aquarium filters

Curriculum Vitae

Position: NSERC USRA
2009/4 – 2010/1

Ching, Steven
Thesis/Project Title: Factors affecting cellulose production by *G. xylinus*.
Position: 499 student
2008/9 – 2009/4

Hataichanok Sae Yang
Thesis/Project Title: Stable-isotope probing for the detection of denitrifiers
Position: 499 student
2008/9 – 2010/4

Bhatti, Taybah
Thesis/Project Title: Exploring the microbial diversity of precipitation,
Position: laboratory technician
2008/9 – 2009/12

Poon, Calvin
Thesis/Project Title: Research assistance
Position: 499 student
2007/9 – 2007/12

Binga, Erik
Thesis/Project Title: Preparing review for microbial ecology publication
Position: Volunteer
2007/5 – 2007/8

Dorman, Kathryn
Thesis/Project Title: Exploring nir genes in *Flexibacter canadensis*
Position: Volunteer
2007/5 – 2008/2

MSc students

Schofield, Luke
Thesis/Project Title: Pressure vessels for microbial assessment of rapid saturation and compression of bentonite clay
2024/08 – present

Dietrich, Abby
Thesis/Project Title: Inhibition of sulfate-reducing bacteria by bentonite clay
2023/09 – 2024/01

Punch, Rhiannon
Thesis/Project Title: Impact of water activity on microbial growth in Wyoming MX-80 bentonite clay
2020/09 – 2023/08

Al-Ajeel, Sarah
Thesis/Project Title: Enrichment and activity of comammox *Nitrospira* from the rotating biological contactors of a municipal wastewater treatment system
2018/9 – 2021/01

Umbach, Alex
Thesis/Project Title: Profiling skin-associated archaea and bacteria with 16S rRNA and *cpn60* genes
2019/09 – 2021/08

Beaver, Rachel
Thesis/Project Title: Microbiology of natural analogues of deep geological repository components
2018/09 – 2020/8

Curriculum Vitae

Gromala, Monica

Thesis/Project Title: Arctic wastewater microbiology

2018/01 – 2020/08

Vachon, Melody

Thesis/Project Title: Method development for detection of microorganisms in deep subsurface environments

Position: MSc

2018/09 – 2020/08

Bergstrand, Lee

Thesis/Project Title: G2Cview: Genome to Cell Viewer

2017/09 – 2020/01

Spasov, Emilie

Thesis/Project Title: Characterizing ammonia oxidizers in rotating biological contactors

2016/09 – 2018/08

Ross, Ashley

Thesis/Project Title: The mammalian skin microbiome

2015/09 – 2017/08

Seuradje, Brent

Thesis/Project Title: Bacterial biogeography of the rare Charitable Research Reserve

Position: MSc student

2013/09 – 2015/08

Coyotzi, Sara

Thesis/Project Title: Exploring denitrification in agricultural soils with stable-isotope probing.

Position: MSc student

2011/09 – 2013/12

Szabolcs, Natasha

Thesis/Project Title: Ammonia oxidation in aquarium biofilters

2011/09 – 2014/01

Kennedy, Kate

Thesis/Project Title: The role of the gut microbiome in depression

2012/09 – 2014/01

Verastegui, Yris

Thesis/Project Title: Stable isotope probing for recovery of novel glycoside hydrolases

2009/09 – 2012/04

Pinnell, Lee

Thesis/Project Title: Metagenomics of Arctic tundra cellulases.

2009/04 – 2011/03

Moore, Tara

Thesis/Project Title: Exploring anaerobic ammonia oxidation in groundwater.

2009/04 – 2011/03

Dunford, Eric

Thesis/Project Title: Exploring microbial cellulose degradation with genomics.

2009/04 – 2011/03

PhD students

Umbach, Alex

Thesis/Project Title: Cultivation and characterization of nitrifiers for aquarium biofilter application

2021/09 – present

Curriculum Vitae

Beaver, Rachel

Thesis/Project Title: Microbiology of deep geological repository simulations
2020/09 – present

McKnight, Michelle

Thesis/Project Title: Ecology of ammonia oxidation in water treatment systems
2018/09 – present

Tsuji, Jackson

Microbial characterization of real shield lakes and their potential to serve as Archean ocean analogues
2015/9 – 2020/9

Lu, Xinda

Thesis/Project Title: Thaumarchaeotal diversity in terrestrial environments
Position: PhD student
2014/9 – 2018/9

Sauder, Laura

Thesis/Project Title: Ammonia oxidizing archaea in engineered biofiltration systems
2013/1 – 2017/8

Sonthiphand, Puntipar

Thesis/Project Title: Nitrogen cycling in the Grand River
2010/9 – 2014/12

Bartram, Andrea

Thesis/Project Title: High-throughput sequencing for soil diversity analysis
2008/9 – 2014/4

Postdoctoral fellows

Veronika Koziaeva

Thesis/Project Title: Subsurface microbiology
2023/02 – present

Paula Reis

Thesis/Project Title: Methanotrophy of boreal shield lakes
2023/02 – present

Melody Ospina

Thesis/Project Title: Validation of multiple displacement amplification protocol for metagenomic sequencing of DNA from low biomass environments
2020/01 – 2022/01

Santiago Ruiz Navas

Thesis/Project Title: Bioinformatic method development for Micromeda
2021/01 – 2022/01

Lynch, Michael

Thesis/Project Title: Exploring the rare biosphere for unknown taxonomic diversity.
2009/9 – 2014/12

Stearns, Jennifer

Thesis/Project Title: Establishing a taxonomic baseline for the human microbiome.
2008/9 – 2010/4

Lab technicians

Chadha, Anu

Thesis/Project Title: Lab technician

Curriculum Vitae

2024/01 – present

Engel, Katja

Thesis/Project Title: Lab technician

2009/9 – present

Spasov, Emilie

Thesis/Project Title: Lab technician

2018/9 – 2023/09

BLOG POSTS AND MEDIA INTERVIEWS

“Surprising bacterium from Canadian lake shines new light on ancient photosynthesis”

<https://uwaterloo.ca/news/surprising-bacterium-canadian-lake-shines-new-light-ancient>

My lab's skin microbiome research discussed in “Clean: The New Science of Skin and the Beauty of Doing Less” (James Hamblin; Riverhead Books; 2021)

The textbook “Molecular Mechanisms of Photosynthesis, 3rd Edition” (Wiley; 2021) was updated to explain that, “surprisingly”, reaction centre I can be contained within members of the *Chloroflexota*, citing my lab's biorxiv manuscript (Tsuji et al. 2022), which sheds new light on the evolutionary origins of photosynthesis.

Maclean's interview (featured in Maclean's 2016 University guide) and lab photo shoot: “Small world: The hot field of the microbiome”. www.macleans.ca/education/small-world-the-hot-field-of-the-microbiome/

Interview with Betty Zou, Science writer (Science Borealis blog), with Jackson Tsuji: Highlights from the 2016 Canadian Society of Microbiologists conference. <http://tinyurl.com/CSM2016-Tsuji>

Invited blog post for Evidence 4 Democracy, “Perspectives on funding science: Making the most of opportunities” <https://evidencefordemocracy.ca/en/SRO-blog>

Blog posts for Neufeld Research Group

“Mushmallows” <https://uwaterloo.ca/neufeld-research-group/blog>

“Here and elsewhere: an open resource for authors and peer reviewers of microbiology” <https://uwaterloo.ca/neufeld-research-group/blog/post/here-and-elsewhere-open-resource-authors-and-peer-reviewers>

“Albus Dumbledore and the importance of anonymous peer review” <https://uwaterloo.ca/neufeld-research-group/blog/post/albus-dumbledore-and-importance-anonymous-peer-review>

Media interviews for Ross AA, Doxey AC, Neufeld JD. 2017. The skin microbiome of cohabiting couples. mSystems. 2:e00043-17:

<http://www.dailymail.co.uk/sciencetech/article-4711836/Couples-live-share-MICROBES.html>,

<https://www.asm.org/index.php/newsroom/item/6698-not-under-the-skin-but-on-it-living-together-brings-couples-microbiomes-together>, <http://www.popsi.com/feet-bacteria-microbiome-partner>

<http://health.usnews.com/health-care/articles/2017-07-26/the-couple-that-lives-together-shares-skin-bacteria-together>

<http://www.medicalnewstoday.com/articles/318571.php>

http://www.philly.com/philly/health/topics/HealthDay724825_20170726_The_Couple_That_Lives_Together_Shares_Skin_Bacteria_Together.html?mobi=true

<http://www.deccanchronicle.com/lifestyle/health-and-wellbeing/280717/couples-share-not-just-love-but-bacteria-too.html>

New York Times <https://www.nytimes.com/2017/07/31/health/microbes-couples-cohabitation.html?smid=tw-share>

<http://www.health24.com/Lifestyle/Healthy-you/couples-end-up-sharing-the-same-bacteria-20170731>

<https://www.thespec.com/living-story/7482299-lovers-share-colonies-of-skin-microbes/>

<https://www.genomeweb.com/scan/microbes-you-share>

<https://www.inverse.com/article/34979-feet-microbiome-lovers-skin>

<http://metro.co.uk/2017/08/04/congrats-happy-couples-you-really-do-share-everything-even-skin-bacteria-6828398/>

<http://www.medicalnewstoday.com/articles/318837.php>

<https://www.invisiverse.com/news/love-true-togetherness-means-sharing-same-microbes-0179020/>

<https://research2reality.com/health-medicine/honey-have-you-seen-my-bacteria/>

Microbes on the feet, torso, navel, and eyelids of heterosexual couples match closely enough for a computer algorithm to identify couples with 86% accuracy from skin microbe samples. Reddit. August 4, 2017. [Reddit](https://www.reddit.com/r/interesting/comments/6828398/microbes-on-the-feet-torso-navel-and-eyelids-of-heterosexual-couples-match-closely-enough-for-a-computer-algorithm-to-identify-couples-with-86-accuracy-from-skin-microbe-samples/).

What's mine is yours, including the skin bacteria. August 2, 2017. [Toronto Star](http://toronto.star.ca/2017/08/02/whats-mine-is-yours-including-the-skin-bacteria/).

HER podcast: <https://itunes.apple.com/us/podcast/sharing-biomes-cohabitation-your-skin/id742910884?i=1000391407577&mt=2#>

Toronto Star (October 2, 2017) interview - Zoe

<http://coach.nine.com.au/2017/10/18/20/45/how-your-partner-affects-your-health>

<https://www.therecord.com/living-story/7482299-lovers-share-colonies-of-skin-microbes/>

<https://www.studyfinds.org/microbiome-couples-living-together-sharing-bacteria/>

Curriculum Vitae

Ashley podcast: <https://thecowell.com/blogs/podcast/interview-with-ashley-ross-phd-candidate-at-the-uog-about-skin-microflora>

Interviewed for the "Science Matters" podcast, which was featured in the campus Imprint magazine in 2009.

Gave an interview for CIHR "Research with Impact" website content, featuring microbiome work, which was funded by a CIHR Catalyst Grant (<http://bit.ly/loD16s>) in 2009.

Featured in The Daily Planet in 2012 on the Discovery Channel

Interviewed for "The Scientist" magazine, which was quoted in a subsequent article.

Teaching interview

https://uwaterloo.ca/biology/news/new-online-edition-biol-240-aims-inspire-future-students?utm_medium=shareblock

The Art of Science – No Marks Attached <https://cte-blog.uwaterloo.ca/?p=3261> (by my student)

Reading the (Class)room: There's No App for That <https://cte-blog.uwaterloo.ca/?p=4572>

Darth Vader: teaching method in disguise? <https://cte-blog.uwaterloo.ca/?p=4628>

Please engage with students after the beep <https://cte-blog.uwaterloo.ca/?p=4856>

TEACHING EXPERIENCE

Term	Course	Title	Grad/Undergrad	Load
F'24	BIOL 240	Fundamentals of Microbiology (two sections)	Undergraduate	100%
F'23	BIOL 240	Fundamentals of Microbiology (two sections)	Undergraduate	100%
F'22	BIOL 240	Fundamentals of Microbiology (two sections)	Undergraduate	100%
F'21	BIOL 240	Fundamentals of Microbiology (ONLINE)	Undergraduate	100%
F'20	BIOL 240	Fundamentals of Microbiology (ONLINE)	Undergraduate	100%
F'20	BIOL 690	Scientific Communication	Graduate	10%
W'20	VIENNA	Critical Analysis Skills for Microbial Ecology	Graduate	100%
F'19	BIOL 240	Fundamentals of Microbiology (two sections)	Undergraduate	100%
F'19	BIOL 690	Scientific Communication	Graduate	10%
F'18	BIOL 690	Scientific Communication	Graduate	10%
F'18	BIOL 240	Fundamentals of Microbiology (two sections)	Undergraduate	100%
S'18	BIOL 240	Fundamentals of Microbiology (ONLINE)	Undergraduate	100%
F'17	BIOL 690	Scientific Communication	Graduate	10%
F'17	BIOL 240	Fundamentals of Microbiology (two sections)	Undergraduate	100%
S'17	BIOL 240	Fundamentals of Microbiology (ONLINE)	Undergraduate	100%
W'17	BIOL 690	Scientific Communication	Graduate	10%
F'16	BIOL 346	Microbial Ecology	Undergraduate	100%
F'16	BIOL 690	Scientific Communication	Graduate	10%
F'14	BIOL 240	Fundamentals of Microbiology (two sections)	Undergraduate	100%
F'14	BIOL 690	Scientific Communication	Graduate	30%
W'14	BIOL 690	Scientific Communication	Graduate	10%
F'13	BIOL 690	Scientific Communication	Graduate	30%
F'13	BIOL 240	Fundamentals of Microbiology (two sections)	Undergraduate	100%
F'13	BIOL466	Biogeochemical Microbiology	Undergraduate	100%
W'13	BIOL 690	Scientific Communication	Graduate	10%
F'12	BIOL 690	Scientific Communication	Graduate	30%
W'12	BIOL 690	Scientific Communication	Graduate	30%
F'12	BIOL 240	Fundamentals of Microbiology (two sections)	Undergraduate	100%
F'11	BIOL 240	Fundamentals of Microbiology (two sections)	Undergraduate	100%
F'11	BIOL 466	Biogeochemical Microbiology (new name)	Undergraduate	100%
F'11	BIOL 690	Scientific Communication	Graduate	30%
W'11	BIOL 690	Scientific Communication	Graduate	10%
F'10	BIOL 140	Fundamentals of Microbiology (three sections)	Undergraduate	100%
F'10	BIOL 690	Scientific Communication	Graduate	10%
W'10	BIOL 690	Scientific Communication (coordinator)	Graduate	50%

Curriculum Vitae

F'09	BIOL 690	Scientific Communication (coordinator)	Graduate	50%
W'09	BIOL 348L	Laboratory Methods in Microbiology	Undergraduate	100%
W'09	BIOL 466	Advanced Biogeochemical Microbiology	Undergraduate	100%
W'09	BIOL 690	Scientific Communication	Undergraduate	10%
F'08	BIOL 466	Advanced Biogeochemical Microbiology (new course offering)	Undergrad	100%
S'08	BIOL 491	Aquatic Field Biology (two-week field course, Andros Island)	Undergrad	50%
W'08	BIOL 690	Scientific Communication	Graduate	10%

SERVICE

University

2020 – present	PhD thesis defence chair pool committee	Member
2014 – 2017	Role of the Principal Investigator (PI) Working Group	Member
2016 – 2017	Waterloo Centre for Microbial Research	Proposal developer
2016	“Faculty Perspectives on the Hiring Process” expert panel	Member
2012 – 2020	Convocation	Diploma Presenter
2012	CTE Workshop (teaching tools)	Speaker
2012	Mock Lecture for the March Break Open House	Speaker
2012	Mock Lecture for the English for Academic Success	Speaker
2011	China 2+2 Lecture series introducing new students to lecture formats on campus	Speaker
2010	China 2+2 Lecture series introducing new students to lecture formats on campus	Speaker
2010	Importance of Outreach for Academia workshop (Centre for teaching excellence)	Speaker
2010	How to Apply for Academic Positions workshop	Panel Member
2010	UW Web Redesign Task Force	Member
2008	Graduate Student Research Conference	Judge
2007 – 2008	LGBTQQ Advisory Committee	Member

Faculty

2010 – present	MSc thesis defence chair pool committee	Member
2016	Zika virus Public Lecture	Organizer
2010	Biology Public Lecture Series on Synthetic Biology	Organizer
2009	Biology Public Lecture Series on H1N1	Organizer
2008	Faculty of Science Strategic Planning Committee	Participant
2008	Homecoming Open Labs Event	Organizer

Department

2024 – present	Merit Committee	Member
2023 – present	New Faculty mentor to Abiola Olaitan	Mentor
2021 – 2024	Executive committee	Member
2022 – 2023	Microbiology lecturer hiring committee	Member
2020 – present	New Faculty mentor to Jozef Nissimov	Mentor
2019	Virologist hiring committee	Member
2018	Environmental Virology faculty hiring committee	Member
2016 – 2018	Executive committee	Member
2016 – present	New Faculty mentor to Laura Hug	Mentor
2016 – present	Comprehensive Exam Chair Pool	Member
2016 – 2024	Tenure and Promotion Committee	Member
2016 – 2022	Biology Outreach Committee	Member
2009 – 2014	Biology Outreach Committee	Chair
2008 – 2016	Biology Seminar Series	Poster preparation
2007 – 2014	Diving Safety Committee	Member
2007 – 2010	iGEM Team	Faculty Representative
2008 – 2009	Strategic Planning Committee	Member
2008	Strategic Planning Advisory Committee	Member

Curriculum Vitae

Other

2024 – present	Task Force on Principles for Institutional Partnerships, UW
2023 – 2024	Scholarships and Fellowships Selection Committee for Evolution and Ecology (NSERC)
2020 – 2024	Strategic planning committee member, International Society for Microbial Ecology (ISME)
2017 – 2020	Co-Chair of Education and Awards Committee for the Canadian Society for Microbiology
2017	Co-Chair, Canadian Society of Microbiologists Annual Conference, Waterloo
2017	ICoN5, poster judge and session chair
2016 – 2020	EcoBiomics Scientific Advisory Board, Environment Canada
2016	Volunteer Judge for the Westmount Public School Science Fair, Kitchener, Ontario
2016	LOC, 3rd Thünen Symposium on Soil Metagenomics, Braunschweig, Germany.
2014	ASM Journals Strategic Planning Task Force committee member
2012	1 st International Functional Metagenomics Workshop (organized and hosted)
2011	Metagenomics Methods and Data Analysis Workshop (organized and hosted)
2008 – 2017	International Board of Ambassadors for the International Society for Microbial Ecology
2011	Chair of CSM committee to develop new student awards
2008 – 2020	University representative for the Canadian Society for Microbiology
2009 – 2011	Chair of Education and Awards Committee for the Canadian Society for Microbiology (e.g. hosted the student poster and talk competitions at the CSM meeting)
2008 – 2011	Mentor-in-training with the Matrix Dynamics Group (University of Toronto).
2010	Royal Canadian Institute (RCI) Gala Dinner Featured Scientist

PROFESSIONAL ACTIVITIES

Society Memberships

2001 – present	Canadian Society for Microbiologists
2007 – present	International Society for Microbial Ecology
2003 – present	American Society for Microbiology
2007 – 2010	Society for General Microbiology

Grant Application Reviews

2011, Reviewed a CFI Leader's Opportunity Fund application
2010, Reviewed a CFI Leader's Opportunity Fund application
2008 – 2010, Serving as Ontario Graduate Scholarship panel member
Reviewed three National Science Foundation (NSF) grant proposals (one in 2008 and one in 2009 and one in 2010), reviewed a book chapter on Raman-FISH.
Reviewed NSERC Discovery Grant applications (one in 2009 and 3 in 2010, 1 in 2012, 1 in 2022).

Editorial Duties

2020 – present	Editor-in-Chief, ISME J
2010 – present	Editorial Board Member, Environmental Microbiology
2017 – 2020	Senior Editor, ISME J
2015 – 2020	Editor, mSystems
2016 – 2018	Associate Editor, Microbiome
2012 – 2014	Academic Editor, PLoS ONE
2010 – 2023	Member of the editorial boards of FEMS Microbiology Ecology and Applied and Environmental Microbiology
2010 – 2014	Associate Editor, Frontiers in Terrestrial Microbiology

Patents and Intellectual Property Rights

Neufeld JD, Yu Z, Lam W, Mohn WW. 2003. Method for assessing microbial community composition.
Neufeld JD, Yu Z, Lam W, Mohn WW. 2002. Sequence tag analysis of community structure (STACS).

These two provisional patents were justified by the potential of generating kits of enzymes, buffers, and oligonucleotides required for this protocol.

MICHELLE OGRODNIK

mogrodnik@uwaterloo.ca

Assistant Professor, Teaching Stream
Department of Kinesiology and Health Sciences
Faculty of Health, University of Waterloo

2022 – Present

ACADEMIC HISTORY

- Doctor of Philosophy, Department of Kinesiology 2023
McMaster University, NeuroFit Lab
Thesis: Cardiorespiratory fitness and adult ADHD
**Nominee for Governor General away*
- Master of Science, Department of Kinesiology 2018
McMaster University, NeuroFit Lab
Thesis: Examining the effect of exercise breaks on attention and learning
- Teaching and Learning Scholar Program 2018
McMaster University, MacPherson Institute
- Teaching and Learning Foundations Program 2017
McMaster University, MacPherson Institute
- Honours BSc. Psychology, Neuroscience & Behaviour 2016
McMaster University, Applied Cognition in Education Lab
Thesis: Using quizzing to sustain attention in lectures

TEACHING FOCUSED RESEARCH GRANTS

- Learning Innovation and Teaching Enhancement (LITE) Seed Grant Fall 2024
Comparison of Generative Artificial Intelligence in Health-Related Workforce and
in Faculty of Health Classrooms at the University of Waterloo, \$7500
Collaborator: Dr. Laura Williams
University of Waterloo, Centre for Teaching Excellence
- Student Partner Project Funding – Exploring the impact of a Senior Laboratory Summer 2023
Thesis on Undergraduate Student Professional Development as Researchers, \$2000
Collaborators: Dr. Celeste Suart, Hailey Zubyk, Caitlin Mullarkey, and Felicia Vulcu
McMaster University, MacPherson Institute
- Student Partner Project Funding – Department of Kinesiology: Summer 2021
Strategizing for Curriculum Review, \$1932
Collaborators: Dr. Steven Bray & Krista Madsen
McMaster University, MacPherson Institute
- Student Partner Project Funding – Department of Kinesiology: 2021 – 2022
Data Collection for Curriculum Review, \$1932
Collaborators: Dr. Steven Bray & Krista Madsen
McMaster University, MacPherson Institute

BURSARIES AND SCHOLARSHIPS

- Joseph-Armand Bombardier Canada Graduate Scholarship (CGS-D), \$105 000 2020 – 2023
- Wilson Leadership Scholar Award, \$25 000 2020 – 2021
- Ontario Graduate Scholarship (central competition), \$15 000 2019 – 2020
- Educational Developer Grants for Exchanges (EDGEs), \$2000 2019
- Student Travel Award, Society for Teaching and Learning in Higher Education, \$475 2019
- Ontario Graduate Scholarship (central competition), \$15 000 2018 – 2019
- Canada Graduate Scholarship Master's SSHRC, \$17 500 2017 – 2018
- Joan Heimbecker Memorial Bursary, Leadership Award \$1000 2018
- Student Travel Award, Society for Teaching and Learning in Higher Education, \$250 2018
- Emerging Scholar Award, International Society for the Scholarship of Teaching & Learning, \$200 2017
- McMaster Entrance Scholarship, \$1000 2012
- Sandvik Leadership Award, \$1500 2012

HONOURS AND DISTINCTIONS

- Faculty of Health – Teaching Award Nominee 2022, 2023, 2024
- McMaster Student Union – Teaching Award Nominee (Instructor, KINESIOL 4Y03) 2021
- McMaster Student Union – Teaching Award Nominee (Instructor, KINESIOL 2G03) 2020
- McMaster Student Union – Teaching Assistant Merit Award Winner 2019
- Keith Leppmann Teaching Assistant Excellence Award Nominee 2017, 2018
- SSHRC Storytellers Award – Communicating Research Winner (Verbal Presentation) 2018
- SSHRC Storytellers Award – Communicating Research (Top 25 – Video Selection), \$3000 2018
- Outstanding Session Led by a Graduate Student – International Society for the Scholarship of Teaching and Learning & Teaching Assistant and Graduate Student Advancement, \$250 2018
- McMaster Student Union – Outstanding Teaching Award Nominee 2017
- Competitors Choice: McMaster 3 Minute Thesis Presentation, \$250 2017
- 1 Minute Research Blitz Competition Winner, McMaster 2017
- Kathy Steele Teaching Assistant Excellent Award Nominee 2015, 2016
- Applied Educational Psychology, Best Grant Proposal 2015
- Deans Honour List – Undergraduate Student 2015, 2016

PREVIOUS PROFESSIONAL POSITIONS

- Lead Educational Development Fellow 2018 – 2022
MacPherson Institute for Innovation and Excellence in Teaching and Learning
- Student Partner: Curriculum Review Project 2021 – 2022
Department of Kinesiology, McMaster University
- Research Assistant: Long Term Retention Project 2021 – 2022
Department of Kinesiology, McMaster University
- Lead Instructional Assistant 2020 – 2021
Department of Kinesiology, McMaster University
- Recreation Assistant 2012 – 2021
Department of Community and Emergency Services, City of Hamilton

- Research Consultant – High Five Program Evaluation
Parks and Recreation Ontario (PRO) 2019 – 2020
- Student Partner – Test Anxiety and Student Motivation Research Team
MacPherson Institute for Innovation and Excellence in Teaching and Learning 2019 – 2020
- Course Design and Delivery Consultant (KIN 3RP3)
MacPherson Institute for Innovation and Excellence in Teaching and Learning 2019 – 2020
- Undergraduate Supervision & Mentorship Coordinator
NeuroFit Lab, McMaster University 2019 – 2020
- Research Assistant
Western University, Faculty of Education 2019 – 2020
- Research Associate – Team Lead
Office of Community Engagement & McMaster Research Shop 2018 – 2020
- Team Lead – Course Refinement Unit
MacPherson Institute for Innovation and Excellence in Teaching and Learning 2018 – 2019
- Academic Skills Tutor
Student Success Centre, McMaster University 2017 – 2019
- Student Partner – Course Refinement Unit
MacPherson Institute for Innovation and Excellence in Teaching and Learning 2017 – 2018
- Research Associate
Office of Community Engagement & McMaster Research Shop 2017 – 2018
- Research Assistant, NeuroFit Lab
Department of Kinesiology, McMaster University 2016
- Writing Assistant Program Coordinator
Department of Psychology, Neuroscience & Behaviour, McMaster University 2015 – 2016
- Student Scholar – Research Unit
MacPherson Institute for Innovation and Excellence in Teaching and Learning 2015 – 2016
- Writing Assistant/Tutor
Student Success Centre, McMaster University 2014 – 2016
- Mentorship Program Coordinator
Department of Psychology, Neuroscience & Behaviour, McMaster University 2015 – 2016
- Inclusion Supervisor
Summer Services, City of Hamilton 2013 – 2016
- Leader In Training – Supervisor & Course Developer, City of Hamilton
Summer Services, City of Hamilton 2013 – 2015

Committees and Service:

- Teaching Fellow (Kinesiology and Health Sciences)
University of Waterloo 2023 – Present
- Dean's Advisory Committee on Health and Wellbeing (Faculty Rep)
University of Waterloo 2022 – Present
- Student Recruitment Events
*Participates in every recruitment day (Open house, ready day etc.)
University of Waterloo* 2022 – Present
- Faculty Facilitator with CTE
*For both the instructional skills workshops and facilitator development workshops
Facilitated 1 ISW, 2 FDWs
Centre for Teaching Excellence, University of Waterloo* 2022 – Present

- Department of Kinesiology and Health Sciences: Library Liaison 2022 – 2023
University of Waterloo
- McMaster Research Ethics Board Reviewer 2021 – 2022
McMaster University
- Remote Teaching Committee, Department of Kinesiology 2020 – 2022
Department of Kinesiology, McMaster University
- Kinesiology Community Outreach Committee 2020 – 2022
Department of Kinesiology, McMaster University
- BOUNCE (Mental Health and Resilience) Committee 2020 – 2022
McMaster University
- Graduate Students Association: Student Issues Action Committee 2016 – 2022
McMaster University
- Graduate Students Association: Academic Affairs Committee 2016 – 2022
McMaster University
- Educator Developer Programming, Advisory Committee 2020
MacPherson Institute, McMaster University
- Kinesiology Student Research Ethics Council Reviewer 2019 – 2021
Department of Kinesiology, McMaster University
- Curriculum & Policy Council 2019 – 2020
Department of Kinesiology, McMaster University
- Student Mental Health Advisory Committee – Lead 2019 – 2020
Student Affairs & Provost Office, McMaster University
- Kinesiology Graduate Student Body – Vice President 2019 – 2020
Department of Kinesiology, McMaster University
- Let's Talk Science – Workshop Leader 2018 – 2020
McMaster Chapter
- Kinesiology Graduate Body – Psychology Representative 2017 – 2019
Department of Kinesiology, McMaster University
- National Storytellers Competition – Judge 2019
SSHRC, National Reviewer
- Graduate Student Association: Student Issues Action Committee 2017 – 2019
McMaster University
- Graduate Student Association: Executive Review Committee 2017 – 2019
McMaster University
- Three Minute Thesis – Judge 2018
Department of Chemical Engineering, McMaster University
- Grant/Award Reviewer:
 - i. Inclusion, Diversity, Equity, Accessibility and Sustainability (IDEAS), 2020
MacPherson Institute McMaster
 - ii. President's Award for Outstanding Contributions to Teaching & Learning 2020
 - iii. Student Partner Project Funding, MacPherson Institute 2020
 - iv. Experiential Learning in Academic Programming, Office of the Provost McMaster 2019
 - v. Leadership in Teaching and Learning Award, MacPherson Institute McMaster 2018
- Peer Reviewer:
 - i. *Advances in Mental Health* 2023
 - ii. *International Journal for Mental Health Promotion* 2021
 - iii. *British Journal of Educational Psychology* 2021

- Conference Reviewer:
 - i. *Centre for Teaching Excellence* 2024
 - ii. *International Society for the Scholarship of Teaching and Learning* 2017 – 2019
 - iii. *Society for Teaching and Learning in Higher Education* 2019
 - iv. *Research on Teaching and Learning: Exploring Partnership in Higher Education* 2017 – 2018

Conferences Organizer:

- ComSciCon-CAN (National)
 - The Communicating Science Workshop for Graduate Students Org.* Aug 2021
 - Attendees: 50, Presenters: 10
- ComSciCon-GTA (Regional)
 - The Communicating Science Workshop for Graduate Students Org.* Aug 2021
 - Attendees: 35, Presenters: 10
- ComSciCon-GTA (Regional)
 - The Communicating Science Workshop for Graduate Students Org.* Oct 2020
 - Attendees: 50, Presenters: 10
- McMaster Teaching and Learning Forum
 - MacPherson Institute for Innovation and Excellence in Teaching and Learning* Sept 2020
 - Attendees: 1000+, Presenters: 60, Volunteers: 15
 - *Virtual conference
- McMaster Teaching and Learning Forum
 - MacPherson Institute for Innovation and Excellence in Teaching and Learning* Sept 2019
 - Attendees: 400, Presenters: 45, Volunteers: 10

PUBLICATIONS AND PRESENTATIONS

Publications:

- Karsan, S., Kuhn, T., **Ogrodnik, M.**, Middleton, L. E., & Heisz, J. J. (2024). Exploring the interactive effect of dysfunctional sleep beliefs and mental health on sleep in university students. *Frontiers in Sleep*, 3, 1340729.
- Suart, C., **Ogrodnik, M.**, & Suttie, M. (2024). Learning the landscape: Using journal clubs to introduce graduate students and early-career researchers to SoTL. In Miller-Young, J., & Chick, N. L. (Eds.), *Becoming a SoTL scholar*. Elon University.
- Coletta, G., Tuckey, C., McQuarrie, A., **Ogrodnik, M.**, Nicholson, E., Phillips, S. M., & Cupido, C. (2023). A Virtual Versus In-Person Comparison of the Senior Fitness Test: A Randomized Crossover Trial. *Physiotherapy Canada*, e20230026.
- **Ogrodnik, M.**, Karsan, S., Malamis, B., Kwan, M., Fenesi, B., & Heisz, J. (2023). Exploring barriers and facilitators to physical activity in adults with ADHD: A qualitative investigation. *Journal of Developmental and Physical Disabilities*. 1–21.
- **Ogrodnik, M.**, Karsan, S., & Heisz, J. (2023) Mental health in adults with ADHD: Examining the relationship with cardiorespiratory fitness. *Journal of Attention Disorders*, 27(7), 698–708.
- **Ogrodnik, M.**, Karsan, S., Cirone, V., & Heisz, J. (2023). Exploring the relationship between cardiorespiratory fitness and executive functioning in adults with ADHD. *Brain Sciences*, 13(4), 673.
- Halladay, J., **Ogrodnik, M.**, Alla, J. F., Sunderland, M., Gardner, L. A., & Georgiades, K. (2023). Playing for more than winning: Exploring sports participation, physical activity, and belongingness and their relationship with patterns of adolescent substance use and mental health. *Drug and Alcohol Dependence*, 111039.

- **Ogrodnik, M.**, Fenesi, B., & Heisz, J. J. (2023). Sweat so you don't forget. In Overson C. E., Halaka, C. M., Kordonowy, L. L. & Benassi, V. A (Eds.), *In their own words: What scholars want you to know about why and how to apply the science of learning in your academic settings*. Society for the Teaching of Psychology (APA, Division 2).
- Martyn, L., Bigelow, H., Graham, J. D., **Ogrodnik, M.**, Chiodo, D., & Fenesi, B. (2022). A mixed method investigation of teacher-identified barriers, facilitators and recommendations to implementing daily physical activity in Ontario elementary schools. *BMC Public Health*, 22, 1-15. doi:10.1186/s12889-022-14359-3
- Bigelow, H., Gottlieb, M. D., **Ogrodnik, M.**, Graham, J. D., & Fenesi, B. (2021). The differential impact of acute exercise and mindfulness meditation on executive functioning and psycho-emotional well-being in children and youth with ADHD. *Frontiers in Psychology*, 12, 2157.
- Heisz, J. J., Marashi, M., Nicholson, E., & **Ogrodnik, M.** (2021). HIIT as a Tool for Improving Mental Health and Cognition. *ACSM's Health & Fitness Journal*, 25(5), 13-17.
- Marashi, M. Y., Nicholson, E., **Ogrodnik, M.**, Fenesi, B., & Heisz, J. J. (2021). A mental health paradox: Mental health was both a motivator and barrier to physical activity during the COVID-19 pandemic. *Plos One*, 16(4), e0239244.
- **Ogrodnik, M.**, Halladay, J., Fenesi, B., Heisz, J., & Georgiades, K. (2020). Examining associations between physical activity and academic performance in a large sample of Ontario students: The role of inattention and hyperactivity. *Journal of Physical Activity and Health*, 17(12), 1231-1239.
- Graham, J., Bremer, E., Bedard, C., Dutta, P., **Ogrodnik, M.**, & Cairney, J. (2020) Acute effects of an afterschool program running and reaching program on executive functions children: An exploratory study. *Frontiers in Public Health*, 8, 593916.
- Halladay, J., Woock, R., El-Khechen H., Munn, C., MacKillop, J., Amlung, M., **Ogrodnik, M.**, Favotto, L., Aryal, K., Noori, A., Kiflen, M. & Georgiades, K. (2020) Patterns of substance co-use among adolescents: A systematic review. *Journal of Drug and Alcohol Dependence*, 108222.
- Taylor, R. L., Knorr, K., **Ogrodnik, M.**, & Sinclair, P. (2020). Seven principles for good practice in midterm student feedback. *International Journal for Academic Development*, 1-13. DOI: 10.1080/1360144X.2020.1762086
- Heisz, J., **Ogrodnik, M.**, Fenesi, B. (2019). The effects of physical activity on cognition in adults: Volume 2. In Anshel, H. Petruzzello, J. & Labbé, E. (Eds.). *APA Handbook of Sport and Exercise Psychology* (pp. 315–330). Washington, DC: American Psychological Association.

Published abstracts:

- **Ogrodnik, M.**, Halladay, J., Fenesi, B., Heisz, J., & Georgiades, K. (2019) The role of attentional control in the association between physical activity and academic performance: Results from a large sample of Ontario students. *Journal of Sport and Exercise Psychology*, 41, S94.
- **Ogrodnik, M.**, Fenesi, B., and Heisz, J. (2018). Examining the effect of exercise break intensity on attention and learning in a university setting. *Journal of Exercise, Movement, and Sport*, 51(1), 272.
- **Ogrodnik, M.**, Fenesi, B., Hanson-Wright, B., Kim, J., and Heisz, J (2018). When efficacy and enjoyment collide: Incorporating low intensity exercise breaks into learning. *Journal of Sport and Exercise Psychology*, 40, S111.
- **Ogrodnik, M.**, Fenesi, B., Lucibello, K., Kim, J., and Heisz, J (2017). Stretching your memory: How low intensity exercise breaks during lecture may improve academic performance. *Journal of Sport and Exercise Psychology*, 39(1), S296.

Past presentations:

- **Ogrodnik, M.*** Student-crafted scenarios: Shaping their own quizzes. (November 2024). Annual International Symposium of Alternative Assessments. Virtual. (Conference, verbal).
- **Ogrodnik, M.*** Creating a welcoming and inclusive learning environment for students. (October 2024). Academic Career Conference: Centre for Career Development. Waterloo, ON. (Conference, invited speaker)
- **Ogrodnik, M., and team***. Lessons learned from a global pandemic: Opportunities for teaching and learning in the “new era”. (June 2024) Teaching and Learning Network: North American Society for the Psychology of Sport and Physical Activity. New Orleans, LA. (Conference, workshop)
- **Ogrodnik, M.*** Chat(GPT)ing about GenAI: Successes, challenges, and lessons learned in a large classroom context (June 2024). Society for Teaching and Learning in Higher Education. Niagara Falls, ON. (Conference, roundtable).
- Chow, N., Boluk, K., Neiterman, E., & **Ogrodnik, M.*** Reflections on an Open Forum to Identify Student Engagement Strategies that “Stick” in the Post-Pandemic Era. Centre for Teaching University of Waterloo 15th Annual Teaching and Learning Conference: Sparking and Sustaining Engagement. Waterloo, ON. (Conference, verbal).
- Halladay, J., **Ogrodnik, M.**, Farag Alla, J., Sunderland, M., Slade, T., Georgiades, K. (February 2023). Are exercise and sports participation related to student substance use and mental health symptoms? Australasian Society of Behavioural Health and Medicine. Geelong, VIC. (Conference, verbal)
- Madsen, K. & **Ogrodnik, M.** How long do learning gains last? Long-term retention in an undergraduate anatomy course. (June 2022). Society for Teaching and Learning in Higher Education. Charlottetown, PEI & Hybrid. (Conference, poster).
- Suart, C., Zubyk, H., **Ogrodnik, M.**, Mullarkey, C., & Vulcu, F. Impact of a senior biochemistry research thesis on students’ abilities, attitudes, and beliefs about scientific inquiry. June 2022). Society for Teaching and Learning in Higher Education. Charlottetown, PEI & Hybrid. (Conference, poster).
- **Ogrodnik, M*.,** Li, C*., Fenesi, B., & Heisz, J. (March, 2021). Investigating the relationship between regular physical activity and executive functioning performance in young adults with Attention Deficit Hyperactivity Disorder. Current Research in Engineering, Science & Technology, Virtual (Conference, verbal)
- **Ogrodnik, M*.,** Selvarajah, K., Fenesi, B., & Heisz, J. (March, 2021). Break up call: Investigating the role of exercise breaks during remote learning. Eastern Canada Sport and Exercise Psychology Symposium, Virtual (Conference, verbal)
- **Ogrodnik, M*.** Top tips for preparing to present online. (August, 2020). Canadian Society for Exercise Physiology. (Summer Series, invited speaker).
- **Ogrodnik, M*.,** Malamis, B., & Heisz, J. (March, 2020). Learning through lived experiences: Exploring barriers to physical activity through interviews with adults with ADHD. Eastern Canada Sport and Exercise Psychology Symposium, Niagara, ON (Conference, verbal) **Cancelled due to COVID-19.*
- **Ogrodnik, M*.,** Dyce, L., & Storm, E. (June, 2020). Reflecting on reflections: Discussing the promise and the limits of using educational development portfolios as required reflective tools in experiential learning contexts. Society for Teaching and Learning in Higher Education, Winnipeg, MB (Conference, verbal). **Cancelled due to COVID-19.*
- **Ogrodnik, M*.** The pedagogy of science communication. (November, 2019). Canadian Society for Exercise Physiology, Kelowna, BC (Conference, invited speaker - Highlighted Symposium).

- **Ogrodnik, M*.,** Halladay, J., Fenesi, B., Heisz, J., & Georgiades, K. (2019) The relationship between physical activity, attention, and academic performance: Results from a large sample of Ontario students. McMaster Symposium on Education and Cognition, Hamilton, ON (Conference, poster and data blitz).
- **Ogrodnik, M*.,** Fenesi, B., & Heisz, J. (2019). Shining ‘the attentional spotlight’ on students who struggle to focus in higher education. Society for Teaching and Learning in Higher Education, Winnipeg, MB (Conference, verbal).
- **Ogrodnik, M*.,** Halladay, J., Fenesi, B., Heisz, J., & Georgiades, K. (2019) The role of attentional control in the association between physical activity and academic performance: Results from a large sample of Ontario students. North American Society for the Psychology of Sport and Physical Activity, Baltimore, USA (Conference, verbal).
- **Ogrodnik, M.,** Ma, A., & Sharma, S. (2019). Exploring the needs of women in Hamilton. Office of Community Engagement’s Community-Campus Idea Exchange, Hamilton, ON (Conference, poster).
- **Ogrodnik, M*.,** Fenesi, B., and Heisz, J (2019). Can better aerobic fitness predict improved executive functioning in adults with ADHD? Eastern Canada Sport and Exercise Psychology Symposium, Toronto, ON (Conference, verbal).
- **Ogrodnik, M*.** Can exercise breaks boost student learning? SSHRC Impact Awards, Rideau Hall, Ottawa, ON (Invited Speaker).
- **Ogrodnik, M*.,** Fenesi, B., and Heisz, J (2018). Examining the effect of exercise break intensity on attention and learning in a university setting. Society for Psychomotor Learning and Sport Psychology, Toronto, ON (Conference, poster).
- **Ogrodnik, M*.,** Fenesi, B., and Heisz, J (2018). Sweat so you don't forget: Does exercise intensity moderate the benefit of exercise breaks on academic learning? American College of Sports Medicine, Minneapolis, USA (Conference, Invited Speaker - Highlighted Symposium).
- **Ogrodnik, M* (2018).** Can exercise breaks boost student learning? Congress 2018 of the Humanities and Social Sciences, Regina, SK (Competition, verbal – Winner).
- **Ogrodnik, M*.,** Fenesi, B., Hanson-Wright, B., Kim, J., and Heisz, J (2018). When efficacy and enjoyment collide: Incorporating low intensity exercise breaks into learning. North American Society for the Psychology of Sport and Physical Activity, Denver, USA (Conference, poster).
- **Ogrodnik, M*.,** Fenesi, B., and Heisz, J (2018). The era of screens, sitting, and studying: Harnessing the benefits of exercise to promote learning in higher education. Society for Teaching and Learning in Higher Education, Sherbrooke, QC (Conference, verbal).
- **Ogrodnik, M*.,** Fenesi, B., Hanson-Wright, B., Kim, J., and Heisz, J (2018). Assessing student perceptions of exercise during learning: A step towards implementation. Norman Education Research Day, Hamilton, On (Conference, verbal).
- **Ogrodnik, M*.,** Fenesi, B., and Heisz, J (2018). Can exercise lead to better academic success for university students with ADHD? Eastern Canada Sport and Exercise Psychology Symposium, Montreal, QC (Conference, verbal).
- **Ogrodnik, M*.,** Fenesi, B., and Heisz, J (2018). Can exercise lead to better academic success for university students with ADHD? Current Research in Engineering, Science and Technology, Hamilton, ON (Conference, verbal).
- **Ogrodnik, M*.,** Burgess, R., Malik, P., and Leanage, A. (2017). How sexual health education is falling short for women with disabilities. Momentum: A Disability Justice UnConference, Hamilton, ON (Conference, verbal).

- **Ogrodnik, M***, Fenesi, B., Lucibello, K., Kim, J., and Heisz, J (2017). HIITing the optimal prescription: Exploring how exercise breaks during lecture can improve academic performance. International Society for the Scholarship of Teaching and Learning, Calgary, AB (Conference, poster).
 - **Ogrodnik, M.**, Fenesi, B., Lucibello, K., Kim, J., and Heisz, J (2017). Examining the optimal intensity of exercise breaks to promote learning. McMaster Symposium on Education & Cognition, Hamilton, ON (Conference, poster).
 - **Ogrodnik, M***, Fenesi, B., Lucibello, K., Kim, J., and Heisz, J (2017). Stretching your memory: How low intensity exercise breaks during lecture may improve academic performance. North American Society for the Psychology of Sport and Physical Activity, San Diego, USA (Conference, poster).
 - **Ogrodnik, M***, Fenesi, B., Lucibello, K., Kim, J., and Heisz, J (2017). Sweat so you don't forget: How exercise intensity moderates the benefit of exercise breaks on learning. Kinesiology Graduate Conference, Hamilton, ON (Conference, verbal).
 - **Ogrodnik, M***, Fenesi, B., Lucibello, K., Kim, J., and Heisz, J (2017). Sweat so you don't forget. McMaster Three Minute Thesis Competition, Hamilton, ON (Competition, verbal).
 - Twells, L., Katzenelson, G., **Ogrodnik, M.**, and Heisz, J (2017). Using exercise to improve attention and memory in the university lecture. National Undergraduate Research Conference, Toronto, ON (Conference, verbal).
 - **Ogrodnik, M***, Fenesi, B., Lucibello, K., Kim, J., and Heisz, J (2017). How exercise intensity can moderate the benefit of exercise breaks on learning. Eastern Canada Sport & Exercise Psychology Symposium, Kingston, ON (Conference, verbal).
 - **Ogrodnik, M***, Fenesi, B., Lucibello, K., Kim, J., and Heisz, J (2017). Sweat so you don't forget: Using exercise breaks to improve student learning. Current Research in Engineering, Science and Technology, Hamilton, ON (Conference, verbal).
 - **Ogrodnik, M***, Fenesi, B., Lucibello, K., Kim, J., and Heisz, J (2017). Examining the optimal intensity of exercise breaks to promote learning. Lake Ontario Visionary Establishment, Niagara, ON (Conference, poster).
 - **Ogrodnik, M***, Pachai, A., and Kim, J (2016). Checking in to avoid checking out: Using quizzing to sustain attention in lecture. Lake Ontario Visionary Establishment, Niagara, ON (Conference, poster).
 - **Ogrodnik, M***, Pachai, A., and Kim, J (2016). Using quiz questions to improve student attention in the university lecture. McMaster Symposium on Education and Cognition, Hamilton, ON (Conference, verbal).
 - Pachai, A., **Ogrodnik, M.**, and Kim, J (2016). Checking in to avoid checking out: Using quizzing to sustain attention in lecture. Canadian Society for Brain, Behaviour and Cognitive Science, Halifax, NS (Conference, poster).
 - **Ogrodnik, M***, Pachai, A., and Kim, J (2015). Self regulation and mind wandering: how do we connect the dots. McMaster Undergraduate Psychology Symposium, Hamilton, ON (Conference, verbal).
 - **Ogrodnik, M*** (2015). Study smarter, not harder. McMaster TED-Ed Conference, Hamilton, ON (Symposium, verbal).
- *Presenting author*

Additional professional contributions

- **Ogrodnik, M.** (2021). McMaster Conference on Education & Cognition: Discussion "What lessons from teaching in the pandemic will you take back into the classroom" (Panelist).
- **Ogrodnik, M.**, Hamid, M., Harris, S., Killip, S., & Mahal, R. (2020). ABACUS Program: Evaluation Capacity Building. Research report submitted to the Kiwanis Boys and Girls Club on behalf of

- McMaster Research Shop (Research Associate, Team Lead).
- **Ogrodnik, M., Ma, A., & Sharma, S. (2019).** Why adopt a gender lens? Infographic created for the Hamilton Community Foundation on behalf of McMaster Research Shop (Research Associate, Team Lead).
 - **Ogrodnik, M., Atienza, A., Ma, A., Sharma, S., & Socha, A. (2018).** Women and Girls in Hamilton. Research report submitted to the Hamilton Community Foundation on behalf of McMaster Research Shop (Research Associate, Team Lead).
 - **Leanage, A., Burgess, R., Ogrodnik, M., & Malik, P (2018).** Sexual Health and Sexual Education for Women with Disabilities: Challenges & Opportunities. Research report submitted to the Hamilton Centre for Civic Inclusion on behalf of McMaster Research Shop (Research Associate).
 - **Ogrodnik, M., Pallisco, D., & Storm, E. (2018).** How to effectively structure a graduate seminar presentation: Department of Engineering, McMaster (Workshop Designer).
 - **Ogrodnik, M* (2018).** Study Smarter, Not Harder. Bishop Tonnos Catholic Secondary School – Grade 9 Girls Summit (Invited Workshop Leader).
 - **Ogrodnik, M* (2018).** Current Research in Engineering, Science and Technology – EngSci Girl (Panelist).
 - **Ogrodnik, M* (2017).** Women in science and education. International Women in Science Day Conference (Conference, workshop leader).
 - **Ogrodnik, M* (2017).** Class or exercise? How physical activity may better improve academic performance than additional scholastic activity. Elementary teachers professional development workshop, Hamilton-Wentworth District School Board (Oral presentation).
 - **Ogrodnik, M* (2017).** Exercise your mind: The importance of exercise for university students. The AlmaMAC radio show. McMaster University (Live, interview).
 - **Ogrodnik, M* (2017)** Kinesiology: Research information session (Panelist).

TEACHING, MENTORSHIP, AND SUPERVISORY EXPERIENCE

• HEALTH 107: Sociology of Activity, Health and Well-being <i>Faculty of Health, University of Waterloo</i> 684 students, required course, 17 TAs	Fall 2024
• KIN 354: Psychology of Physical Activity <i>Faculty of Health, University of Waterloo</i> 97 students, elective course, 2 TAs	Fall 2024
• HEALTH 105: Mental Health Literacy <i>Faculty of Health, University of Waterloo</i> 149 students, elective course, 3 TAs	Winter 2024
• KIN 354: Psychology of Physical Activity <i>Faculty of Health, University of Waterloo</i> 100 students, elective course, 2 TAs	Fall 2023
• KIN 470: Seminar in Kinesiology (Activity, Health and Well-being) <i>Faculty of Health, University of Waterloo</i> 31 students, required course	Fall 2023
• HEALTH 107: Sociology of Activity, Health and Well-being <i>Faculty of Health, University of Waterloo</i> 763 students, required course, 15 TAs	Fall 2023
• KIN 470: Seminar in Kinesiology (Activity, Health and Well-being) <i>Faculty of Health, University of Waterloo</i> 30 students, required course	Winter 2023

- KIN 354: Psychology of Physical Activity Fall 2022
Faculty of Health, University of Waterloo
119 students, elective course, 2 TAs
- HEALTH 107: Sociology of Activity, Health and Well-being Fall 2022
Faculty of Health, University of Waterloo
658 students, required course, 15 TAs
- HLSC 3020: Health and Exercise Psychology Fall 2021
Faculty of Health Sciences, Ontario Tech University
95 students, elective course, 1 TA
- KINESIOL 4Y04: Cognitive Neuroscience of Exercise Winter 2021
Department of Kinesiology, McMaster University
23 students, elective course, 2 TAs
**Nominated for teaching award*
- EDUCATN 750: Principles and Practices of University Teaching: Co-Taught Winter 2021
MacPherson Institute, McMaster University
30 students, elective, graduate level course
- KINESIOL 2G03: Health Psychology Winter 2020
Department of Kinesiology, McMaster University
**Nominated for teaching award, 2 TAs*
- EDUCATN 760: Self Directed Study (SoTL Research): Co-Taught Fall 2019
MacPherson Institute, McMaster University
10 students, elective course
- EDUCATN 650: Peer Evaluated Teaching Experiences: Co-Taught Winter 2019
MacPherson Institute, McMaster University
15 students, elective course

Teaching Assistant Positions

**All at McMaster University*

Lead Teaching Assistant Positions

- Foundations in Kinesiology – *KINESOL 1K03* 2019 – 2021
- Cognitive Neuroscience of Exercise – *KINESIOL 4Y03* 2017 – 2019
- Foundations of Psychology, Neuroscience and Behaviour – *PSYCH 1X03* 2014 – 2016
- Introduction to Psychology, Neuroscience and Behaviour – *PSYCH 1XX3* 2014 – 2016

General TAs

- Health Psychology – *KINESIOL 2G03* 2021
- Muscular Skeletal Anatomy – *KINESIOL 2E03* 2017 – 2020
- Foundations in Kinesiology – *KINESIOL 1K03* 2018
- Physical Activity, Epidemiology, and Health – *KINESIOL 1C03* 2018
- Human Anatomy and Physiology – *KINESIOL 1YY3* 2017
- Exercise Psychology – *KINESIOL 3H03* 2016
- Athletic Training & Conditioning – *KINESIOL 3F03* 2016

Guest Lectures

- Creating a concise and compelling talk Winter 2019-2021
Foundations in Science Communication – SCICOMM 2A03
(50 minutes ~400 students), McMaster University
- Communicating complex information in 3 minutes Fall 2019-2021

Research Practicum – KINESIOL 3RP3

(50 minutes, ~30 students), McMaster University

- Food, body image, and weight stigma Winter 2021
Health Psychology – KINESIOL 2G03
(50 minutes, ~200 students), McMaster University
- Getting started with science communication and storytelling Winter 2017–2020
Science Communication in the Behavioural Sciences – PNB 4SC6
(50 minutes ~50 students), McMaster University
- Academic skills and the psychology of learning Fall 2019
Foundations of Kinesiology – KINESIOL 1K03
(30 minutes ~200 students), McMaster University
- Audition and music perception: Sound sensations Winter 2019
Foundations of Psychology, Neuroscience & Behaviour – PSYCH 1XX3
(50 minutes x2, ~1500 students), McMaster University
- Forming impressions: When cognition meets social interaction Fall 2018
Introduction to Psychology, Neuroscience & Behaviour – PSYCH 1X03
(50 minutes, ~800 students), McMaster University
- Cognition, exercise, and academic performance Winter 2017, 2018
Health Psychology – KIN 2G03
(50 minutes, ~200 students), McMaster University
- Pay attention! Fall 2017
Introduction to Psychology, Neuroscience & Behaviour – PSYCH 1X03
(50 minutes x2, ~1500 students), McMaster University
- Motor learning from a cognitive psychology perspective Fall 2016
Athletic Training and Conditioning – KIN 3F03
(50 minutes, ~80 students), McMaster University

Workshops (Designed and Delivered)

Face To Face Workshops

- Marking efficiently and effectively 2019
School of Interdisciplinary Sciences, TA Development Program, McMaster University
- Academic integrity 2019
School of Interdisciplinary Sciences, TA Development Program, McMaster University
- Teaching in labs 2019
School of Interdisciplinary Sciences, TA Development Program, McMaster University
- Teaching assistant professionalism 2019
School of Interdisciplinary Sciences, TA Development Program, McMaster University
- Leading effective discussions 2019
Teaching and Learning Foundations Certificate Program, McMaster University
- Collecting student feedback 2019
Faculty Development and Certificate Program, McMaster University
- Supervising and mentoring undergraduate students 2019
Teaching and Learning Foundations Certificate Program, McMaster University
- Introduction to statistics & SPSS (120 minutes) 2017 – 2019
Department of Kinesiology, McMaster University
- The art of effective presentations (120 minutes) 2017 – 2019
Department of Kinesiology, McMaster University
- Classroom assessment techniques 2019

- Teaching and Learning Foundations Certificate Program, McMaster University*
 • Clear, Brief, and Engaging: Your thesis in three minutes (120 minutes, x2) 2018, 2019
School of Graduate Studies, McMaster University
- Collecting and incorporating midterm student feedback 2018
Educators Enhancement Program for Faculty, McMaster University
- Using active learning in your classroom (50 minutes, x2) 2018
Teaching and Learning Forum, McMaster University
- Equity and inclusion in higher education (90 minutes x2) 2018
Teaching and Learning Foundations Certificate Program, McMaster University
- Adult learning theories (90 minutes) 2018
Teaching and Learning Foundations Certificate Program, McMaster University
- Writing multiple choice questions to create effective tests (60 minutes) 2018
Faculty of Physiotherapy, McMaster University
- Writing and researching: How to conduct a strong literature review (60 minutes) 2017
Invited workshop for Inquiry in the Social Sciences, Soc Sci 1SS3, McMaster University

Online Workshops

**Designed and delivered as part of work through the MacPherson Institute*

- Teaching Assistant (TA) Professionalism and Good Practices 2021
Offered as part of McMaster's Mandatory TA Training, Required Workshop for all TAs
- Marking Efficiently and Effectively 2021
Offered as part of McMaster's Mandatory TA Training, Elective Workshop
- Designing effective multiple-choice questions 2021
Offered for Lahore University of Management Sciences (LUMS), Pakistan
- Writing better multiple-choice questions 2021
Offered for the Faculty of Social Sciences
- Active Learning with Echo360 2020
Offered as part of McMaster's COVID-19 Contingency Training for Instructors
- Effective and accessible PowerPoint design 2020
Offered as part of McMaster's COVID-19 Contingency Training for Instructors
- Teaching using Avenue to Learn 2020
Offered as part of McMaster's COVID-19 Contingency Training for Instructors
- Classroom assessment techniques 2020
Offered in the Teaching and Learning Foundations Certificate Program, McMaster University
- Supervising and mentoring undergraduate students 2019
Offered in the Teaching and Learning Foundations Certificate Program, McMaster University
- Effective and accessible PowerPoint design for learning 2019
Offered in the Teaching and Learning Foundations Certificate Program, McMaster University

Tutoring Position

- Applied Educational Psychology – PSYCH 3TT3 2014 – 2016
- Scientific Writing – PNB 2XD3 2014 – 2016

Undergraduate Student Supervision

All students supervised at McMaster University, served as primary supervisor

Honours Undergraduate Thesis Students

- Karsan, Sameena – Department of Kinesiology, McMaster 2021 – 2022

• Knox, Alexandra – Department of Kinesiology, McMaster	2021 – 2022
• Cirone, Victoria – Department of Kinesiology, McMaster	2021 – 2022
• Li, Cindy – Department of Kinesiology, McMaster	2020 – 2021
• Selvarajah, Kobika – Department of Psychology, Neuroscience & Behaviour, McMaster	2020 – 2021
• Choy, Samantha – Department of Kinesiology, McMaster	2019 – 2020
• Malamis, Brandon – Department of Kinesiology, McMaster	2019 – 2020
• Sharma, Sitara – Department of Kinesiology, McMaster	2019 – 2020
• Kaviani, Sameen – Department of Kinesiology, McMaster	2019 – 2020
• Vanderlelie, Lauren – Department of Kinesiology, McMaster	2019 – 2020
• Waddington, Emma – Department of Kinesiology, McMaster	2019 – 2020
• Loebach, Rachel – Department of Kinesiology, McMaster	2018 – 2019
• Hanna, Mina – Department of Psychology, Neuroscience & Behaviour, McMaster	2018 – 2019
• Chan, Alice – Department of Kinesiology, McMaster	2017 – 2018
• Hanson-Wright, Brynley – Department of Integrated Sciences, McMaster	2017 – 2018
<i>*Winner of Abe Black Memorial Prize for Outstanding Undergraduate Thesis</i>	
• Katzenelson, Gali – Department of Arts and Sciences, McMaster	2016 – 2017
• Twells, Louise – Department of Psychology, Neuroscience & Behaviour, McMaster	2016 – 2017

Undergraduate Research Project Students

• Mary Anosike – Department of Kinesiology, Waterloo	Winter 2024
• Kennedy Fritz – Department of Kinesiology, Waterloo	Winter 2024
• Jappan Basra – School of Public Health Sciences, Waterloo	Winter 2024
• Rachel Flemming – Department of Kinesiology, Waterloo	Winter 2024
• Nicole Schindler – Department of Kinesiology, Waterloo	Winter 2024
• Gibala, Connor – Department of Psychology, Neuroscience & Behaviour, McMaster	2021 – 2022
• Zia, Amna – Department of Kinesiology, McMaster	2021 – 2022
• Bedi, Anjali – Department of Kinesiology, McMaster	2021 – 2022
• Khan, Maliha – Department of Kinesiology, McMaster	2021 – 2022
• Karsan, Sameena – Department of Kinesiology, McMaster	2020 – 2021
• Knox, Alexandra – Department of Kinesiology, McMaster	2020 – 2021
• Li, Cindy – Department of Kinesiology, McMaster	2019 – 2020
• Naidenova, Anna – Department of Biochemistry, McMaster	2019 – 2020
• Gorchinski, Erin – Department of Kinesiology, McMaster	2019 – 2020
• Khan, Zayd – Department of Kinesiology, McMaster	2019 – 2020
• Smith, Peyton – Department of Biology, McMaster	2018 – 2019
• Malamis, Brandon – Department of Kinesiology, McMaster	2018 – 2019
• Sharma, Sitara – Department of Kinesiology, McMaster	2018 – 2019
• Choy, Samantha – Department of Kinesiology, McMaster	2018 – 2019
• Loebach, Rachel – Department of Kinesiology, McMaster	2017 – 2018
• Chan, Alice – Department of Kinesiology, McMaster	2016 – 2017
• Robinson, Craig – Department of Kinesiology, McMaster	2016 – 2017

Graduate Research Project Students

• Evelyn Jiang – Department of Kinesiology, Waterloo	Jan – Apr 2023
• Emily Granger – Department of Kinesiology, Waterloo	May – Aug 2023

CERTIFICATIONS, TRAINING, AND ADDITIONAL COURSES

• Teaching Excellence Academy <i>University of Waterloo</i>	2024
• Mental Health Literacy Certificate <i>University of Waterloo</i>	2024
• Extend Sprint Program <i>eCampus Ontario</i>	2023
• Waterloo Assessment Institute <i>CTE, University of Waterloo</i>	2023
• Trainer Development Workshop (TDW) Certificate <i>CTE, University of Waterloo</i>	2022
• Professor Hippo-on-Camus: Student Mental Health Education Program <i>McMaster University</i>	2020
• Project Management II <i>Mitacs</i>	2020
• Project Management I <i>Mitacs</i>	2019
• Mini-MBA Certificate of Completion <i>McMaster University</i>	2019
• Facilitator Development Workshop – Certification Course to Lead ISWs <i>MacPherson Institute for Leadership, Innovation, and Excellence in Teaching</i>	2019
• Nonviolent Crisis Intervention and Prevention Certificate <i>Crisis Prevention Institute</i>	2019
• International Educational Developers Course <i>Collaborative course via EDs from UK and Canada</i>	2018
• More Feet On the Ground, Mental Health Training <i>Centre for Innovation in Campus Mental Health</i>	2018
• Research Data Centre – Researcher <i>Statistics Canada, Federal Employee</i>	2018
• Indigenous Canada – Course <i>University of Alberta, Coursera</i>	2018
• Science Communication – Shari Graydon & Informed Opinions.org <i>University of Regina</i>	2018
• Accessible Education Training (FLEX: Focus on Learning and Eliminating Exclusion) <i>McMaster University</i>	2017
• Instructional Skills Workshop – Peer Evaluated Teaching <i>MacPherson Institute for Leadership, Innovation, and Excellence in Teaching</i>	2017
• Practical Approaches to Discussing Science that Matters <i>University of Michigan – edX</i>	2017
• Mental Health First Aid <i>Mental Health Commission of Canada</i>	2017
• Teaching Online – Advanced Skills for Graduate Students <i>Ontario Consortium for Graduate Professional Skills</i>	2017
• Lesson Planning <i>Ontario Consortium for Graduate Professional Skills</i>	2017
• Intercultural Competency <i>Ontario Consortium for Graduate Professional Skills</i>	2017

- Sustainable Development Goals – Youth Training 2017
United Nations
- Principles of Healthy Childhood Development (PHCD) Certificate 2016
HighFive Organization
- Healthy Minds for Healthy Children 2015
Supporting Children’s Mental Health, HighFive Organization
- safeTALK: Suicide Prevention 2015
LivingWorks Education
- Central Animal Facilities Training 2013
Animal Research Ethics Board, McMaster University

Lauren E. A. Orlando

Grand Anse, Grenada, West Indies | +1473-534-8377 | laureneaorlando@gmail.com

EDUCATION

Walden University, Minneapolis, Minnesota, USA

January 2020

- **Ph.D. in Public Health, Community Health Education**
- Dissertation: “Culturally Sensitive Parenting Counseling, Corporal Punishment, and Early Childhood Development in Grenada”

University College of Dublin, Dublin, Ireland

December 2010

- **M.Sc. in Human Rights, Concentration in Development Studies**
- Thesis: “Domestic Violence as a Violation of Human Rights: A case study of Grenada, West Indies”

DePaul University, Chicago, Illinois, USA

June 2007

B.A. in International Studies, Minor in Italian

WORK EXPERIENCE

Assistant Professor, St. George’s University (SGU), True Blue, Grenada (July 2020 – Present)

- **Full-time Faculty, Department of Public Health and Preventive Medicine (MPH)** (January 2022 – Present)
- **Adjunct Faculty, Department of Public Health and Preventive Medicine (MPH)** (January 2021 – December 2021)
- **Course Director, BPM 502: Basic Principles of Medicine II** (January 2025 – Present)
 - Responsible for the planning, administration, and execution of School of Medicine’s (SOM) Term 3 course focused on Biomedical Ethics, Public Health, and Microbiology/Immunology. Coordinate with content managers, module coordinator, and group coordinators/instructors to ensure smooth and timely delivery of content and assessment.
 - Organize all assessment mechanisms and report to administration on grades, professionalism, and course content, objectives, and delivery.
 - Module Coordinator for Summer 2024 term.
- **Course Faculty, PUBH 832: Public Health Research Methods and Ethics** (May 2022 – Present)
 - Multiple lecture delivery concentrating on qualitative study designs and analysis, mixed methods research, grant writing, narrative reviews and secondary data, public health surveillance, and research utilization and disseminating results.
- **Course Faculty, PUBH 831: Concepts, Practices and Leadership in Public Health** (August 2021 – Present)
 - Provide CILE guidance to new MPH students and support their development of research at a graduate level.
 - Lectures delivery: Health Education and Promotion; Health from an Ecological Perspective
- **Course Faculty, PUBH 859: Sexual, Reproductive Health and Rights** (January 2020 – Present)

Lauren E. A. Orlando

Grand Anse, Grenada, West Indies | +1473-534-8377 | laureneaorlando@gmail.com

- Assist with local context, educational and cultural awareness, and communication with target population for students' final project on sexual and reproductive health and rights community intervention in Grenada.
- Provide feedback in weekly student global health substantive exercises, assignment feedback and grading.
- Lecture Delivery: Vulnerable Populations, Vulnerable Populations during States of Emergency, Sexually Transmitted Infections, Human Immunodeficiency Virus
- **Course Faculty, PUBH 806: Social and Behavioral Aspects of Public Health** (January 2020 – Present)
 - Collaborate with Course Director with assignment student feedback and grading.
 - Lecture delivery: Social Environment and Health.
- **Course Director, PUBH 893: Capstone Integrative Learning Experience (CILE)** (January 2022 – December 2024)
- Manage and support final term Master of Public Health (MPH) students in their Capstone final paper and oral presentation which acts as a product that applies the concepts, skills, and knowledge acquired throughout their course of study to successfully demonstrate public health competency.
- Collaborate with faculty advisors and their student advisees to provide high quality research feedback on final CILE elements.
- **Course Faculty, EDCU 824: Historical, Social and Cultural Foundations of Education** (August 2019 – May 2021)
- **Course Director, COMH 201: Community Health** (January 2016 – August 2021)
- **Co-Course-Director, ENGL 208: Review of English and Study Skills** (January 2014 – May 2015)

Learning Strategist Coordinator, Department of Educational Services, St. George's University, True Blue, Grenada (January 2014 – December 2021)

- Learning Strategist for the Schools of Veterinarian Medicine and Arts & Sciences.
- Taught study skills and provided training and departmental specific sessions daily for predominantly Grenadian and Caribbean undergraduate students.
- Engaged with individual students for daily appointments to enhance their time management and study skills abilities.
- Conducted ADHD support group sessions weekly for Veterinarian students.
- Academic advisor for students in the School of Medicine. Advised on academic, study skills, and professional and personal development issues.
- Supported well-being and self-health for students suffering from stress and anxiety related to academic, financial, personal, and psychological issues.
- Coached life skills and cultural sensitivity sessions to South Sudanese students and other international students embarking on university life in Grenada.

Program Coordinator, REACH Grenada, St. George's, Grenada (December 2012 – May 2014)

- Administered overall correspondence for organization to all partners in Grenada and to New York Headquarters.
- Account management for staff payroll, program funds, Caregiver reimbursement, and donations.
- Conducted program trainings for Youth Program, Caregiver Training, Summer Camp and Conscious Discipline to all children homes on the island.
- Mentoring coach for Government of Grenada Emergency Shelter Centre.

Lauren E. A. Orlando

Grand Anse, Grenada, West Indies | +1473-534-8377 | laureneaorlando@gmail.com

- Managed the social media sites and organized Stuff Your Rucksack donations.
- Assisted with annual program development and budget allocation.

Demonstrator (Level 2), Department of Educational Services, St. George's University, True Blue, Grenada (August 2012 – December 2013)

- Level 2 Demonstrator within the Department of Educational Services
- Review Group Coordinator for School of Arts & Sciences, School of Medicine, and School of Veterinarian Medicine. Organized and oversaw over 300 student facilitators and 20 student monitors of student led review groups for the three schools.
- Academic Advisor for students in School of Medicine and School of Veterinary Medicine. Advised on academic, study skills, and professional and personal development issues.
- Responsible for Orientation Study Skills Fair and presented at DES Academic Orientations in the three schools.
- Collaborated with DES faculty and SOM students to develop online study skills peer-to-peer video resource.

Youth Program Facilitator, REACH Grenada, St. George's, Grenada (November 2011 – December 2012)

- Taught yoga to children between the ages of 2 to 20 years old.
- Provided logistical support to care home staff and transfer skills.
- Coached staff how to incorporate best practice Conscious Discipline teaching methods.
- Created policies and procedures with group management to build capacity and sustainability.

Residential Caregiver, Bel Air Home for Children and Adolescents, Calliste, Grenada (October 2011 – August 2021)

- Provided consistent care for children and adolescents from abused and neglected homes.
- Supervised and tutored children during homework study period.
- Taught residents' life skills, facilitated transitional program sessions, and guided them to become self-sufficient and self-regulated individuals.

Response Volunteer, United States Peace Corps, St. George's, Grenada (July 2010 – May 2011)

- Project Manager for persons living with HIV/AIDS (Hope Pals Network).
- Facilitated media campaigns and created structure and sustainability with HIV/AIDS organizations.
- Developed library resource center and national HIV/AIDS database for Hope Pals Foundation.
- Coordinated human rights stakeholders and engaged in community outreach programs.
- Developed project proposals and organized project implementation process.

Volunteer, United States Peace Corps, St. George's, Grenada (July 2007 – August 2009)

- Volunteer attached to national organization to stop discrimination against individuals with disabilities (GNCD). Implemented program support and resource to smaller organizations on island dedicated to advocacy and awareness for persons with disabilities.
- Volunteer attached to national women's organization to prevent domestic violence and sexual harassment (GNOW). Implemented program implementation field support for various community led initiatives as well as national domestic violence and sexual harassment protocol.
- Volunteer attached to residential home dedicated abused and neglected children at a residential home (Bel Air Home). Facilitated group sessions for adolescent girls on life skills, sexual and reproductive health, and conflict resolution.

Lauren E. A. Orlando

Grand Anse, Grenada, West Indies | +1473-534-8377 | laureneaorlando@gmail.com

- Developed library for primary school and trained preschool teachers (St. Mary's Primary School).
-

CONSULTATIONS/TRAININGS

Spotlight Initiative Pillar Six, UN Women Caribbean, St. George's, Grenada (October 2022 – December 2023)

- Co-Consultant on contract to strengthen and provide field support on the women's movement and civil society in Grenada.
- Facilitated organizing and coordination of knowledge products, research, and other forms of media related to gender equality and the empowerment of women and violence against women and girls including domestic violence and intimate partner violence.
- Conducted trainings with local civil society organizations to increase capacity building, sustainability, and educational awareness advocacy of their key populations.
- Co-facilitated training of trainers for youth workers on UN Women's Foundations Programme to further gender-based violence advocacy and educational awareness to Grenadian youth.

Project Coordinator and Trainer, Grenada Planned Parenthood Association, St. George's, Grenada (November 2022 – December 2023)

- Developed a comprehensive sexual education (CSE) manual for pilot program targeting men and boys in Grenada.
- Conducted training of trainers' workshops in the use of the CSE curriculum and coordinated the monitoring, evaluation, and supervision of facilitators and overall field programming.
- Created and co-facilitated CSE "youth out of school" workshop for primary and secondary school teachers, health and youth workers, and law enforcement.

Spotlight Initiative Pillar Four, Ministry of Social Development, Housing and Community Development, St. George's Grenada (April 2022 – November 2022)

- Designed and implemented sensitization workshops and visual aid marketing associated with Gender-Based Violence Standard Operating Procedures and Victim's Rights Policy for sectorial first responders.

Spotlight Initiative Pillar Two, Ministry of Social Development, Housing and Community Empowerment, St. George's, Grenada (June 2021 – March 2022)

- Conducted analysis of implementation gaps connected to plans, strategies, and program development to respond and prevent violence against women and girls (VAWG) within Grenadian context. Developed and executed "Gender Based Violence 101" training for all Training Institutions and associated stakeholders in Grenada.

United Nations Population Fund (UNFPA) Sub-Regional Office for the Caribbean (SROC), Kingston, Jamaica (September 2020 – June 2021)

- Assisted Lead Consultant, Dr. Tonia Frame, in focus group implementation, interviews and transcribing and report development for "Rapid Assessment of Young People's Needs during the COVID-19 Emergency" focused on at-risk and marginalized youth within the Caribbean region. The report identified the comprehensive SRH/HIV/GBV needs and risks, which emerged in the COVID-19 period and estimated the severity of SRH/GBV/HIV conditions faced by different groups of young women, men, girls, and boys in all their diversity and vulnerability.

Saving Brains Grenada/Windward Research Institute, True Blue, Grenada (August 2020 – July 2021)

Lauren E. A. Orlando

Grand Anse, Grenada, West Indies | +1473-534-8377 | laureneaorlando@gmail.com

- Developed Saving Brains Grenada program manual to provide guidance and documentation on the multidimensional intervention actions on early childhood development in Grenada, West Indies.
- Provided guidance on community, ministerial government and primary school engagement and program implementation during COVID-19 pandemic in Grenada.

Legal Aid and Counseling Clinic, St. George's, Grenada (March 2018 – September 2018)

- Monitoring and evaluation consultant, report entitled “Institutional Strengthening of the Legal Aid and Counseling Clinic to Support Programming Addressing Gender Based Violence, Substance Abuse, and Family Support Interventions” for Maria Holder Memorial Trust Grant.

GrenAIDS, St. George's, Grenada (January 2017 – July 2018)

- Project manager for “Affirming Who I Am,” sexual and reproductive health and life skills program implemented for students at three Special Education schools in collaboration with the Special Education Desk, Ministry of Education and Australia Fund.

College of Social Work Alternative Spring Break Program, Florida State University, Grand Anse, Grenada (October 2014 – April 2020)

- Facilitated on-site cultural sensitivity, cultural competency, and safety and security sessions for students enrolled in College of Social Work at Florida State University for their annual alternative spring break program in Grenada.

United States Peace Corps, St. George's, Grenada (December 2011 – April 2012)

- Volunteer trainer for new Peace Corps Trainees in Community Development in the Grenadian context.
- Facilitated sessions using the Participatory Analysis for Community Action (PACA) Model.
- Prepared all lesson plans, materials, field trips, and assessment of trainees' performance for enhanced community immersion and integration.

Grenada National Organization of Women, St. George's, Grenada (October 2011 – December 2012)

- Consultant on the Ministry of Social Development's “State Response to the Domestic Violence and Sexual Assault Protocol” project and organized community sensitization activities.
- Managed the Coordination and Monitoring and Evaluation duties for United Nations Women funded project.
- Created and Co-Chair of GrenAIDS (World AIDS Day Planning Committee) meetings and activities as a multi-sector approach to coordinate non-governmental organizations' initiatives and outreach for HIV/AIDS and sexual and reproductive health advocacy.
- Coordinated volunteers for multiple events in honor of “16 Days of Activism Against Violence Against Women” and World AIDS Day.
- Developed documents and surveys for the Taskforce Against Gender-Based Violence. Provided organizational logistical support and training for national-wide volunteer program on domestic violence paraprofessionals.

SCHOLARLY EXPERIENCE

CONFERENCE PRESENTATIONS

Lauren E. A. Orlando

Grand Anse, Grenada, West Indies | +1473-534-8377 | laureneaorlando@gmail.com

RISE for Equity: Reflect, Inspire, Strengthen & Empower 2024, Mayo Clinic, Washington D.C. (August 2024)

- Poster and oral presentation entitled: “Implicit bias: creating awareness through practice and training.” **Orlando, L.**, & Herry, A.

European Public Health Conference, Dublin, Ireland (November 2023)

- Poster presentation entitled: “Integrating diversity, inclusion and equity curriculum for medical students in Grenada.” **Orlando, L.**, Herry, A., Theodore, K., Glusnitz, S., Shakeri, S. Watson, E., Fleurantin, M., Smith, P., & Pierre, S.

Caribbean Public Health Agency (CARPHA) Annual Health Research Conference, Nassau, Bahamas (April 2023)

- Oral presentation entitled: “Evaluation of the Stop, Take a Deep Breath, and Relax (STAR) violence prevention media campaign in Grenada, West Indies.” Thomas, E.D., Murray, T., Noel, J. Smarzinski, J., Mohammed, L., Isaac, R., Evans, R., **Orlando, L.**, Landon, B., & Waechter, R.

Consortium of Universities for Global Health Conference, Washington, D.C. (April 2023)

- Poster presentation entitled: “Lessons Learned in Adapting the Implementation of the Spotlight Initiative to End Gender-Based Violence in Six Caribbean Countries during the COVID-19 Pandemic.” **Orlando, L.**, & Frame, T.

St. George’s University 20th Research Day, True Blue, Grenada (March 2023)

- Oral presentation entitled: “Evaluation of the Stop, Take a Deep Breath, and Relax (STAR) violence prevention media campaign in Grenada, West Indies.” Thomas, E.D., Murray, T., Noel, J. Smarzinski, J., Mohammed, L., Isaac, R., Evans, R., **Orlando, L.**, Landon, B., & Waechter, R.
- Poster presentation entitled: “Barriers to Breast Cancer Screening in English-speaking Caribbean Countries.” Khanam, A., **Orlando, L.**, Telesford, L., & Bidaisee, S.
- Poster presentation entitled: “How Implicit Bias in Contraceptive Counselling furthers Disparities in Reproductive Care for Black Women: A Narrative Review.” Hendrickson-Alexander, N., **Orlando, L.**, & Fasanmi, A.
- Poster presentation entitled: “Recommendations for Future Violence Prevention Efforts in Grenada, West Indies.” Smarzinski, J., Thomas, E., Murray, T., Noel, J., Mohammed, L., Isaac, R., Evans, R., **Orlando, L.**, Landon, B., & Waechter, R.
- Poster presentation entitled: “‘It sounds like two different questions’—Quality Assurance to Improve the Attitudes Towards Corporal Punishment Scale.” Thomas, E., Landon, B., **Orlando, L.**, Evans, R. L., Murray, T., Mohammed, L., Noel, J., Isaac, R., & Waechter, R.

CRCP2020+ Caribbean Regional Conference of Psychology, St. Croix (November 2021)

- Poster and video presentation entitled: “Grenada landscape assessment: Mapping of existing systems to reduce developmental delays in 0-5 year olds.” Landon, B., Waechter, R., Narine, D., Burgen, K.S., Isaac, R., & **Orlando, L.**

ISANA 30th International Education Association Conference, Melbourne, Australia (December 2019)

- Oral presentation entitled “Understanding by Design: A Multisectoral Approach to Redesigning Learning Strategies for Nursing Curriculum.” **Orlando, L.**, Nicholson-Ramdeen, M., Lewis-Roberts, R., Mahabir-Cletus, C., & Solomon, J.

Lauren E. A. Orlando

Grand Anse, Grenada, West Indies | +1473-534-8377 | laureneaorlando@gmail.com

Council for Education in the Commonwealth (CEC) Annual Conference, *True Blue, Grenada* (May 2019)

- Oral presentation entitled “Local Students at an International University: Non-Academic Challenges Impacting Student Success.” Harms, E., Paterson, J., **Orlando, L.**, & Jacobs, G.
- Oral presentation entitled “The Relationship between Students’ Performance in the Minimum Competency Test (MCT) in Grade 2 and Subsequent Performance in Grade 5 in Grenada.” Blackett, P., Alvis, A., Roach, A., **Orlando, L.**, & Richardson, L.
- Poster presentation entitled “Grenada Landscape Assessment: Capturing Developmental Delays in Early Childhood.” Narine, D., **Orlando, L.**, Isaac, R., & Waechter, R.
- Poster presentation entitled “Fostering Student Success: Support Programs for Students in the School of Arts and Sciences.” Telesford, D., Mahabir-Cletus, C., **Orlando, L.**, Stroud, L., & Paterson, J.

ISANA 29th International Education Association Conference, *Sydney, Australia* (December 2018)

- Oral presentation entitled “A Collaboration Model for Student Support.” **Orlando, L.**, Nicholson-Ramdeen, M., Alexander, B., & Roach, A.

St. George’s University 17th Research Day, *True Blue, Grenada* (October 2017)

- Poster presentation entitled “The Whiteboard as a Learning Tool: Strategies for Meaningful Learning.” Woolley, M. & **Orlando, L.**

The Ireland International Conference on Education, *Dublin, Ireland* (April 2017)

- Oral presentation entitled “When Global Meets Local: The Grenadian Perspective on Non-Academic Factors in International Medical Education.” **Orlando, L.**, Harms, E., Brathwaite, H., Paterson, J., & Jacobs, G.

International Academic Forum Conference, *Honolulu, Hawaii* (January 2017)

- Oral presentation entitled “Non-Academic Factors Affecting International Medical Education: Do Local Students have a Fair Chance?” **Orlando, L.**, Harms, E., Brathwaite, H., Paterson, J., & Jacobs, G.

The Grand Challenges & Gates Foundation Annual Meeting, *London, England* (October 2016)

- Poster presentation entitled “A Community-based Conscious Discipline Program to Reduce Corporal Punishment in the Caribbean.” Waechter, R., Landon, B., Cyrus, D., Brathwaite, S., **Orlando, L.**, Martin, T., & Charles, V.

The Bioethics Society of the English-speaking Caribbean, *True Blue, Grenada* (September 2013)

- Oral presentation entitled “Corporal Punishment in Grenada.” Landon, B., & **Orlando, L.**

PUBLICATIONS

Peer Reviewed Journal Paper

- Prince, M. A., **Orlando, L.**, Prince, E., & Fasanmi, A. (2023, December). 1397. What were the Birth Outcomes of Infants Born to Zika Positive Mothers in Developing Countries? *Open Forum Infectious Diseases*, 10(2). <https://doi.org/10.1093/ofid/ofad500.1234>
- Landon, B., Thomas, E.D., **Orlando, L.**, Evans, R. L., Murray, T., Mohammed, L., Noel, J., Isaac, R. & Waechter, R. (2023). Spare the rod, spoil the child: The process of shifting

Lauren E. A. Orlando

Grand Anse, Grenada, West Indies | +1473-534-8377 | laureneaorlando@gmail.com

intergenerational beliefs and behaviors around corporal punishment. *Frontiers in Public Health*, 11. <https://doi.org/10.3389/fpubh.2023.1127687>

- Chitterman, A., Palanichami, D.K., La, A., Adedara, V., **Orlando, L.**, Keku, E.O., & Fasanmi, A. (2023). Evaluation of the effectiveness of ivermectin in chemoprophylaxis and treatment of COVID-19 patients: A narrative review. *International Public Health Journal*, 15(1), 57-67.
- Palmer, K., Adedara, V., Ogunmoyin, T., Kuteyi, A., Palanichami, D.K., La, A., **Orlando, L.**, Fasanmi, A., & Keku, E. O. (2023). Elective surgical procedures in the COVID-19 era. *International Public Health Journal*, 15(1), 91-99.
- Eagel, B.A., La, A., Palanichami, D.K., St Cyr, G., **Orlando, L.**, Fasanmi, A., & Keku, E.O. (2023). Dengue vaccine development and safety: What went wrong? *International Public Health Journal*, 15(1), 101-115.
- Waechter, R., Evans, R., Fernandes, M., Bailey, B., Holmes, S., Murray, T., Isaac, R., Punch, B., Cudjoe, N., **Orlando, L.**, & Landon, B. (2022, May). A community-based responsive caregiving program improves neurodevelopment in two-year old children in a middle-income country, Grenada, West Indies. *Psychosocial Intervention*, 31(2), 97-107. <https://doi.org/10.5093/pi2022a6>
- **Orlando, L.**, & Frame, T. (2021). Assessment of implementation of the Spotlight Initiative to end gender-based violence in six Caribbean countries during the COVID-19 pandemic. *Caribbean Journal of Psychology*, 13(2), 161-191.
- **Orlando, L.**, Harms, E., Brathwaite, H., Paterson, J., & Jacobs, G. (2017). When local meets global: Non-academic factors affecting international medical education in Grenada, West Indies. *International Journal of e-Healthcare Information Systems*, 4(1), 100-108. <https://doi.org/10.20533/ijehis.2046.3332.2017.0015>
- Landon, B., Waechter, R., Wolfe, R., & **Orlando, L.** (2017). Corporal punishment and physical discipline in the Caribbean: Human rights and cultural practices. *Caribbean Journal of Psychology*, 9(1), 7-23. <https://doi.org/10.13140/RG.2.2.12185.88166>

Reports

- Landon, B., Waechter, R., Narine, D., Burgen, K.S., Isaac, R., & **Orlando, L.** (2019). Grenada landscape assessment: Mapping of existing systems to reduce developmental delays in 0-5 year olds. *UNICEF Eastern Caribbean Office*. <https://www.unicef.org/easterncaribbean/reports/mapping-existing-systems-address-developmental-delays-0-5-year-olds>

Manuals

- The Saving Brains Grenada Team, Caribbean Center for Child Neurodevelopment, Windward Islands Research and Education Foundation. (2021). Saving Brains Grenada programme manual. *Canada Grand Challenges*. <https://ug3.d03.myftupload.com/?r3d=saving-brains-grenada>

GRENADA ORGANIZATION AFFILIATIONS

- **GrenCHAP**, Treasurer of non-governmental organization by promoting advocacy on sexual and reproductive health, human rights, and awareness on stigma and discrimination associated with HIV/AIDS with special focus on marginalized populations.
- **Grenada Spotlight Initiative Civil Society National Reference Group (CS-NRG)**, Secretary and Pillar 3 Prevention Lead, CS-NRG is as an institutional mechanism that incorporates civil society participation and expertise and serves to advise the Spotlight Country Programme for Grenada and to advocate and partner for the realization of its objectives; works closely with the

Lauren E. A. Orlando

Grand Anse, Grenada, West Indies | +1473-534-8377 | laureneaorlando@gmail.com

Spotlight Programme Team in Grenada to ensure its systematic engagement in providing technical advice and informing programming on addressing violence against women and girls (VAWG), including for the most marginalized groups facing multiple and intersecting forms of discrimination, which is key to responding to Agenda 2030's *'leaving no one behind'* imperative.

- **Saving Brains Grenada**, founding member of research project, funded by Canada Grand Challenges Saving Brains and UNICEF Eastern Caribbean, by assisting with program logistics/implementation and community liaison.

CERTIFICATES

- **Master Trainer for Foundations Gender Based Violence Programme**, UN Women, October 2023
- **Practitioner Initiated Testing and Counseling**, GrenCHAP, October 2019
- **Gottman Couples Therapy Level 1 Training**, Gottman Institute, April 2018
- **Conscious Discipline Coach**, REACH Grenada, November 2012
- **Certified Domestic Violence & Sexual Assault Victim Counselor (60 Hours)**, PEACE for Families, September 2011
- **Certified in First Aid and CPR, Lifeguard, and Swim Instructor**



PROFILE

A medical professional who is passionate about teaching and enjoys combining her clinical experiences with theoretical knowledge.

CONTACT

PHONE:
1-473-535-5268

EMAIL:
Janinepaul369@gmail.com

JANINE PAUL

EDUCATION

University of Guyana

2002-2006

Bachelor of Science Biology (Major) Chemistry (Minor)

University of Guyana School of Medicine

2006-2011

Bachelor's in medicine bachelor's in science (MBBS)

Saint George's University

June 2020

Post Graduate Certificate in Medicine

WORK EXPERIENCE

General Hospital Saint George's Grenada

January 2012 to December 2012

Medical Internship-clinical rotations

Saint George's University

2013 to 2016

Clinical tutor in the Neuroscience, Physiology and Behavioral Sciences
Department responsible for all subjects taught in terms 1 and 2 in the School of Medicine

Saint George's University

2018 to present

Clinical tutor in the Neuroscience, Physiology and Behavioral Sciences
Department responsible for all subjects in terms 1 and 3 in the School of Medicine

REFERENCES

Dr. Gabrielle Walcott-Bedeau
gwalcott@sgu.edu

Dr Rondell Benn
Rondell_benn@yahoo.com

LEANNE RACICOT

Chemistry Instructor

University of Waterloo
Department of Chemistry
200 University Ave W
Waterloo, ON N2L 3G1

leanne.racicot@uwaterloo.ca
(519) 519-888-4567, ext. 30244

EMPLOYMENT HISTORY

Chemistry Instructor

Waterloo, ON

2019–present

Department of Chemistry, University of Waterloo

Teaching primarily laboratories in introductory organic chemistry (CHEM 266L and CHEM 267L) and a biochemistry laboratory for nanoengineers (NE 224L). Responsibilities include developing laboratory experiments, preparing laboratory manuals and assessments, training teaching assistants and providing them with marking schemes, maintenance of laboratory equipment and space as well as waste management. Covering other courses based on the need of the department.

Sessional Instructor

Waterloo, ON

2019

Department of Chemistry, University of Waterloo

Taught CHEM 120 (General Chemistry 1) to a class of 60 students at Beijing Jiaotong Technical University (BJTU) in Beijing China. Courses administered in English, students are part of the Materials and Nanoscience program jointly offered by BJTU and University of Waterloo. Performed lectures and guided students through practice problem. Wrote and graded examinations.

Postdoctoral Fellow (Joint Appointment)

Waterloo, ON
Hamilton, ON

2017–2019

Department of Chemistry, University of Waterloo (Supervisor: Professor Graham K. Murphy)

Department of Chemistry and Biology, McMaster University (Supervisor: Professor John F. Valliant)

Worked on a collaborative project for the application of hypervalent iodine reagents to the incorporation of ^{18}F to biologically relevant scaffolds. Trained to transport and handle radioactive material at High Level Laboratory Facility at McMaster University. Presented project updates in both research groups on a weekly to monthly basis. Mentored graduate and undergraduate students in synthetic organic chemistry.

Sessional Instructor

Vancouver, ON

2016

Department of Chemistry, University of British Columbia

Covered the leave of the CHEM 121/123 lab director (Dr. Sophia Nussbaum) and supervised the organic chemistry portion of the CHEM 3XX and CHEM 445 Integrated Laboratories. Trained TAs and edited laboratory manuals, as well as laboratory report marking schemes.

EDUCATION

Doctor of Philosophy, Chemistry

Vancouver, ON

2011–2016

Department of Chemistry, University of British Columbia (Supervisor: Professor Marco A. Ciufolini)

Thesis title: "Extending the boundaries of diaryliodonium reagents: expressing I-nucleophilicity of aryl iodides and metal-free preparation of sulfonium salts"

Bachelor of Science, Chemistry

Montréal, QC

2008–2011

Département de Chimie, Université du Québec à Montréal

TEACHING EXPERIENCE

University of Waterloo

- **CHEM 266** – Basic Organic Chemistry I
Online, Winter and Spring 2022, 60–170 students
- **NE 224** – Biochemistry for Nanotechnology Engineers
Lab, Spring Terms 2020–2022, 120 students
- **CHEM 266L** – Organic Chemistry Laboratory I
Fall Terms 2019–2022, online or in-person, 500–700 students
- **CHEM 262L** – Organic Chemistry Laboratory for Engineering Students
Winter and Fall 2021, Fall 2022, online, hybrid and in-person, 60–80 students
- **NE 222** – Organic Chemistry for Nanotechnology Engineers
Lab, Fall 2021–2022, hybrid and in-person, 120 students

- **CHEM 267L** – Organic Chemistry Laboratory II
Winter Terms 2020–2021 and 2023, online and in-person, 200–400 students
- **CHEM 123** – General Chemistry 2
Online Spring 2021, 200 students
- **CHEM 120** – General Chemistry 1
BJTU (Beijing, China) Fall 2019, 60 students

University of British Columbia

- **CHEM 3XX/445** Integrated Labs (Instructor for Organic Chemistry), Fall 2016, 200 students
- **CHEM 121** – Structure and Bonding in Chemistry, Lab, Summer and Fall 2016,
- First-Year Laboratory Teaching Assistant Mentor (CHEM 121/123 Labs, Fall and Winter Terms 2013–2016)

SERVICE

2021–present Faculty of Science Indigenization Working Group (University of Waterloo)

- Surveyed the Chemistry for inclusion of Indigenous content and for attitudes towards Decolonization of content
- Launched a Land Acknowledgment add-on for the online syllabus repository for the Faculty of Science and a template for use on the Learning Management System (LEARN) across the Institution
- Facilitated soup lunches at the Waterloo Indigenous Student Centre (March 2022 and November 2023)

2020–2021 Faculty of Science COVID-19 Safety Plan Review Group (University of Waterloo)

- Reviewed safety plans for research and teaching spaces as well as for field trips
- Adapting standards to current provincial guidelines and data on COVID-19 as the pandemic evolved

2017–present Chemistry Outreach Laboratory Days (University of Waterloo)

- Assisted by the Chemistry Outreach Coordinator (undergraduate co-op position)
- Organize and facilitate visits of the university by groups of Grade 11/12 high schools across the Waterloo Region and beyond. Includes a lab experiment, tours, and lecture depending on the school's desired activities
- Purchase supplies for the laboratory experiment and manage waste
- Develop new experiments with connections to Grade 11/12 chemistry curriculum

SELECTED AWARDS AND GRANTS

2023 Gold level Green Lab certification, Undergraduate Organic Chemistry Teaching Lab

2023 Staff Enhancement Experience (SEE) Canada Grant (University of Waterloo)

2021 eCampus Ontario Virtual Learning Strategy (VLS) Grant (Organic Chemistry Virtual Labs, Principal Investigator, \$70,252)
Download link: <https://bit.ly/3W0Lg5p>

2017 H.G. Thode Postdoctoral Fellowship (McMaster University)

2014 Killam Graduate Teaching Assistant Award (University of British Columbia)

2012 Vanier Canada Graduate Scholarship

2012 Julie-Payette PGS M Research Scholarship

SELECTED TALKS

2024 Incorporating Online OERs into Labs (invited talk, Biology Department seminar series, University of Waterloo)

2023 Expanding Lab Safety: Using visual cues to encourage emotional safety (ChemEd 2023, University of Guelph)

2019 Discussion and Reflection on Representation and Science Outreach (Waterloo Women's Wednesdays Represents, University of Waterloo)

2015 Peer-Mentoring as a Training Tool for First Time TAs (98th Canadian Chemistry Conference and Exhibition, Ottawa)

SELECTED WORKSHOPS

- 2023** Building your own interactive online activity using Twine (ChemEd 2023, University of Guelph), *facilitator*.
2022 Research & Reconciliation: Unsettling Ways of Knowing Through Indigenous Relationships: A Learning Circle Series (Centre for Extended Learning, University of Waterloo)
2021 Introduction to EDDI and AODA for VLS projects (Centre for Extended Learning, University of Waterloo)
2021 Teaching Squares (Centre for Teaching Excellence, University of Waterloo)
2018 Instructional Skills Workshop (Centre for Teaching Excellence, University of Waterloo)

VOLUNTEERING

- 2022** Proofreader, Chem13 News (Special Fall Edition)
2020–2021 Waterloo Coordinator, Online Host and Social Media Coordination, Pint of Science Canada
2018–present Scientific Guest, THEMUSEUM, Kitchener, ON
2017–present Stage Presenter, Kids' Science Open House, University of Waterloo

PUBLICATIONS

1. Racicot, L.; Valliant, J.F.; Murphy, G. K. "Synthesis and Evaluation of Fluorous-Tagged and Polystyrene-Supported Precursors for Fluoro-benziodoxole" *Synthesis*, **2023**; 55, 2730.
2. Cuzzucoli, F.; Racicot, L.; Valliant, J.F.; Murphy, G. K. "Transition metal-free fluorocyclization of unsaturated N-methoxyamides gives cyclic N-methoxyimides" *Tetrahedron*, **2022**, 123, 132982.
3. Murphy, G. K.; Racicot, L.; Carle, M. S. "The Chemistry Between Hypervalent Iodine(III) Reagents and Organophosphorus Compounds" *Asian J. Org. Chem.*, **2018**, 7, 837.
4. Zhao, Z.; Racicot, L.; Murphy, G. K. "Fluorinative Rearrangements of Substituted Phenylallenes Mediated by (Difluoroiodo)toluene: Synthesis of α -(Difluoromethyl)styrenes" *Angew. Chem., Int. Ed.*, **2017**, 56, 11620.
5. Racicot, L.; Ciufolini, M. A. "Iodonium Metathesis Reactions of Unreactive Aryl Iodides" *Tetrahedron*, **2017**, 73, 7067.
6. Racicot, L.; Kasahara, T.; Ciufolini, M. A. "Arylation of Diorganochalcogen Compounds with Diaryliodonium Triflates: Metal Catalysts are Unnecessary" *Org. Lett.* **2014**, 16, 6382.
7. Kasahara, T.; Jang, Y. J.; Racicot, L.; Panagopoulos, D.; Ciufolini, M. A. "Iodonium Metathesis Reactions" *Angew. Chem. Int. Ed.* **2014**, 36, 9637.
8. Guérard, K. C.; Sabot, C.; Racicot, L.; Canesi, S. "Oxidative Friedel-Crafts Reaction and its Application to the Total Syntheses of Amaryllidaceae Alkaloids" *J. Org. Chem.* **2009**, 74, 2039.
9. Bérard, D.; Giroux, M. A.; Racicot, L.; Sabot, C.; Canesi, S. "Intriguing formal [2+3] cycloaddition promoted by a hypervalent iodine reagent" *Tetrahedron*, **2008**, 64, 7537.
10. Bérard, D.; Racicot, L.; Sabot, C.; Canesi, S. "Formal [2+3] Cycloaddition between Substituted Phenols and Allylsilane" *Synlett*, **2008**, 1076.

ADDITIONAL SKILLS

- First Aid and CPR-A training (valid until Nov 2025)
- Fluent in English and French, written and oral
- Proficient use of online platforms for teaching and learning:
 - D2L LMS (LEARN at University of Waterloo)
 - Crowdmark (online grading platform)
 - Möbius (online learning platform incorporating algorithmic randomization)
 - Kritik (online peer-grading platform)
 - Bongo/Virtual Classroom and MS Teams (meeting platforms used for synchronous content delivery)
- Proficient use of software useful for chemistry teaching (ChemDraw, Chemix, Bruker TopSpin, PerkinElmer Spectrum IR, Cary WinUV)
- Production of laboratory videos and screencasts for remote teaching (Camtasia, YouTube Studio)
- Basic HTML coding for production of virtual laboratories in Twinery

Curriculum Vitae

NAME:

Pamela Seeds,
Continuing Clinical Lecturer/Associate Professor, Teaching Stream
Member of the Graduate Faculty: no

DEGREES:

Ph.D., Clinical Psychology, University of Western Ontario, 2013
Pre-doctoral Internship in Clinical Child Psychology: Child & Family Track, Hamilton
Health Sciences Centre, 2012-2013
M.Sc., Clinical Psychology, University of Western Ontario, 2007
B.Sc.(Hons) with Distinction, Psychology, Queen's University, 2005

EMPLOYMENT HISTORY:

2013-2018 Definite Term Clinical Lecturer
2019 – present Continuing Clinical Lecturer/Associate Professor, Teaching Stream

HONOURS:

Outstanding Performance Award, University of Waterloo, 2017
Dr. Ruth Berman Award for an Early Career Psychologist, Ontario Psychological
Association (OPA), 2016

a) **SCHOLARLY AND PROFESSIONAL ACTIVITIES:** past 7 years only (e.g. executive and editorial positions
but not memberships in societies)

b) **GRADUATE SUPERVISIONS:** masters, doctoral, postdoctoral - completed/in progress for lifetime

Completed:

In progress:

NAME OF STUDENTS supervised within the past seven years, title of thesis of project,
year of first registration and year of completion:

GRADUATE COURSES:

Seminars:

2018-2022 – Observation, Interviewing, and Cognitive Assessment II

2018-2022 – Psychological Assessment Practicum II

2021 – Observation, Interviewing, and Cognitive Assessment II

2021 – Psychological Assessment Practicum I

PUBLICATIONS:

Life-time summary (count) according to the following categories:

- Books and monographs:
- Edited book and monographs:
- Chapters in books and monographs: 4
- Refereed journal articles: 5
- Refereed conference proceedings:
- Presentations at conferences: 7
- Technical reports:
- Invited/keynote addresses:
- Others (workshops presented, etc.): 41

DATE: October 1, 2024

CURRICULUM VITAE: November, 2024

NAME: Ken D. Stark

CONTACT INFORMATION:

Department of Kinesiology and Health Sciences, University of Waterloo

200 University Avenue West, Waterloo, ON, N1G 3G1

(519) 888-4567 ext.47738

kstark@uwaterloo.ca

ORCID ID: 0000-0001-7828-4072

DEGREES RECEIVED:

<u>Degree</u>	<u>Institution</u>	<u>Years</u>
Ph.D.	University of Guelph	1997-2002
M.Sc.	University of Guelph	1995-1997
Hons B.Sc.	University of Toronto	1992-1995
	Yale University	1990-1992

EMPLOYMENT HISTORY:

<u>Date</u>	<u>Position</u>	<u>Institution</u>
2017-present	Professor	University of Waterloo
2014-present	Special Graduate Faculty	University of Guelph
2012-2022	Tier 2 CIHR Canada Research Chair	University of Waterloo
2010-2017	Associate Professor	University of Waterloo
2008-2019	Research Scientist	Schlegel-UW Research Institute for Aging
2007-2012	Junior Investigator	GENESIS CIHR/HSFC ICE Team
2004-2010	Assistant Professor	University of Waterloo
2005-2007	Research Fellow	GENESIS CIHR/HSFC ICE Team
2002-2004	Visiting Postdoctoral Fellow	National Institutes of Health
2000	Lecturer	University of Guelph
1997-2001	Teaching Assistant	University of Guelph
1997	Research Assistant	University of Guelph

ACADEMIC AWARDS AND DISTINCTIONS:

- Tier 2 CIHR Canada Research Chair Renewal (2017-2022)
- Tier 2 CIHR Canada Research Chair (2012-2017)
- Early Researcher Award – Ontario Ministry of Research and Innovation (2009)
- Young Scientist Award - American Oil Chemists' Society (2009)
- Young Investigator Grant - International Society for the Study of Fatty Acids and Lipids (2006)
- New Investigator Scholarship - GENESIS ICE Team (Canadian Institutes of Health Research/Heart and Stroke Foundation of Canada Interdisciplinary Capacity Enhancement Team. Gender and Sex Determinants of Cardiovascular Disease: From Bench to Beyond) (2005 - 2007)
- John E. Fogarty Visiting Postdoctoral Fellowship - National Institutes of Health (2002 - 2004)
- Presidential Student Award - International Society for the Study of Fatty Acids and Lipids (2000)
- Health and Nutrition Division Student Excellence Award - American Oil Chemists' Society (2000)
- Honored Student Award - American Oil Chemists' Society (2000)
- Doctoral Training Research Award - Heart and Stroke Foundation of Canada and Medical Research Council of Canada (1999 – 2002)
- Academic Ice Hockey Player of the Year - Ontario University Athletics East Division (1998 - 1999)
- Canadian Interuniversity Sport Academic All-Canadian (1998 - 1999)
- Graduate Student Entrance Scholarship - University of Guelph (1997)
- Graduated with Distinction, Hons B.Sc. (1995)
- Academic T-Holder in Men's Varsity Ice Hockey (1994 - 1995)
- Canadian Interuniversity Sport Academic All-Canadian (1994 - 1995)

SCHOLARLY AND PROFESSIONAL ACTIVITIES:

Grant Review Activity

<u>Agency</u>	<u>Year</u>
NSERC Discovery Grant External Reviewer (X1)	2024
NSERC Discovery Grant External Reviewer (X2)	2022
NSERC Discovery Grant External Reviewer (X2)	2021
CFI Leaders Fund External Reviewer	2018
CIHR College of Reviewers	2018-2019
NSERC Discovery Grant External Reviewer	2018
UW Network for Aging Research Catalyst Grant	2017
NSERC Discovery Grant External Reviewer (X3)	2017
CIHR Vanier Canada Graduate Scholarships selection committee	2015-2018
NSERC Discovery Grant External Reviewer	2016
Mitacs Elevate External Reviewer	2015
NSERC Discovery Grant External Reviewer	2015
Netherlands Organization for Scientific Research (NWO)	2013
Earth and Life Sciences Open Programme External Reviewer	
OMAFRA External reviewer	2013
Tier 2 CIHR Canada Research Chair External Reviewer	2013
NSERC Discovery Grant External Reviewer	2012
The Physicians' Services Incorporated Foundation External Reviewer	2011
Ontario Graduate Scholarship Program (Panel Chair - PhD)	2011
NSERC Discovery Grant External Reviewer	2011
The Physicians' Services Incorporated Foundation External Reviewer	2010
CFI LOF External Reviewer	2010
NSERC Discovery Grant External Reviewer	2010
HSFC Operating Grant External Reviewer (× 1)	2009
CIHR Committee Member (Primary Reviewer × 2, Reader × 7)	2009
Collaborative Initiative for Fetal Alcohol Spectrum Disorders Panel	2009
(Primary Reviewer × 2)	
Ontario Graduate Scholarship Program	2009
GENESIS Student Advisory Committee Chair	2009
NSERC Discovery Grant External Reviewer (× 2)	2009
CIHR Randomized Controlled Trials – B	2008
Scottish Rite Charitable Foundation of Canada Research Grant	2008
CIHR Catalyst Grant	2008
CBCF Ontario Region Fellowship Program Review Panel Member (× 3)	2008
NSERC Discovery Grant External Reviewer (× 2)	2008
CIHR Randomized Controlled Trials – A	2008
NSERC Collaborative Health Research Program	2007
Ministry of Agriculture, Food and Rural Affairs	2007
Ontario Graduate Scholarship Program (Panel Member - MSc)	2007
National Centers of Excellence - Advanced Food Materials Network	2006
C & I Projects Inc.	2006

Journal Review Activity

Editorial Activities

<u>Position</u>	<u>Journal</u>	<u>Year</u>
Editorial Board Member	Journal of Nutrition	2017 - present
Editorial Board Member	Frontiers in Nutrition: Nutrition Methodology	2014 - 2021
Associate Editor	Lipids	2008 - present
Editorial Board Member	Prostaglandins, Leukotrienes and Essential Fatty Acids	2009 - present
Editorial Board Member	European Journal of Obstetrics & Gynecology and Reproductive Biology	2005 - 2017

<u>Individual Manuscript Activities</u>	<u>Total</u>	<u>Year</u>
Prostaglandins, Leukotrienes & Essential Fatty Acids	3	2024
Journal of Lipid Research	1	2024
American Journal of Clinical Nutrition	3	2024
Journal of Nutrition	19	2024
Lipids	21	2024
Journal of Nutritional Biochemistry	2	2024
American Journal of Clinical Nutrition	1	2023
Biochemical and Biophysical Research Communications	1	2023
Lipids	5	2023
Current Developments in Nutrition	1	2023
Journal of Nutrition	22	2023
Prostaglandins, Leukotrienes & Essential Fatty Acids	1	2023
The Clinical Biochemist Reviews	1	2022
Prostaglandins, Leukotrienes & Essential Fatty Acids	3	2022
European Journal of Nutrition	2	2022
Journal of Nutrition	11	2022
Lipids	1	2022
Journal of Nutrition	12	2021
British Journal of Nutrition	1	2021
Lipids	5	2021
Prostaglandins, Leukotrienes & Essential Fatty Acids	1	2021
American Journal of Clinical Nutrition	2	2020
Prostaglandins, Leukotrienes & Essential Fatty Acids	2	2020
British Journal of Nutrition	1	2020
Advances in Nutrition	2	2020
Journal of Nutrition	25	2020
Lipids	12	2020
Advances in Nutrition	1	2019
Lipids	9	2019
Journal of Nutrition	22	2019
Nutrition Journal	1	2018
Analytica Chimica Acta	1	2018
Lipids	7	2018
Prostaglandins, Leukotrienes & Essential Fatty Acids	1	2018
American Journal of Clinical Nutrition	2	2018
British Journal of Nutrition	2	2018
Journal of Nutrition	18	2018
European Journal of Clinical Nutrition	2	2018
Current Developments in Nutrition	1	2017
European Journal of Lipid Science and Technology	1	2017
European Journal of Clinical Nutrition	1	2017
Advances in Nutrition	1	2017
BBA - Molecular and Cell Biology of Lipids	2	2017
Journal of Nutrition	13	2017
Clinical Nutrition	1	2017
Analytica Chimica Acta	1	2017
British Journal of Nutrition	7	2017
Journal of Food Science	2	2017
Analytical Chemistry	1	2017
Lipids	8	2017
Prostaglandins, Leukotrienes & Essential Fatty Acids	1	2017
Analytica Chimica Acta	2	2016
Analytical Chemistry	1	2016
Clinical Nutrition	2	2016
Journal of Chromatography A	1	2016

British Journal of Nutrition	4	2016
Molecular and Cellular Biochemistry	1	2016
Journal of Animal Physiology and Animal Nutrition	1	2016
Journal of Nutritional Biochemistry	1	2016
Nutrients	1	2016
PLOS ONE	2	2016
Lipids	10	2016
Journal of Nutrition	7	2016
BBA - Molecular and Cell Biology of Lipids	1	2016
Prostaglandins, Leukotrienes & Essential Fatty Acids	3	2016
Nutrients	2	2015
Textbook Chapter – Elsevier, Inc.	1	2015
European Journal of Clinical Nutrition	1	2015
Journal of Neurochemistry	1	2015
Journal of Nutritional Biochemistry	3	2015
British Journal of Nutrition	3	2015
Lipids	17	2015
Prostaglandins, Leukotrienes & Essential Fatty Acids	6	2015
Public Health Nutrition	1	2015
Applied Physiology, Nutrition and Metabolism	1	2014
Nutrients	1	2014
British Journal of Nutrition	1	2014
Journal of Neurochemistry	1	2014
Journal of Nutrition	2	2014
Lipids in Health and Disease	1	2014
Food Chemistry	1	2014
Clinical Chemistry and Laboratory Medicine	2	2014
Clinical Nutrition	1	2014
Prostaglandins, Leukotrienes & Essential Fatty Acids	7	2014
Lipids	14	2014
Scientific Reports	1	2014
Journal of Nutrition and Metabolism	1	2013
Lipids in Health and Disease	1	2013
Journal of Nutrition	1	2013
PLOS ONE	1	2013
Journal of the American Oil Chemists' Society	1	2013
Molecular Nutrition & Food Research	2	2013
Journal of Lipid Research	2	2013
British Journal of Nutrition	2	2013
Canadian Medical Association Journal	1	2013
Lipids	12	2013
Prostaglandins, Leukotrienes & Essential Fatty Acids	2	2013
European Journal of Obstetrics & Gynecology and Reproductive Biology	1	2013
Applied Physiology, Nutrition and Metabolism	1	2012
European Journal of Obstetrics & Gynecology and Reproductive Biology	1	2012
Prostaglandins, Leukotrienes & Essential Fatty Acids	1	2012
The Journal of Nutrition	1	2012
Journal of Food Science	1	2012
American Journal of Clinical Nutrition	1	2012
Journal of Lipid Research	1	2012
British Journal of Nutrition	1	2012
Lipids	11	2012
Nutrition and Metabolism	1	2012
Journal of Food Science	1	2011
Journal of Neurochemistry	1	2011
Journal of Nutritional Biochemistry	1	2011

The Journal of Nutrition	1	2011
Lipids	16	2011
Applied Physiology, Nutrition and Metabolism	2	2010
Journal of the American Oil Chemists' Society	1	2010
Lipids	14	2010
Neurochemical Research	1	2010
Nutrition and Metabolism	1	2010
Prostaglandins, Leukotrienes & Essential Fatty Acids	2	2010
The Journal of the Pediatrics	1	2010
American Journal of Clinical Nutrition	1	2009
Applied Physiology, Nutrition and Metabolism	2	2009
Journal of Neurochemistry	2	2009
Lipids	11	2009
Prostaglandins, Leukotrienes & Essential Fatty Acids	1	2009
The Journal of Nutrition	2	2009
American Journal of Nephrology	1	2008
Applied Physiology, Nutrition and Metabolism	1	2008
European Journal of Obstetrics & Gynecology and Reproductive Biology	1	2008
Journal of the American Oil Chemists' Society	1	2008
Journal of Lipid Research	1	2008
Journal of Nutritional Biochemistry	3	2008
Lipids	11	2008
Prostaglandins, Leukotrienes & Essential Fatty Acids	3	2008
The Journal of Nutrition	3	2008
Lipids	3	2007
Comparative Biochemistry and Physiology	1	2007
The Journal of Nutrition	3	2007
European Journal of Obstetrics & Gynecology and Reproductive Biology	2	2007
Pediatric Research	2	2007
Psychopharmacology	1	2007
Alcoholism: Clinical and Experimental Research	4	2006
European Journal of Clinical Nutrition	1	2006
European Journal of Obstetrics & Gynecology and Reproductive Biology	6	2006
Food Research International	1	2006
Journal of the American College of Nutrition	1	2006
Trends in Analytical Chemistry	1	2006
European Journal of Obstetrics & Gynecology and Reproductive Biology	4	2005
Alcoholism: Clinical and Experimental Research	1	2005
Lipids	1	2005
European Journal of Clinical Nutrition	1	2005
American Journal of Clinical Nutrition	1	2005
Journal of the American College of Nutrition	1	2005
Biological Psychiatry	1	2005
American Journal of Clinical Nutrition	1	2004
European Journal of Obstetrics & Gynecology and Reproductive Biology	6	2004
Journal of the American College of Nutrition	1	2004
Lipids	1	2004
Lipids	1	2003
European Journal of Clinical Nutrition	1	2002
Lipids	2	2002
Journal of Lipid Research	1	2000
Life Sciences	1	1999
External Ad Hoc Review Activity		
University of Manitoba Research Ethics and Compliance	1	2013
University of Toronto Office of Research Ethics	2	2010

National Institute on Alcohol Abuse and Alcoholism Tenure Review Panel	1	2009
University of Toronto Office of Research Ethics	1	2008

Professional Society Positions

<u>Position</u>	<u>Society</u>	<u>Year</u>
Member	International Lipidomics Society	2022 - present
Director	ISSFAL	2019 - 2025
Member	ISSFAL – Acceptable Fatty Acid Best Profiles	2021 - present
Member	ILSI – Fatty Acid Best Practices	2016 - 2018
Member	AOCS Technical Services Core Value Center Committee	2012 - 2016
Member	American Society for Mass Spectrometry	2012 - present
Founder	Agri-food for Healthy Aging	2007 - 2019
Member	Canadian Nutrition Society	2005 - present
Member	Gender and Sex Determinants of Cardiovascular Disease: Interdisciplinary Capacity Enhancement Team	2005 - present
Member	The American Society for Nutrition	2004 - present
Member	American Oil Chemists' Society (AOCS)	2000 - present
Member	International Society for the Study of Fatty Acids and Lipids	1999 - present

Conference and Symposium Activities

1. Workshop Panelist, Challenges & Opportunities of Implementing ISSFAL's Statement on Omega-3 Fatty Acids & Prematurity Prevention, 2023 ISSFAL Congress, Nantes, France, July 2, 2023.
2. Chair and Moderator, Cannabis Edibles, Efficacy, and Special Populations Webinar, Canadian Nutrition Society, October 14, 2020.
3. Working Group Chair, Canadian Nutrition Society response to Edible Cannabis, Extracts and Topicals Health Canada Consultation, January 24 - February 20, 2019.
4. Session Chair, Canadian Forum for Analytical and Bioanalytical Sciences, Toronto Post-ASMS Mass Spec Symposium, Toronto, ON, October 15, 2018.
5. Mentor, AOCS Student Common Interest Group, AOCS Annual Meeting, Salt Lake City, Utah, May 4, 2016.
6. Health & Nutrition Ralph Holman and Student Award Committee, AOCS Annual Meeting, Salt Lake City, Utah, May 1-4, 2016.
7. Health & Nutrition Committee and Session Chair, AOCS Annual Meeting, Salt Lake City, Utah, May 1-4, 2016.
8. Student Awards Judge, Canadian Nutrition Society, Quebec City QC, May 30 – June 2, 2013.
9. Chair, Health and Nutrition Poster Session, AOCS Annual Meeting, Montreal QC, April 28-May 1, 2013.
10. Session Chair, CNS Conference on Advances in Dietary Fats & Nutrition, Mississauga, ON, January 8, 2013.
11. Chair and organizer, High Throughput Fatty Acid Analyses Breakfast Workshop, The 10th Congress of the International Society for the Study of Fatty Acids and Lipids, Vancouver, BC, May 28, 2012.
12. Chair, General Health and Nutrition II Session, AOCS Annual Meeting, Orlando FL, May 3-6, 2009.
13. Co-chair, DHA/EPA Omega-3 for Health Symposium, Mississauga, ON, March 7, 2008.
14. Symposium Organizer, ALA vs. DHA: Challenges and Opportunities for Omega 3 Consumption, Canadian Nutrition Congress, Winnipeg MB, June 18-21, 2007.
15. Chair, Planning Committee, Omega-3 Fatty Acids: From Bench to Bedside, A Symposium in Honour of Bruce J. Holub, Professor Emeritus, Guelph, ON, October 21, 2005.

Consulting Activities

<u>Company/Agency</u>	<u>Projects</u>	<u>Year</u>
Gowling WLG, Ottawa, ON	1	2022-23
Vitameter, Waterloo, ON	1	2016-19
DSM Nutritional Products, Columbia, MD, USA	1	2014-16
Gerson Lehrman Group, New York, NY, USA	1	2013
Acasti Pharma, Laval, QC	1	2012
Acasti Pharma, Laval, QC	2	2011

Gerson Lehrman Group, New York, NY, USA	1	2011
Gerson Lehrman Group, New York, NY, USA	1	2010
Salba Smart Natural Products, Centennial, CO	3	2009
Elgin Integral Health Centre, Sault Ste Marie, ON	1	2009
Accera, Inc., Broomfield, CO	1	2008
Certo Labs, Toronto ON	1	2008-present
Gerson Lehrman Group, New York, NY, USA	1	2007
GlaxoSmithKline, Oakville, ON	1	2006
Gerson Lehrman Group, New York, NY, USA	1	2006
GlaxoSmithKline, Oakville, ON	1	2005
Gerson Lehrman Group, New York, NY, USA	2	2004

Patents and Intellectual Property Rights:

Patents:

1. Ciobanu F., Metherel, A.H., Taha, A.Y. and Stark, K.D. Method, apparatus, and kit for the extraction of lipid-soluble compounds. Application number 12/52537 (*filed Sept. 19, 2012*), Publication number: US 20140339160 (*Nov. 20, 2014*).
2. Metherel, A.H., Stark, K.D., and Taha, A.Y. Methods for extracting nutrients, drugs and toxins from a sample, and apparatus for same. Application number: 12/589,297 (*Oct. 31, 2009*), Publication number: US 20110054199 (*Mar. 3, 2011*).

PUBLICATIONS:

*Indicates personnel under my direct supervision

†Indicates publications where I serve as the primary investigator

‡Indicates publications as part of a research team listed in an appendix

a) Refereed Journals:

1. Schuchardt, J.P., Beinhorn, P., Hu, X.F., Chan, H.M., Roke, K., Bernasconi, A., Hahn, A., Sala-Vila, A., Stark, K.D., Harris, W.S. Omega-3 World Map: 2023 Update. *Progress in Lipid Research*. 2024, 95, 101286, 1-17.
2. *Aristizabal-Henao, J.J., Biloft-Jensen, A.P., Christensen, T., Stark, K.D.† Lipidomic and Fatty Acid Biomarkers in Whole Blood Can Predict the Dietary Intake of Eicosapentaenoic and Docosahexaenoic Acids in a Danish Population. *J Nutr*. 2024, 154(7), 2108-2119.
3. Fernandes, M.F., *Aristizabal-Henao, J.J., Marvyn, P.M., M'Hiri, I., Wiens, M.A., Hoang, M., Sebastian, M., Nachbar, R., St-Pierre, P., Diagarachchige De Silva, K., Wood, G.A., Joseph, J.W., Doucette, C.A., Marette, A., Stark, K.D., Duncan, R.E. Renal tubule-specific Atgl deletion links kidney lipid metabolism to glucagon-like peptide 1 and insulin secretion independent of renal inflammation or lipotoxicity. *Molecular Metabolism*, 2024, 81(3), 101887, 1-15.
4. Bisgaard, H., Mikkelsen, M., Arendt, M., Sevelsted, A., Schoos, A.M., Brustad, N., Eliassen, A., Thorsen, J., Chawes, B., Gürdeniz, G., Morin, A., Stark, K.D., Stokholm, J., Ober, C., Tingskov Pedersen, C.E., Bønnelykke, K. Atopic and non-atopic effects of fish oil supplementation during pregnancy. *Thorax*, 2023, 78(12), 1168-1174.
5. Lewis, J.I., Lind, M.V., Møller, G., Hansen, T., Pedersen, H., Christensen, M.M.B., Laursen, J.C., Nielsen, S., Ottendahl, C.B., Larsen, C.V.L., Stark, K.D., Bjerregaard, P., Jørgensen, M.E., Lauritzen, L. The effect of traditional diet on glucose homeostasis in carriers and non-carriers of a common TBC1D4 variant in Greenlandic Inuit: A randomized crossover study. *British Journal of Nutrition*, 2023, 130(11), 1871-1884.
6. Beaufrère, H., Barboza, T., Burnett, A., Stark, K.D., Wood, R.D. Effects of Atorvastatin and Rosuvastatin on Blood Lipids in Quaker Parrots (*Myiopsitta monachus*). *Journal of Avian Medicine and Surgery*, 2023, 37(3), 199-208.
7. Tomczewski, M.V., Chan, J.Z., Al-Majmaie, D.M., *Liu, M.R., Cocco, A.D., Stark, K.D., Strathdee, D., Duncan, R.E. Phenotypic characterization of female carrier mice heterozygous for Tafazzin deletion. *Biology*, 2023, 12, 1238, 1-23.
8. Sigh, S., Lauritzen, L., Wieringa, F.T., Laillou, A., Chamnan, C., Stark, K.D., Roos, N. Changes in polyunsaturated fatty acids during treatment of malnourished children may be insufficient to reach

- required essential fatty acid levels – A randomised controlled trial. *Clinical Nutrition*, 2023, 42(9), 1778-1787.
9. Packull-McCormick, S., Cowan, A., Stark, K.D., Low, M., Gamberg, M., Swanson, H., Laird, B.D. Mercury bioaccessibility in freshwater fish species from northern Canada. *Science of The Total Environment*, 2023, 899, 165624, 1-11.
 10. *Lamontagne-Kam, D.M., Davari, S., *Aristizabal-Henao, J.J., Cho, S., *Chalil, D., Mielke, J.G., †Stark, K.D. Sex Differences in Hippocampal-dependent Memory and the Hippocampal Lipidome in Adolescent Rats Raised on Diets With or Without DHA. *Prostaglandins, Leukotrienes and Essential Fatty Acids*, 2023, 192, 102569, 1-12.
 11. Aymen, J., Delnatte, P., Beaufrère, H., *Chalil, D., *Steckel, K.E., Gourlie, S., Stark, K.D., McAdie, M. Comparison of blood leptin and vitamin E and blood and adipose fatty acid compositions in wild and captive populations of critically endangered Vancouver Island marmots (*Marmota vancouverensis*). *Zoo Biology*, 2023, 42, 308-321.
 12. Lundbergh, B., Enevoldsen, A.S., Stark, K.D., Ritz, C., Lauritzen, L. Fish oil supplementation may improve attention, working memory and attention-deficit/hyperactivity disorder symptoms in adults with autism spectrum disorder: a randomised crossover trial. *British Journal of Nutrition*, 2022, 128, 2398-2408.
 13. Beaufrère, H., Stark, K.D., Wood, D. Effects of a 0.3% cholesterol diet and a 20% fat diet on plasma lipids and lipoproteins in Quaker parrots (*Myiopsitta monachus*). *Veterinary Clinical Pathology*, 2022, 51 (3), 376-384.
 14. Bradley, R.M., Hashemi, *Aristizabal-Henao, J.J., Stark, K.D., Duncan, R.E. PLAAT1 exhibits phosphatidylcholine:monolysocardiolipin transacylase activity. *International Journal of Molecular Sciences*, 2022, 23(12), 6714, 1-12.
 15. Chan, J.Z., Fernandes, M.F., *Steckel, K.E., Bradley, R.M., Hashemi, A., Groh, M., Sciaini, G., Stark, K.D., Duncan, R.E. N-oleoylethanolamide treatment of lymphoblasts deficient in Tafazzin improves cell growth and mitochondrial morphology and dynamics. *Scientific Reports*, 2022, 12, 9466, 1-15.
 16. Laumann, R.D., Iversen, T., Frandsen, T.L., Mølgaard, C., Stark, K.D., Schmiegelow, K., Lauritzen, L. Whole blood long-chain n-3 fatty acids as a measure of fish oil compliance in children with acute lymphoblastic leukemia: a pilot study. *Prostaglandins, Leukotrienes and Essential Fatty Acids*, 2022, 177, 102401, 1-5.
 17. *Marks, K.A., Fernandes, M.F., Diaguarachchige De Silva, K.H., Tomczewski, M.V., Stark, K.D., Duncan, R.E. Characterization of a novel *FADS2* transcript variant: Implications for D6D activity regulation in cells. *Biochemistry and Cell Biology*, 2021, 99(6), 725-734.
 18. *Chalil, D., *Aristizabal-Henao, J.J., *Chalil, A., †Stark, K.D. Evidence of multiple hepatic mechanisms to mobilize docosahexaenoic acid into dam plasma during pregnancy in chow-fed Sprague Dawley rats. *Prostaglandins, Leukotrienes and Essential Fatty Acids*, 2021, 171, 102317, 1-14.
 19. Racey, M., MacFarlane, A.J., Carlson, S., Stark, K.D., Plourde, M., Field, C., Yates, A.A., Wells, G., Grantham, A., Bazinet, R., Ma, D. Dietary Reference Intakes based on chronic disease endpoints: Outcomes from a case study workshop for omega 3's EPA and DHA. *Applied Physiology, Nutrition, and Metabolism*, 2021, 46 (5), 530-539.
 20. van Rossem, L., Smit, H.A., Armand, M., Bernard, J.Y., Bisgaard, H., Bønnelykke, K., Bruun, S., Stark, K.D., Heude, B., Husby, S., Kyhl, H.B., Michaelsen, K.F., Thijs, C., Vinding, R.K., Wijga, A.H., Lauritzen, L. Breast milk n-3 long chain polyunsaturated fatty acids and blood pressure. An individual participant meta-analysis. *European Journal of Nutrition*, 2021, 60(2), 989-998.
 21. Drysdale, M., Ratelle, M., Skinner, K., Garcia-Barrios, J., Gamberg, M., Williams, M., Majowicz, S., Bouchard, M., Stark, K.D., Chalil, D., Laird, B.D. Human biomonitoring results of contaminant and nutrient biomarkers in Old Crow, Yukon, Canada. *Science of the Total Environment*, 2021, 760, 143339.
 22. Damsgaard, C.T., Vuholm, S., Teisen, M.N., Stark, K.D., Lauritzen, L. Does polymorphisms in the *PPAR* and *APOE* genes modify associations between fatty acid desaturase (*FADS*), n-3 long-chain polyunsaturated fatty acids, and cardiometabolic markers in 8-11-year-old Danish children? *Br J Nutr*, 2021, 125(4), 369-376.
 23. Beaufrère, H., Gardhouse, S., Wood, R.D., Stark, K.D. The plasma lipidome of the Quaker parrot (*Myiopsitta monachus*). *PLOSone*, 15(12), e0240449, 2020.

24. Chen, H.Y., Cairns, B.J., Small, A.M., Burr, H.A., Ambikumar, A., Martinsson, A., Thériault, S., Munter, H.M., Steffen, B., Zhang, R., Levinson, R.T., Shaffer, C.M., Rong, J., Sonestedt, E., Dufresne, L., Ljungberg, J., Näslund, U., Johansson, B., Ranatunga, D.K., Whitmer, R.A., Budoff, M.J., Nguyen, A., Vasan, R.S., Larson, M.G., Harris, W.S., Damrauer, S.M., Stark, K.D., Boekholdt, S.M., Wareham, N.J., Pibarot, P., Arsenault, B.J., Mathieu, P., Gudnason, V., O'Donnell, C.J., Rotter, J.I., Tsai, M.Y., Post, W., Clarke, R., Söderberg, S., Bossé, Y., Wells, Q.S., Smith, J.G., Rader, D.J., Lathrop, M., Engert, J.C., Thanassoulis, G. Association of FADS1/2 locus variants and polyunsaturated fatty acids with aortic stenosis, *JAMA Cardiology*, 2020, 5(6), 694-702.
25. Teisen, M.N., Vuholm, S., Niclasen, J., Aristizabal-Henao, J.J., Stark, K.D., Geertsen, S.S., Damsgaard, C.T., Lauritzen, L. Effects of oily fish intake on cognitive and socioemotional function in healthy 8–9-year-old children: the FiSK Junior randomized trial. *American Journal of Clinical Nutrition*, 2020, 112, 74-83.
26. Vuholm, S., Teisen, M.N., Burch, N.G., Stark, K.D., Jakobsen, J., Mølgaard, C., Lauritzen, L., Damsgaard, C.T. Is a high oily fish intake achievable and how does it affect nutrient status in 8-9-year-old children? – the FiSK Junior trial, *European Journal of Nutrition*, 2020, 59, 1205-1218.
27. Sigh, S., Lauritzen, L., Wieringa, F.T., Laillou, A., Chamnan, C., Angkeabos, N., Moniboth, D., Berger, J., Stark, K.D., Roos, N. Whole-blood PUFA and associations with markers of nutritional and health status in acutely malnourished children in Cambodia. *Public Health Nutrition Journal*, 2020, 23 (6), 974-986.
28. Schmidt, N., Møller, G., Bæksgaard, L., Østerlind, K., Stark, K.D., Lauritzen, L., Andersen, J.R. Fish oil supplementation in cancer patients or nutritional drink supplements? A controlled study of compliance, *Clinical Nutrition ESPN*, 2020, 35, 63-68.
29. Metherel, A.H., Harris, W.S., Ge, L., Gibson, R.A., Chouinard-Watkins, R., Bazinet, R.P., Liu, L., Brenna, J.T., Aristizabal-Henao, J.J., Stark, K.D., Block, R.C. Interlaboratory assessment of dried blood spot fatty acid compositions. *Lipids*, 2019, 54, 755-761.
30. Vuholm, S., Rantanen, J.M., Teisen, M.N., Stark, K.D., Mølgaard, C., Christensen, J.H., Lauritzen, L., Damsgaard, C.T. Effects of oily fish intake on cardiometabolic markers in healthy 8-9-year-old children: The FiSK Junior randomized controlled trial. *American Journal of Clinical Nutrition*. 2019, 110, 1296-1305.
31. *Aristizabal-Henao, J.J., Fernandes, M., Duncan, R.E., †Stark, K.D. Development of a rapid ultra high-performance liquid chromatography/tandem mass spectrometry method for the analysis of sn-1 and sn-2 lysophosphatidic acid regioisomers in mouse plasma. *Lipids*, 2019, 54, 479-486.
32. Stark, K.D. Applications of innovative lipidomic methods for blood lipid biomarkers, *Journal of Oleo Science*, 2019, 68(6), 503-510.
33. *Gunash, J., *Aristizabal-Henao, J.J., Stark, K.D. Quantitating fatty acids in dried blood spots on a common collection card versus a novel wicking device. *Prostaglandins, Leukotrienes and Essential Fatty Acids*, 2019, 145, 1-6.
34. Teisen, M.N., Niclasen, J., Vuholm, S., Lundbye-Jensen, J., Stark, K.D., Damsgaard, C.T., Geertsen, S.S., Lauritzen, L. Exploring correlations between neuropsychological measures and domain-specific consistency in associations with n-3 LCPUFA status in 8-9 year-old boys and girls. *PLoS One*, 2019, 14 (5), e0216696 (26p)
35. Seneviratne, A., Xu, M., *Aristizabal Henao, J.J., Fajardo, V.A., Hao, Z., Voisin, V., Xu, G.W., Hurren, R., Kim, S., MacLean, N., Wang, X., Gronda, M., Jeyaraju, D., Jitkova, Y., Ketela, T., Mullokandov, M., Sharon, D., Thomas, G., Chouinard-Watkins, R., Hawle, J., Schafer, C., Loo, H., Khuchua, Z., Aman, A., Rima Al-awar, R., Gross, A., Claypool, S.M., Bazinet, R.P., Lupien, M., Chan, S., De Carvalho, D., Minden, M.D., Bader, G.D., Stark, K.D., LeBlanc, P., Schimmer, A.D. The mitochondrial transacylase, Tafazzin, regulates AML stemness and differentiation by modulating intracellular levels of phospholipids, *Cell Stem Cell*, 2019, 24 (4), 621-636.e16.
36. Metherel, A.H., Irfan, M., Chouinard-Watkins, R., Trépanier, M.O., Stark, K.D., Bazinet, R.P. DHA cycling halves the DHA supplementation needed to maintain blood and tissue concentrations via higher synthesis from ALA in Long-Evans rats. *Journal of Nutrition*, 2019, 149, 4, 586-595.
37. Bruun, S., van Rossem, L., Lauritzen, L., Husby, S., Neergaard Jacobsen, L., Michaelsen, K.F., Boysen Sandberg, M., Stark, K., Sørensen, J., Zachariassen, G. Content of n-3 LC-PUFA in breast milk four months postpartum is associated with infancy blood pressure in boys and infancy blood lipid profile in girls. *Nutrients*, 2019, 11, 235, 1-16.

38. Ratelle, M., Skinner, K., Laird, M.J., Majowicz, S.E., Brandow, D., Packull-McCormick, S., Bouchard, M., Dieme, D., Stark, K.D., *Aristizabal Henao, J.J., Kornobis, K.M., Hanning, R.M., Laird, B.D. Implementation of Human Biomonitoring in the Dehcho Region of the Northwest Territories, Canada (2016-2017). *Archives of Public Health*, 2018, 76, 73, 1-15.
39. *Lamontagne-Kam, D.M., *Chalil, A., *Aristizabal Henao, J.J., *Hogenhout, S.J., †Stark, K.D. Concentrations of docosahexaenoic acid are reduced in maternal liver, adipose, and heart in rats fed high-fat diets without docosahexaenoic acid throughout pregnancy. *Prostaglandins, Leukotrienes and Essential Fatty Acids*, 2018, 138, 30-37.
40. Lands, W.E.M., Bibus, D., Stark, K.D. Dynamic interactions of n-3 and n-6 fatty acid nutrients. *Prostaglandins, Leukotrienes and Essential Fatty Acids*, 2018, 136, 15-21.
41. Nurhasan, M., Roos, N., Skau, J.K.H., Wieringa, F.T., Friis, H., Michaelsen, K.F., Dijkhuizen, M.A., Stark, K.D., Ritz, C., Chhoun, C., Lauritzen, L. Effect of complementary food with small amounts of freshwater fish on whole blood n-3 fatty acids in Cambodian infants age 6-15 months. *Prostaglandins, Leukotrienes and Essential Fatty Acids*, 2018, 135, 92-101.
42. Metherel, A.H., Lacombe, R.J.S., *Aristizabal Henao, J.J., Morin-Rivron, D., Kitson, A.P., Hopperton, K.E., Chalil, D., Masoodi, M., Stark, K.D., Bazinet, R.P. Two weeks of docosahexaenoic acid (DHA) supplementation increases synthesis-secretion kinetics of n-3 polyunsaturated fatty acids compared to 8 weeks of DHA supplementation. *Journal of Nutritional Biochemistry*, 2018, 60, 24-34.
43. Brenna, J.T., Plourde, M., Stark, K.D., Jones, P.J., Lin, Y-H. Best practices for the design, laboratory analysis, and reporting of trials involving fatty acids, *American Journal of Clinical Nutrition*, 2018, 108 (2), 211-227.
44. *Aristizabal Henao, J.J., Bradley, R.M., Duncan, R.E., †Stark, K.D. Categorizing and qualifying nutritional lipidomic data: defining brutto, medio, genio and infinio lipid species within macro and microlipidomics. *Current Opinion in Clinical Nutrition & Metabolic Care*, 2018, 21 (5), 352-359.
45. Tang, K.L., Pilote, L., Behlouli, H., Godley, J., Ghali1, W.A., †GENESIS-PRAXY Investigators. An exploration of the subjective social status construct in patients with acute coronary syndrome. *BMC Cardiovascular Disorders*, 2018, 18 (1): 22.
46. Laird, M.J., *Aristizabal Henao, J.J., Reyes, E.S., Stark, K.D., Low, G., Swanson, H.K., Laird, B.D. Mercury and omega-3 fatty acid profiles of wild-harvested fish of the Dehcho Region, Northwest Territories: Contaminant risks versus nutrient value. *Science of the Total Environment*, 2018, 637-638, 1508-1517.
47. Bradley, R.M., Bloemberg, D., *Aristizabal Henao, J.J., Mitchell, A.S., Fajardo, V.A., Bellissimo, C., Mardian, E.B., Bombardier, E., Paré, M.-F., Moes, K.A., Stark, K.D., Tupling, A.R., Quadrilatero, J., Duncan, R.E. Lpaatδ/Agpat4 deficiency impairs maximal force contractility in soleus and alters fibre type in extensor digitorum longus muscle. *Biochimica et Biophysica Acta – Molecular and Cell Biology of Lipids*, 2018, 1863 (7), 700-711.
48. Ahmed, N., Smith, R.W., *Aristizabal Henao, J.J., Stark, K.D., Spagnuolo, P. Analytical method to detect and quantify avocatin B in Hass avocado seed and pulp matter. *Journal of Natural Products*, 2018, 81 (4), 818-824.
49. Babirekere-Iriso, E., Rytter, M.J.H., Namusoke, H., Mupere, E., Michaelsen, K.F., Brage, S.; Stark, K.D.; Lauritzen, L., Briend, A., Friis, H., Faurholt-Jepsen, D. Physical activity level among children recovering from severe acute malnutrition. *Tropical Medicine & International Health*, 2018, 23 (2), 156-163.
50. *Chalil, A., *Kitson, A.P., *Aristizabal Henao, J.J., *Marks, K.A., *Elzinga, J.L., *Lamontagne-Kam, *D.M.E., *Chalil, D., Badoud, F., Mutch, D.M., †Stark, K.D. PEMT, Δ6 desaturase and palmitoyldocosahexaenoyl phosphatidylcholine are increased in rats during pregnancy, *Journal of Lipid Research*, 2018, 59 (1), 123-136.
51. Lind, M.V., Lauritzen, L., Pedersen, O., Vestergaard, H., Stark, K.D., Hansen, T., Ross, A.B., Kristensen, M. Higher intake of fish and fat is associated with lower plasma s-adenosylhomocysteine: A cross-sectional study. *Nutrition Research*, 2017, 46, 78-87.
52. Bradley, R.M., Mardian, E.B., Bloemberg, D., *Aristizabal Henao, J.J., Mitchell, A.S., Marvyn, P.M., Moes, K.A., Stark, K.D., Quadrilatero, J., Duncan, R.E. Mice deficient in lysophosphatidic acid acyltransferase δ (Lpaatδ)/acylglycerophosphate acyltransferase 4 (Agpat4) have impairments in spatial learning and memory associated with reductions in NMDA and AMPA receptors, *Molecular and Cellular Biology*, 2017, 37 (22), e00245-17.

53. Field, K.M., Duncan, A.M., Keller, H.H.; Stark, K.D., Duizer, L.M., Effect of micronutrient powder addition on sensory properties of foods for older adults, *JFS: Health, Nutrition and Food*, 2017, 82 (10), 2448-2455.
54. Mardian, E.B., Bradley, R.M., *Aristizabal Henao, J.J., Marvyn, P.M., Moes, K.A., Bombardier, E., Tupling, A.R., Stark, K.D., Duncan, R.E. Agpat4/Lpaat δ deficiency highlights the molecular heterogeneity of epididymal and perirenal white adipose depots. *Journal of Lipid Research*, 2017, 58, (10), 2037-2050.
55. Yaméogo, C.W., Cichon, B., Fabiansen, C., Rytter, M.J.H., Faurholt-Jepsen, D., Stark, K.D., Briend, A., Shepherd, S., Traoré, A.F., Christensen, V.B., Michaelsen, K.F., Friis, H., Lauritzen, L. Correlates of whole-blood polyunsaturated fatty acids among young children with moderate acute malnutrition. *Nutrition Journal*. 2017, 16, (44), 1-12.
56. Lauritzen, L., Sørensen, L.B., Harsløf, L.B., Ritz, C., Stark, K.D., Astrup, A., Dyssegaard, C.C., Egelund, N., Michaelsen, K.F., Damsgaard, C.T. Mendelian randomization shows sex-specific associations between LCPUFA-related genotypes and cognitive performance in Danish schoolchildren. *American Journal of Clinical Nutrition*. 2017, 106, (1), 88-95.
57. Austin, A.W., Pelletier, R., Pilote, L., Rabi, D.M., ‡GENESIS-PRAXY Investigators. Factors associated with study completion in patients with premature acute coronary syndrome. *PLoS One*. 2017, 12(3), e0173594.
58. Khan, N.A., Daskalopoulou, S.S., Karp, I., Eisenberg, M.J., Pelletier, R., Tsadok, M.A., Dasgupta, K., Norris, C.M., Pilote, L., ‡GENESIS PRAXY Team. Sex differences in prodromal symptoms in acute coronary syndrome in patients aged 55 years or younger. *Heart*, 2017, 103 (11), 863-869.
59. Reyes, E.S., *Aristizabal Henao, J.J., Kornobis, K.M., Hanning, R.M., Majowicz, S.E., Liber, K., Stark, K.D., Lowe, G., Swanson, H.K., Laird, B.D. Associations between omega-3 fatty acids, selenium content, and mercury levels in wild-harvested fish from the Dehcho Region, Northwest Territories, Canada. *Journal of Toxicology and Environmental Health, Part A*. 2017, 80 (1) 18-31.
60. Lauritzen, L., Eriksen, S.E., Hjorth, M.F., Nielsen, M.S., Olsen, S.F., Stark, K.D., Michaelsen, K.F., Damsgaard, C.T. Maternal fish oil supplementation during lactation is associated with reduced height at 13 years of age and higher blood pressure in boys only. *British Journal of Nutrition*. 2016, 116 (12), 2082-2090.
61. Bisgaard, H., Stokholm, J., Chawes, B.L., Vissing, N.H., Bjarnadóttir, E., Schoos, A.M., Wolsk, H.M., Pedersen, T.M., Vinding, R., Thorsteinsdóttir, S., Følsgaard, N., Fink, N.R., Thorsen, J., Pedersen, A.G., Waage, J., Rasmussen, M.A., Stark, K.D., Olsen, S.F., Bønnelykke, K. Fish oil derived fatty acids in pregnancy and persistent wheeze and asthma, *New England Journal of Medicine* 2016, 375 (12), 2530-2539.
62. Pelletier, R., Choi, J., Winters, N., Eisenberg, M.J., Bacon, S.L., Cox, J., Daskalopoulou, S.S., Lavoie, K.L., Karp, I., Shimony, A., So, D., Thanassoulis, G., Pilote, L.; ‡GENESIS-PRAXY Investigators. Sex differences in clinical outcomes after premature acute coronary syndrome. *Canadian Journal of Cardiology*. 2016, 32 (12), 1447-1453.
63. *Aristizabal Henao, J.J., *Metherel, A.H., Smith, R.W. †Stark, K.D. Tailored extraction procedure is required to ensure recovery of the main lipid classes in whole blood when profiling the lipidome of dried blood spots. *Analytical Chemistry* 2016, 88 (19), 9391-9396.
64. Bradley, R.M., Stark, K.D., Duncan, R.E. Influence of tissue, diet, and enzymatic remodeling on fatty acyl profiles of cardiolipin expression. *Molecular Nutrition & Food Research* 2016, 60 (8), 1804-1818.
65. Damsgaard, C.T., Ritz, C., Dalskov, S.-T., Landberg, R., Stark, K.D., Biloft-Jensen, A., Tetens, I., Astrup, A., Michaelsen, K.F., Lauritzen, L. Associations between school meal-induced dietary changes and metabolic syndrome markers in 8-11-year-old Danish children. *European Journal of Nutrition* 2016, 55, 1973-1984.
66. Hindieh, W., Pilote, L., Cheema, A., Al-Lawati, H., Labos, C., Dufresne, L., Engert, J.C., Thanassoulis, G.; ‡PRAXY Investigators. Association between family history, a genetic risk score, and severity of coronary artery disease in patients with premature acute coronary syndromes. *Arteriosclerosis, Thrombosis, and Vascular Biology* 2016, 36, 1286-1292.
67. Lam, I.T.Y., Keller, H.H., Duizer, L.M., Stark, K.D., Duncan, A.M. Micronutrient food fortification for residential care: A scoping review of current interventions. *Journal of the American Medical Directors Association* 2016, 17, 588-595.

68. †Stark, K.D., Van Elswyk, M.E., Higgins, M.R., Weatherford, C.A., Salem, N. Jr. Global survey of the omega-3 fatty acids, docosahexaenoic acid and eicosapentaenoic acid in the blood stream of healthy adults. *Progress in Lipid Research* 2016, 63, 132-152.
69. Babirekere-Iriso, E., Mortensen, C.G., Mupere, E., Rytter, M.J.H., Namusoke, H., Michaelsen, K.F., Briend, A., Stark, K.D., Friis, H., Lauritzen, L. Changes in whole blood polyunsaturated fatty acids and their predictors during recovery from severe acute malnutrition. *British Journal of Nutrition*. 2016, 115, 1730-1739.
70. *Marks, K.A., Marvyn, P.M., *Aristizabal Henao, J.J., Bradley, R.M., Stark, K.D., Duncan, R.E. Data on the phospholipid fatty acyl composition of retroperitoneal white adipose tissue in ad libitum fed and fasted mice. *Data in Brief*. 2016, 7, 452-456.
71. Babirekere-Iriso, E., Lauritzen, L., Mortensen, C.G., Rytter, M.J.H., Mupere, E., Namusoke, H., Michaelsen, K.F., Briend, A., Stark, K.D., *Metherel, A.H., Friis, H. Essential fatty acid composition and correlates in children with severe acute malnutrition. *Clinical Nutrition ESPN*. 2016, 11, e40-e46.
72. Pelletier, R., Khan, N.A., Cox, J., Daskalopoulou, S.S., Eisenberg, M.J., Bacon, S.L., Lavoie, K.L., Daskupta, K., Rabi, D., Humphries, K.H., Norris, C.M., Thanassoulis, G., Behloul, H., Pilote, L.; ‡GENESIS-PRAXY Investigators. Sex versus gender-related characteristics: Which predicts outcome after acute coronary syndrome in the young? *Journal of the American College of Cardiology*. 2016, 67, 127-35.
73. Ralston, J.C., *Metherel, A.H., Stark, K.D., Mutch, D.M. SCD1 mediates the influence of exogenous saturated and monounsaturated fatty acids in adipocytes: Effects on cellular stress, inflammatory markers, and fatty acid elongation. *Journal of Nutritional Biochemistry*, 2016, 27, 241-248.
74. *Metherel, A.M., †Stark, K.D. The stability of blood fatty acids during storage and potential mechanisms of degradation: a review. *Prostaglandins, Leukotrienes and Essential Fatty Acids*, 2016, 104, 33-43.
75. †Stark, K.D. *Aristizabal Henao, J.J., *Metherel, A.M., Pilote, L. Translating plasma and whole blood fatty acid compositional data into the sum of eicosapentaenoic and docosahexaenoic acid in erythrocytes. *Prostaglandins, Leukotrienes and Essential Fatty Acids*, 2016, 104, 1-10.
76. Leung Yinko, S.S., Pelletier, R., Behloul, H., Bacon, S.L., Karp, I., Thanassoulis, G., Daskalopoulou, S.S., Eisenberg, M.J., Khan, N.A., Lavoie, K.L., Pilote, L., ‡GENESIS-PRAXY Investigators. Potential factors associated with fruit and vegetable intake after premature acute coronary syndrome: a prospective cohort study. *International Journal of Food Science and Nutrition*, 2015, 66 (8), 943-949.
77. *Patterson, A.C., *Chalil, A., *Aristizabal Henao, J.J., *Streit, I.T., †Stark, K.D. Omega-3 polyunsaturated fatty acid blood biomarkers in men and women after tightly controlled intakes of 0.25, 0.5 and 1g/d of EPA + DHA. *Nutrition Research* 2015, 35, 1040-1051.
78. *Kitson, A.P., *Marks, K.A., *Aristizabal Henao, J.J., Tupling, A.R., †Stark, K.D. Prevention of hyperphagia reduces ovariectomy-induced triacylglycerol accumulation in liver but not plasma. *Nutrition Research* 2015, 35, 1085-1094.
79. Sørensen, L.B., Damsgaard, C.T., Dalskov, S.-T., Petersen, R.A., Egelund, N., Dyssegaard, C.B., Stark, K.D., Andersen, R., Tetens, I., Astrup, A., Michaelsen, K.F., Lauritzen, L. Diet induced changes in iron and n-3 fatty acid status and associations with cognitive performance in 8-11 year-old Danish children. Secondary analyses of the Optimal Well-Being, Development and Health for Danish Children through a Healthy New Nordic Diet School Meal Study. *British Journal of Nutrition*, 2015, 114, 1623-1637.
80. Fajardo, V.A., Bombardier, E., Tran, K., *Metherel, A.H., Irvine, T., Holloway, G.P., Green, H.J., Stark, K.D., Tupling, A.R. Sarcoplasmic reticulum phospholipid fatty acid composition and sarcoplipin content in rat skeletal muscle. *Journal of Membrane Biology*, 2015, 248, 1089-1096.
81. Bradley, R.M., Marvyn, P.M., *Aristizabal Henao, J.J., Mardian, E.B., George, S., Aucoin, M.G., Stark, K.D., Duncan, R.E. Acylglycerophosphate acyltransferase 4 (AGPAT4) is a mitochondrial lysophosphatidic acid acyltransferase that regulates brain phosphatidylcholine, phosphatidylethanolamine, and phosphatidylinositol levels. *BBA - Molecular and Cell Biology of Lipids*, 2015, 1851 (12), 1566-1576.
82. *Marks, K.A., Marvyn, P.M., *Aristizabal Henao, J.J., Bradley, R.M., Stark, K.D., Duncan, R.E. Fasting enriches liver triacylglycerol with n-3 polyunsaturated fatty acids: Implications for understanding the adipose-liver axis in serum docosahexaenoic acid regulation. *Genes and Nutrition*, 2015, 10 (6), 39.

83. Leung Yinko, S.S., Maheswaran, J., Pelletier, R., Bacon, S.L., Daskalopoulou, S.S., Khan, N.A., Eisenberg, M.J., Karp, I., Lavoie, K.L., Behloul, H., Pilote, L., [‡]GENESIS-PRAXY Investigators. Sex differences in health behavior change after premature acute coronary syndrome. *American Heart Journal*, 2015, 170 (2), 242-248.
84. ^{*}Metherel, A.H., ^{*}Aristizabal Henao, J.J., Ciobanu, C., Taha, A.Y., [†]Stark, K.D. Microwave energy increases fatty acid methyl ester yield in human whole blood due to increased sphingomyelin transesterification, *Lipids*, 2015, 50 (9), 895-905.
85. Biloft-Jensen, A., Damsgaard, C.T., Andersen, R., Ygil, K.H., Andersen, E.W., Ege, M., Christensen, T., Sørensen, L.B., Stark, K.D., Tetens, I., Thorsen, A.-V. Accuracy of self-reported intake of signature foods in a school meal intervention study: Comparison between control and intervention period. *British Journal of Nutrition*, 2015, 114, 635-644.
86. Keller, H., Beck, A.M., Namasivayam, A., [‡]the I-DINE Consortium. Improving Food and Fluid Intake for Older Adults Living in Long-Term Care: A Research Agenda. *Journal of the American Medical Directors Association*, 2015, 16 (2), 93-100.
87. Lam, I.T.Y., Keller, H.H., Duizer, L.M., Stark, K.D., Duncan, A.M. Nothing Ventured, Nothing Gained: Acceptability Testing of Micronutrient Fortification in Long-Term Care. *Journal of Nursing Home Research*, 2015, 1, 18-27.
88. Lam, I.T.Y., Keller, H.H., Duizer, L.M., Stark, K.D. Micronutrients on the Menu: Enhancing the quality of food in Long-Term Care for regular, nontherapeutic menus. *Canadian Journal of Dietetic Practice and Research*, 2015, 76(2), 86-92.
89. Nurhasan, M., Roos, N., ^{*}Aristizabal Henao, J.J., Chamnan, C., Stark, K.D., Lauritzen, L. Effect of storage temperature in a Cambodian field setting on the fatty acid composition in whole blood. *Prostaglandins, Leukotrienes and Essential Fatty Acids*, 2015, 96, 57-61.
90. Fajardo, V.A., Bombardier, E., Irvine, T., ^{*}Metherel, A.H., Duhamel, T., Holloway, G.P., Rush, J.W.E., Green, H.J., Stark, K.D., Tupling, A.R. Dietary docosahexaenoic acid supplementation reduces SERCA Ca²⁺ transport efficiency in rat skeletal muscle. *Chemistry and Physics of Lipids*. 2015, 187, 56-61.
91. ^{*}Metherel, A.H., [†]Stark, K.D. Cryopreservation prevents iron-initiated HUFA loss during storage of blood on chromatography paper at -20°C. *Journal of Nutrition*. 2015, 145, 654-660.
92. Bjerg, A.T., Kristensen, M., Ritz, C., Stark, K.D., Holst, J.J., Leser, T.D., Wellejus, A., Astrup, A. Four weeks supplementation with *Lactobacillus paracasei* subsp *paracasei* L. casei W8 ® shows modest effect on triacylglycerol in young healthy adults. *Beneficial Microbes* 2015, 6, 29-29.
93. Leung Yinko, S.S., Pelletier, R., Behloul, H., Norris, C.M., Humphries, K.H., Pilote, L., [‡]GENESIS-PRAXY investigators. Health-related quality of life in premature acute coronary syndrome: does patient sex or gender really matter? *Journal of the American Heart Association*, 2014, 3(4), e000901.
94. Leung Yinko, S.S.L., Thanassoulis, G., Stark, K.D., Engert, J.C., Pilote, L., GENESIS-PRAXY Investigators. Omega-3 fatty acids and the genetic risk of early onset acute coronary syndrome. *Nutrition, Metabolism & Cardiovascular Diseases* 2014, 24, 1234-1239.
95. Pelletier, R., Humphries, K.H., Shimony, A., Bacon, S.L., Lavoie, K.L., Rabi, D., Karp, I., Tsadok, M.A., Pilote, L., [‡]GENESIS-PRAXY Investigators. Sex-related differences in access to care among patients with premature acute coronary syndrome. *Canadian Medical Association Journal*, 2014, 186(7), 497-504.
96. Pelletier, R., Lavoie, K.L., Bacon, S.L., Thanassoulis, G., Khan, N.A., Pilote, L., [‡]GENESIS-PRAXY Investigators. Depression and disease severity in patients with premature acute coronary syndrome. *The American Journal of Medicine*, 2014, 127(1):87-93.
97. Choi, J., Daskalopoulou, S.S., Thanassoulis, G., Karp, I., Pelletier, R., Behloul, H., Pilote, L., [‡]GENESIS-PRAXY Investigators. Sex- and gender-related risk factor burden in patients with premature acute coronary syndrome. *Canadian Journal of Cardiology*, 2014, 30(1), 109-117.
98. Damsgaard, C.T., Eidner, M.B., Stark, K.D., Hjorth, M.F., Sjödin, A., Andersen, M.R., Andersen, R., Astrup, A., Michaelsen, K.F., Lauritzen, L. Eicosapentaenoic acid and docosahexaenoic acid in whole blood are differentially and sex-specifically associated with cardio-metabolic risk markers in 8-11-year old Danish children. *PLOS ONE* 2014, 9(10): e109368, 1-9
99. Leung Yinko, S.S.L., Stark, K.D., Thanassoulis, G., Pilote, L. Fish consumption and acute coronary syndrome: A meta-analysis. *The American Journal of Medicine* 2014, 127, 848-857. "Awarded the *Andrée Beaulieu-Price award for best article in a scientific journal by a member of the Professional College of Dietitians of Québec.*"

100. Button, E.B., Mitchell, A.S., Domingos, M.M., Chung, J.H-J., Bradley, R.M., Hashemi, A., Marvyn, P.M., Patterson, A.C., Stark, K.D., Quadrilatero, J., Duncan, R.E. Microglial cell activation increases saturated and decreases monounsaturated fatty acid content, but both lipid species are proinflammatory. *Lipids*, 2014, 49, 305-316.
101. *Patterson, A.C., *Metherel, A.H., Hanning, R.M., †Stark, K.D. The percentage of DHA in erythrocytes can detect non-adherence to advice to increase EPA and DHA intake. *British Journal of Nutrition*, 2014, 111, 270-278.
102. Poulsen, S.K., Due, A.P., Jordy, A.B., Kiens, B., Stark, K.D., Stender, S., Holst, C., Astrup, A., Larsen, T.M. Health effect of the New Nordic Diet in adults with increased waist circumference: a 6-mo randomized controlled trial. *American Journal of Clinical Nutrition*, 2014, 99, 35-45.
103. *Metherel, A.H., *Aristizabal Henao, J.J., †Stark, K.D. EPA and DHA levels in whole blood decrease more rapidly when stored at -20°C as compared with room temperature, 4°C and -75°C. *Lipids*, 2013, 48, 1079-1091.
104. Khan, N.A., Daskalopoulou, S.S., Karp, I., Eisenberg, M.J., Pelletier, R., Tsadok, M.A., Dasgupta, K., Norris, C.M., Pilote, L., †GENESIS-PRAXY Investigators. Sex differences in acute coronary syndrome symptom presentation in young patients. *JAMA Internal Medicine*, 2013, 173 (20), 1863-1871.
105. Carlsen, K., Pedersen, L., Bønnelykke, K., Stark, K.D., Lauritzen, L., Bisgaard, H. Association between whole blood polyunsaturated fatty acids in pregnant women and early fetal weight. *European Journal of Clinical Nutrition*, 2013, 67, 978-983.
106. Damsgaard, C.T., Stark, K.D., Hjorth, M.F., Biloft-Jensen, A.P., Astrup, A., Michaelsen, K.F., Lauritzen, L. N-3 PUFA status in school children is associated with beneficial lipid profile, reduced physical activity and increased blood pressure in boys. *British Journal of Nutrition*, 2013, 110, 1304-1312.
107. *Marks, K.A., *Kitson, A.P., Shaw, B., Mutch, D.M., †Stark, K.D. Stearoyl-CoA desaturase 1, elongase 6 and their fatty acid products and precursors are altered in ovariectomized rats with 17β-estradiol and progesterone treatment. *Prostaglandins, Leukotrienes and Essential Fatty Acids*, 2013, 89, 89-96.
108. *Kitson, A.P., *Marks, K.A., Shaw, B., Mutch, D.M., †Stark, K.D. Treatment of ovariectomized rats with 17β-estradiol increases hepatic delta-6 desaturase enzyme expression and docosahexaenoic acid levels in hepatic and plasma phospholipids. *Prostaglandins, Leukotrienes and Essential Fatty Acids*, 2013, 89, 81-88.
109. *Marks, K.A., *Kitson, A.P., †Stark, K.D. Hepatic and plasma sex differences in saturated and monounsaturated fatty acids is associated with differences in expression of elongase 6, but not stearoyl-CoA desaturase in Sprague-Dawley rats. *Genes and Nutrition*, 2013, 8, 317-327.
110. *Metherel, A.H., *Hogg, R.C., *Buzikievich, L.M., †Stark, K.D. Butylated hydroxytoluene can protect polyunsaturated fatty acids in dried blood spots from degradation for up to 8 weeks at room temperature. *Lipids in Health and Disease* 2013, 12, 22.
111. *Kitson, A.P., *Smith, T.L., *Marks, K.A., †Stark, K.D. Tissue-specific sex differences in docosahexaenoic acid and Δ6-desaturase in rats fed a standard chow diet. *Applied Physiology, Nutrition and Metabolism*, 2012, 37, 1200-1211.
112. *Metherel, A.H., *Buzikievich, L.M., *Charkhzarin, P., *Patterson, A.C., *Peel, A.C., *Howorth, A.M., *Kishi, D.M., †Stark, K.D. Omega-3 polyunsaturated fatty acid profiling using fingertip-prick whole blood does not require overnight fasting before blood collection. *Nutrition Research*, 2012, 32, 547-556.
113. *Zuñiga, P.K., *Ciobanu, F.A., Nuñeza, O.M., †Stark, K.D. The use of direct transesterification methods and autoclaving for determining fatty acid yields from dried Philippine thraustochytrids, a potential source of docosahexaenoic acid. *Journal of Functional Foods*, 2012, 4, 915-923.
114. *Kitson, A.P., Stark, K.D., Duncan, R.E. Enzymes in brain phospholipid docosahexaenoic acid accretion: A PL-ethora of potential PL-ayers. *Prostaglandins, Leukotrienes and Essential Fatty Acids*, 2012, 87, 1-10.
115. †Stark, K.D., *Patterson, A.C. EPA and DHA - Protein, not fat is "where it's at"? *Prostaglandins, Leukotrienes and Essential Fatty Acids*, 2012, 87, 49-51.
116. *Patterson, A.C., *Hogg, R.C., *Kishi, D.M., †Stark, K.D. Biomarker and dietary validation of a Canadian food frequency questionnaire to measure eicosapentaenoic and docosahexaenoic acid

- intakes from whole food, functional food and nutraceutical sources. *Journal of the Academy of Nutrition and Dietetics*, 2012, 112, 1005-1014.
117. Taha, A.Y., *Metherel, A.H., †Stark, K.D. Comparative analysis of standardized and common modifications of methods for lipid extraction for the determination of fatty acids. *Food Chemistry*, 2012, 134, 427-433.
 118. *Kitson, A.P., *Stroud, C.K., †Stark, K.D. Elevated production of docosahexaenoic acid in females: Potential molecular mechanisms. *Lipids*, 2010, 45, 209-224.
 119. *Metherel, A.H., Taha, A.Y., *Izadi, H., †Stark, K.D. The application of ultrasound energy to increase lipid extraction throughput of solid matrix samples (flaxseed). *Prostaglandins, Leukotrienes and Essential Fatty Acids*, 2009, 81, 417-423.
 120. *Metherel, A.H., *Armstrong, J.M., *Patterson, A.C., †Stark, K.D. Assessment of blood measures of n-3 polyunsaturated fatty acids with acute fish oil supplementation and washout in men and women. *Prostaglandins, Leukotrienes and Essential Fatty Acids*, 2009, 81, 23-29.
 121. *Kitson, A.P., *Patterson, A.C., *Izadi, H., †Stark, K.D. Pan-frying salmon in an eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA) enriched margarine prevents EPA and DHA loss. *Food Chemistry*, 2009, 114, 927-932.
 122. *Fratesi, J.A., *Hogg, R.C., *Young-Newton, G.S., *Patterson, A.C., *Charkhazarin, P., Block Thomas, K., Sharratt, M.T., †Stark, K.D. Direct quantitation of omega-3 fatty acid intakes of Canadian residents of a long-term care facility. *Applied Physiology, Nutrition and Metabolism*, 2009, 34, 1-9.
 123. *Patterson, A.C., †Stark, K.D. Direct determinations of the fatty acid composition of daily dietary intakes incorporating nutraceuticals and functional food strategies to increase n-3 highly unsaturated fatty acids. *Journal of the American College of Nutrition*, 2008, 27, 538-546.
 124. †Stark, K.D. Analytical implications of routine clinical testing for omega-3 fatty acid biomarkers. *Lipid Technology*, 2008, 20, 177-179.
 125. *Armstrong, J.M., *Metherel, A.H., †Stark, K.D. Direct microwave transesterification of fingertip prick blood samples for fatty acid determinations. *Lipids*, 2008, 43, 187-196.
 126. †Stark, K.D. The percentage of n-3 highly unsaturated fatty acids (HUFA) in total HUFA as a biomarker for omega-3 fatty acid status. *Lipids*, 2008, 43, 45-53.
 127. Stark, K.D., Lim, S.Y. Salem, N., Jr. Artificial rearing with docosahexaenoic acid and n-6 docosapentaenoic acid alters rat tissue fatty acid composition. *Journal of Lipid Research*, 2007, 48, 2471-2477.
 128. †Stark, K.D., Lim, S.Y. Salem, N., Jr. Docosahexaenoic acid and n-6 docosapentaenoic acid supplementation alter skeletal muscle fatty acid composition. *Lipids in Health and Disease*, 2007, 6, 13.
 129. †Stark, K.D., Pawlosky, R.J., Sokol, R.J., Hannigan, J.H. Salem, N., Jr. Maternal smoking is associated with decreased 5-methyltetrahydrofolate in cord plasma. *American Journal of Clinical Nutrition*, 2007, 85, 796-802.
 130. Masood, Md. A., Stark, K.D. Salem, N., Jr. A simplified and efficient method for the analysis of fatty acid methyl esters suitable for large clinical studies. *Journal of Lipid Research*, 2005, 46, 2299-2305.
 131. †Stark, K.D., Salem, N., Jr. Fast gas chromatography for the identification of fatty acid methyl esters from mammalian samples. *Lipid Technology*, 2005, 17, 181-185.
 132. Lim, S.Y., Doherty, J.D., McBride, K., Miller-Ihli, N.J., Carmona, G.N., Stark, K.D. Salem, N., Jr. Lead exposure and (n-3) fatty acid deficiency during rat neonatal development affect subsequent spatial task and olfactory discrimination performance. *Journal of Nutrition*, 2005, 135, 1019-1026.
 133. Stark, K.D., Beblo, S., Murthy, M., Buda-Abela, M., Janisse, J., Rockett, H., Whitty, J.E., Martier, S.S., Sokol, R.J., Hannigan, J.H., Salem, N., Jr. Comparison of bloodstream fatty acid composition from African-American women at gestation, delivery and postpartum. *Journal of Lipid Research*, 2005, 46, 516-525.
 134. Stark, K.D., Pawlosky, R.J., Beblo, S., Murthy, M., Flanagan, V.P., Janisse, J., Buda-Abela, M., Rockett, H., Whitty, J.E., Sokol, R.J., Hannigan, J.H., Salem, N., Jr. Status of plasma folate after folic acid fortification of the food supply in pregnant African American women and the influences of diet, smoking, and alcohol consumption. *American Journal of Clinical Nutrition*, 2005, 81, 669-677.
 135. Beblo, S., Stark, K.D., Murthy, M., Janisse, J., Rockett, H., Whitty, J.E., Buda-Abela, M., Martier, S.S., Sokol, R.J., Hannigan, J.H., Salem, N., Jr. Effects of alcohol intake during pregnancy on docosahexaenoic acid and arachidonic acid in umbilical cord vessels in African-American women. *Pediatrics*. 2005, 115, e194-e203.

136. Denomme, J., Stark, K.D., Holub, B.J. Directly quantitated dietary (n-3) fatty acid intakes of pregnant Canadian women are lower than current dietary recommendations. *Journal of Nutrition*, 2005, 135, 206-211.
137. Stark, K.D., Beblo, S., Murthy, M., Janisse, J., Rockett, H., Whitty, J.E., Buda-Abela, M., Martier, S.S., Sokol, R.J., Hannigan, J.H., Salem, N., Jr. Alcohol consumption in pregnant, black women is associated with decreased plasma and erythrocyte docosahexaenoic acid. *Alcoholism: Clinical and Experimental Research*, 2005, 29, 130-140.
138. Foley, J.M., Stark, K.D., Zajchowski, S., Meckling, K.A. Fatty acids and exercise affect glucose transport but not tumor growth and in F-344 Rats. *Canadian Journal of Applied Physiology*, 2004, 29, 604-622.
139. Stark, K.D., Holub, B.J. Differential eicosapentaenoic acid elevations and altered cardiovascular disease risk factor responses upon supplementation with docosahexaenoic acid in postmenopausal women receiving and not receiving hormone replacement therapy. *American Journal of Clinical Nutrition*, 2004, 79, 765-773.
140. Stark, K.D., Park, E.J., Holub, B.J. Fatty acid composition of serum phospholipid of premenopausal women and postmenopausal women receiving and not receiving hormone replacement therapy. *Menopause*, 2003, 10, 448-455.
141. Stark, K.D., Mulvad, G., Pedersen, H.S., Park, E.J., Dewailly, E., Holub, B.J. Fatty acid compositions of serum phospholipids of postmenopausal women: a comparison between Greenland Inuit and Canadians before and after supplementation with fish oil. *Nutrition*, 2002, 18, 627-630.
142. Stark, K.D., Park, E.J., Maines, V.A., Holub, B.J. Effect of a fish-oil concentrate on serum lipids in postmenopausal women receiving and not receiving hormone replacement therapy in a placebo-controlled, double-blind trial. *American Journal of Clinical Nutrition*, 2000, 72, 389-394.

b) Refereed Conference Proceedings:

1. Holmegaard, F., Eilersen, A.G., Toft, U., Stark, K., Mølgaard, C., Lauritzen, L., Damsgaard, C.T. The diet of Danish school children – new data on intake, nutrient status, and social inequality. June 17-19, 2024, Bergen, Norway. The 13th Nordic Nutrition Conference. *Norsk tidsskrift for ernæring*. 2024, 22 (5), 21.
2. Chen, C.T., Jung, Y.W., Gohel, C., Haven, S.E., Lecaj, L., Schuebel, K., Wilhite, B., Aristizabal-Henao, J.J., Stark, K.D., Hibbeln, J.R., Goldman, D. Lowering dietary n-6 PUFA attenuated alcohol-associated alterations in the gut-liver axis and reduced alcohol consumption in mouse. The 45th Annual Scientific Meeting of the Research Society on Alcoholism, Orlando, FL, June 25 - 29, 2022. *Alcoholism: Clinical and Experimental Research*, 2022, 46 (S1), 18A.
3. Chan, J.Z., Bradley, R.M., Aristizabal-Henao, J.J., Stark, K.D., Groh, M., Sciaini, G., Duncan, R.E. Effects of N-oleoylethanolamide on lymphoblasts deficient in Tafazzin. *Experimental Biology* 2021, Virtual, April 27-30, 2021. *FASEB Journal*, 2021, 35(S1) (Meeting Abstract Supplement), <https://doi.org/10.1096/fasebj.2021.35.S1.03601>.
4. Aristizabal-Henao, J.J., Biloft-Jensen, A.P., Stark, K.D. Macrolipidomic profiling of human whole blood for the discovery of novel biomarkers of omega-3 polyunsaturated fatty acid intake. Canadian Nutrition Society Annual Scientific Meeting, Niagara Falls, ON, May 2-4, 2019. *Applied Physiology, Nutrition, and Metabolism*, 2019, 44, (4) S3.
5. Bai, L., Yu, T., Aristizabal-Henao, J.J., Stark, K.D. Fatty acid composition and macrolipidomics analysis of ten plant based oils. Canadian Nutrition Society Annual Scientific Meeting, Niagara Falls, ON, May 2-4, 2019. *Applied Physiology, Nutrition, and Metabolism*, 2019, 44, (4) S5.
6. Chalil, D., Stark, K.D. An observation of a high incidence of mastitis in rat dams fed a total western diet high in fat. Canadian Nutrition Society Annual Scientific Meeting, Niagara Falls, ON, May 2-4, 2019. *Applied Physiology, Nutrition, and Metabolism*, 2019, 44, (4) S10.
7. Gunash, J., Chalil, D., Stark, K.D. Direct transesterification of dried erythrocytes can reduce fatty acid analytical burden. Canadian Nutrition Society Annual Scientific Meeting, Niagara Falls, ON, May 2-4, 2019. *Applied Physiology, Nutrition, and Metabolism*, 2019, 44, (4) S18.
8. Yu, T., Bai, L., Aristizabal-Henao, J.J., Stark, K.D. Food macrolipidomics: Not all fats in a breakfast sandwich are triacylglycerols Canadian Nutrition Society Annual Scientific Meeting, Niagara Falls, ON, May 2-4, 2019. *Applied Physiology, Nutrition, and Metabolism*, 2019, 44, (4) S54.
9. Metherel, A.H., Lacombe, R.J.S., Kitson, A.P., Hopperton, K.E., *Chalil, D., Stark, K.D., Bazinet, R.P. Acute dietary DHA intake increases omega-3 polyunsaturated fatty acid synthesis-secretion kinetics

- from alpha-linolenic acid. Canadian Nutrition Society Annual Scientific Meeting, Halifax, NS, May 3-5, 2018. *Applied Physiology, Nutrition, and Metabolism*, 2018, 43 (4) S26.
10. *Gunash, J., *Aristizabal Henao, J.J., †Stark, K.D. Palmitic and stearic free fatty acids are consistently found in materials used for dried blood spot collection. *Experimental Biology* 2017, Chicago, IL, April 22-26, 2017. *FASEB Journal*, 2017, 31, (Meeting Abstract Supplement), 955.13.
 11. *Chalil, D., *Chalil, A., †Stark, K.D. Decreased phospholipid remodelling may increase DHA bioavailability in maternal blood during pregnancy. *Experimental Biology* 2017, Chicago, IL, April 22-26, 2017. *FASEB Journal*, 2017, 31, (Meeting Abstract Supplement), 960.9.
 12. Bradley, R.M., Bloemberg, D., Mitchell, A.S., Fajardo, V.A., *Aristizabal Henao, J.J., Bellissimo, C., Mardian, E.B., Paré, M.F., Bombardier, E., Moes, K., Tupling, A.R., Quadrilatero, J., Stark, K.D., Duncan, R.E.. Investigation of a role for AGPAT4 in mouse skeletal muscle. *Experimental Biology* 2017, Chicago, IL, April 22-26, 2017. *FASEB Journal*, 2017, 31, (Meeting Abstract Supplement), 781.13.
 13. Ralston, J.C., *Metherel, A.H., Stark, K.D., Mutch, D.M. SCD1 inhibition modifies fatty acid regulation of adipocyte inflammation and lipid content. *Experimental Biology* 2015, Boston, MA, March 28-April 1, 2015. *FASEB Journal*, 2015, 29, (Meeting Abstract Supplement), 743.4.
 14. *Streit, I.T., Rush, J. W. E., †Stark, K.D. A single dose of DHA causes heart contractile deficits and decreased susceptibility to myocardial ischemia-reperfusion injury after 24 hours. Canadian Nutrition Society Annual Scientific Meeting, St. John's, NL, June 5-7, 2014. *Applied Physiology, Nutrition, and Metabolism*, 2014, 39 (5) 638.
 15. Leung Yinko, S.S.L., Thanassoulis, G., Stark, K.D., Pilote, L. Fish consumption and acute coronary syndrome: A meta-analysis, March 18-21, 2014, San Francisco, CA. American Heart Association EPI/NPAM 2014, *Circulation*, 2014, 129, AMP65.
 16. Leung Yinko, S.S.L., Engert, J.C., Thanassoulis, G., Stark, K.D., Avgil Tsadok, M., Pilote, L. Omega-3 fatty acids modify the genetic risk of early onset acute coronary syndrome, March 18-21, 2014, San Francisco, CA. American Heart Association EPI/NPAM 2014, *Circulation*, 2014, 129, AP414.
 17. Sørensen, L.B., Lauritzen, L., Egelund, N., Dyssegaard, C.B., Stine-Mathilde Dalskov, S-M., Petersen, R.A., Laursen, R.P., Stark, K.D., Ritz, C. Astrup, A., Damsgaard, C.T., Michaelsen, K.F. Increased n-3 PUFA status is associated with improved math and reading performance in the OPUS school meal study. September 15-20, 2013, Granada, Spain. IUNS 20th International Congress of Nutrition. *Annals of Nutrition and Metabolism*, 2013, 63, (suppl. 1) 227.
 18. *Kitson, A.P., *Lien, W. *Aristizabal Henao, J.J., †Stark, K.D. Food restriction of ovariectomized rats does not prevent increases in plasma triacylglycerol concentration but prevents liver triacylglycerol accumulation. Canadian Nutrition Society Annual Scientific Meeting, Quebec City, QC, May 30 – June 2, 2013. *Applied Physiology, Nutrition, and Metabolism*, 2013, 38, (4) 458.
 19. Keller, H.H., Lam, I.T.Y., Duizer, L.M., Stark, K.D. Enhancing food in long-term care: a scoping review of micronutrient deficiencies and fortification efforts in long-term care. Canadian Nutrition Society Annual Scientific Meeting, Quebec City, QC, May 30 – June 2, 2013. *Applied Physiology, Nutrition, and Metabolism*, 2013, 38, (4) 458.
 20. †Stark, K.D., *Kitson, A.P., *Marks, K.A. HepG2 $\Delta 6$ -desaturase decreases with testosterone incubation but does not change with 17 β -estradiol or progesterone. Canadian Nutrition Society 3rd Annual Scientific Meeting, Vancouver, ON, May 23 - 25, 2012. *Applied Physiology, Nutrition, and Metabolism*, 2012, 37, (3) 589.
 21. †Stark, K.D., *Marks, K.A., *Kitson, A.P. 17 β -Estradiol increases stearyl-CoA desaturase protein, palmitoleate, cis-vaccinate, and oleate content in HepG2 cells. Canadian Nutrition Society 3rd Annual Scientific Meeting, Vancouver, ON, May 23 - 25, 2012. *Applied Physiology, Nutrition, and Metabolism*, 2012, 37, (3) 590.
 22. Poulsen, S.K., Kiens, B., Due, A.P., Stark, K.D., Stender, S., Holst, C., Astrup, A., Larsen, T.M. The New Nordic Diet increases weight loss and improves blood pressure – a 6 month randomized controlled trial. European Congress on Obesity, May 9-12, 2012, Lyon, France. *Obesity Facts* 5, 2012 , (Supplement 1), 202
 23. *Patterson, A.C., *Chalil, A., *Charkhzarin, P., *Aristizabal Henao J.J., *Streit, I., *Ciobanu, F., †Stark, K.D., Do Intakes of 250-500mg/d of EPA and DHA Increase Blood Biomarkers? *Experimental Biology* 2012, San Diego, CA, April 21-25, 2012. *FASEB Journal*, 2012, 26, (Meeting Abstract Supplement), 646.24.

24. *Chalil, A., *Patterson, A.C., †Stark, K.D. A comprehensive survey including cost assessment and dose confirmation of eicosapentaenoic acid and docosahexaenoic acid containing nutraceuticals available for retail sale in a city area. Canadian Nutrition Society 2nd Annual Scientific Meeting, Guelph, ON, June 2 - 4, 2011. *Applied Physiology, Nutrition, and Metabolism*, 2011, 36, (3) 442.
25. *Earl, E., *Kitson, A.P., †Stark, K.D. Sex differences in muscle docosahexaenoic acid are limited to certain muscle types and are associated with increased hepatic delta-6 desaturase mRNA. Canadian Nutrition Society 2nd Annual Scientific Meeting, Guelph, ON, June 2 - 4, 2011. *Applied Physiology, Nutrition, and Metabolism*, 2011, 36, (3) 447.
26. *Kishi, D.M., *Peel, A.C., *Patterson, A.C., Ilhamto, N., Duizer, L.M., †Stark, K.D. The sensory testing of microencapsulated fish oil enriched foods designed for use in food services of a retirement community. Canadian Nutrition Society 2nd Annual Scientific Meeting, Guelph, ON, June 2 - 4, 2011. *Applied Physiology, Nutrition, and Metabolism*, 2011, 36, (3) 459.
27. *Kitson, A.P., *Zuniga, P.K., *Charkhzarin, P., †Stark, K.D. Dietary thraustochytrids supplementation alters hepatic docosahexaenoic acid content and enzyme expression in mice. Canadian Nutrition Society 2nd Annual Scientific Meeting, Guelph, ON, June 2 - 4, 2011. *Applied Physiology, Nutrition, and Metabolism*, 2011, 36, (3) 459.
28. *Marks, K.A., *Kitson, A.P., and Stark, K.D. Sexual dimorphism in monounsaturated fatty acids and related transcription factors is not associated with differences in enzyme expression in rats. Canadian Nutrition Society 2nd Annual Scientific Meeting, Guelph, ON, June 2 - 4, 2011. *Applied Physiology, Nutrition, and Metabolism*, 2011, 36, (3) 466.
29. *Metherel, A.H., *Hogg, R.C., Buzkievich, L.M., †Stark, K.D. Fingertip prick whole blood samples can be stored for 8 weeks at room temperature prior to fatty acid determinations. Canadian Nutrition Society 2nd Annual Scientific Meeting, Guelph, ON, June 2 - 4, 2011. *Applied Physiology, Nutrition, and Metabolism*, 2011, 36, (3) 469.
30. *Smith, T.L., *Kitson, A.P., Levy, A.S., *Charkhzarin, P., Rush, J.W.E., †Stark, K.D. Isolated heart perfusion alters heart fatty acid concentrations and fatty acid related transport proteins in rats. Canadian Nutrition Society 2nd Annual Scientific Meeting, Guelph, ON, June 2 - 4, 2011. *Applied Physiology, Nutrition, and Metabolism*, 2011, 36, (3) 483.
31. *Charkhzarin, P., *Izadi, H., †Stark, K.D. The uptake and metabolism of ²H₅- and ¹³C-U-labelled linoleic acid in specific muscle fiber types. 14th International Biochemistry of Exercise Conference. Guelph, ON, June 1, 2009. *Applied Physiology, Nutrition, and Metabolism*, 2009, 34, (6) 1123.
32. *Patterson, A.C., *Metherel, A.H., *Smith, T.L., Hanning, R.M., †Stark, K.D. Twelve-week adherence to whole food, nutraceutical, and functional food dietary advice to increase eicosapentaenoic and docosahexaenoic acid intakes in middle-aged adults. Canadian Society for Clinical Nutrition - Canadian Society for Nutritional Sciences Annual Scientific Meeting, Quebec City, QC, May 30 - June 2, 2009. *Applied Physiology, Nutrition, and Metabolism*, 2009, 34, (3) 521.
33. *Kitson, A.P., *Patterson, A.C., *Izadi, H., †Stark, K.D. The effects of pan-frying salmon with different culinary fats including omega-3 enriched fats on eicosapentaenoic and docosahexaenoic content. Canadian Society for Clinical Nutrition - Canadian Society for Nutritional Sciences Annual Scientific Meeting, Toronto, ON, May 29 - 31, 2008. *Applied Physiology, Nutrition, and Metabolism*, 2008, 33, (3) 621.
34. *Patterson, A.C., *Hogg, R.C., Hanning, R.M., †Stark, K.D. Validation of a semi-quantitative, eicosapentaenoic acid and docosahexaenoic acid food frequency questionnaire using a fatty acid biomarker. Canadian Society for Clinical Nutrition - Canadian Society for Nutritional Sciences Annual Scientific Meeting, Toronto, ON, May 29 - 31, 2008. *Applied Physiology, Nutrition, and Metabolism*, 2008, 33, (3) 629.
35. *Charkhzarin, P., *Metherel, A.H., Tupling, A.R., †Stark, K.D. Changes in non-esterified fatty acid concentrations in response to heat stress differ in specific muscle fiber types. Canadian Society for Clinical Nutrition - Canadian Society for Nutritional Sciences Annual Scientific Meeting, Toronto, ON, May 29 - 31, 2008. *Applied Physiology, Nutrition, and Metabolism*, 2008, 33, (3) 608-609.
36. *Hogg, R.C., *Patterson, A.C., *Metherel, A.H., †Stark, K.D. Direct determinations of the eicosapentaenoic and docosahexaenoic content of various functional foods. Canadian Society for Clinical Nutrition - Canadian Society for Nutritional Sciences Annual Scientific Meeting, Toronto, ON, May 29 - 31, 2008. *Applied Physiology, Nutrition, and Metabolism*, 2008, 33, (3) 617.
37. *Izadi, H., *Charkhzarin, P., †Stark, K.D. Detection of U-¹³C 18:2n-6 in plasma and cardiac tissue of rats by negative chemical ionization gas chromatography ion trap mass spectrometry. Canadian Society

- for Clinical Nutrition - Canadian Society for Nutritional Sciences Annual Scientific Meeting, Toronto, ON, May 29 - 31, 2008. *Applied Physiology, Nutrition, and Metabolism*, 2008, 33, (3) 617.
38. *Metherel, A.H., Taha, A.Y., †Stark, K.D. Increase in total lipid extracts from flaxseed by ultrasound energy. Canadian Society for Clinical Nutrition - Canadian Society for Nutritional Sciences Annual Scientific Meeting, Toronto, ON, May 29 - 31, 2008. *Applied Physiology, Nutrition, and Metabolism*, 2008, 33, (3) 625.
 39. †Stark, K.D., *Patterson, A.C. Direct determinations of the fatty acid composition of a typical Canadian dietary intake and omega-3 enriched nutraceutical and functional food based dietary intakes. *Experimental Biology* 2007, Washington, DC, April 28 - May 2, 2007. *FASEB Journal*, 2007, 21, (5 Supplement), 533.1.
 40. *Metherel, A.H., *Armstrong, J.M., †Stark, K.D. Weekly changes in finger-tip prick blood highly unsaturated fatty acid (HUFA) composition with acute fish oil supplementation and washout in men and women. *Experimental Biology* 2007, Washington, DC, April 28 - May 2, 2007. *FASEB Journal*, 2007, 21, (5 Supplement), 541.7.
 41. Sokol, R.J., Pawlosky, R.J., Hannigan, J.H., Stark, K.D., Salem, N., Jr. Maternal smoking and decreased 5-methyltetrahydrofolate in umbilical cord plasma. Society for Maternal-Fetal Medicine 27th Annual Scientific Meeting, San Francisco, CA, February 5 - 10, 2007. *American Journal of Obstetrics and Gynecology*, 2006, 195 (6 supplement), S25.
 42. *Metherel, A.H., Stark, K.D., *Armstrong, J.M., Tupling, A.R. Effects of free fatty acids on sarcoplasmic reticulum Ca^{2+} handling properties in rat skeletal muscle. Canadian Society for Exercise Science Annual Scientific Conference, Gatineau, QC, November 9 - 12, 2005. *Canadian Journal of Applied Physiology*, 2005, 30 (Supplement), S58.
 43. Stark, K.D., Beblo, S., Murthy, M., Whitty, J.E., Buda-Abela, M., Janisse, J., Rockett, H., Martier, S.S., Sokol, R.J., Hannigan, J.H., Salem, N., Jr. Alcohol consumption in pregnant, black women is associated with decreased docosahexaenoic acid status. 28th Annual Scientific Meeting of the Research Society on Alcoholism, Santa Barbara, CA, June 25 - 29, 2005. *Alcoholism: Clinical and Experimental Research*, 2005, 29 (Supplement 1), 44A.
 44. Stark, K.D., Pawlosky, R.J., Beblo, S., Murthy, M., Flanagan, V.P., Janisse, J., Buda-Abela, M., Rockett, H., Whitty, J.E., Sokol, R.J., Hannigan, J.H., Salem, N., Jr. Status of plasma folate after folic acid fortification of food in pregnant black women and the influences of diet, smoking, and alcohol consumption. 28th Annual Scientific Meeting of the Research Society on Alcoholism, Santa Barbara, CA, June 25 - 29, 2005. *Alcoholism: Clinical and Experimental Research*, 2005, 29 (Supplement 1), 44A.
 45. †Stark, K.D., Bazinet, R.P. Blood biomarkers of n-3 fatty acid status in humans. *Experimental Biology* 2005, San Diego, CA, April 2 - 6, 2005. *FASEB Journal*, 2005, 19 (5 supplement), A974.
 46. Stark, K.D., Masood, A., Salem, N., Jr. A simplified and efficient method for the analysis of fatty acid methyl esters suitable for large clinical trials. *Experimental Biology* 2005, San Diego, CA, April 2 - 6, 2005. *FASEB Journal*, 2005, 19 (5 supplement), A1037.
 47. Stark, K.D., Beblo, S., Murthy, M., Sokol, R.J., Whitty, J.E., Buda-Abela, M., Janisse, J., Rockett, H., Hannigan, J.H., Salem, N., Jr. Effects of pregnancy and alcohol intake on fatty acid status of low social economic class African-American women. 26th Annual Scientific Meeting of the Research Society on Alcoholism, Ft. Lauderdale, FL, June 21 - 25, 2003. *Alcoholism: Clinical and Experimental Research*, 2003, 27 (5 supplement), 41A.
 48. Beblo, S., Stark, K.D., Murthy, M., Sokol, R.J., Whitty, J.E., Buda-Abela, M., Janisse, J., Rockett, H., Hannigan, J.H., Salem, N., Jr. Effect of alcohol intake during pregnancy on fetal and maternal fatty acid composition in African-American women. 26th Annual Scientific Meeting of the Research Society on Alcoholism, Ft. Lauderdale, FL, June 21 - 25, 2003. *Alcoholism: Clinical and Experimental Research*, 2003, 27 (5 supplement), 41A.

c) Book Chapters:

1. Aristizabal-Henao, J.J., Stark, K.D., Macrolipidomic Profiling of Vegetable Oils: The Analysis of Sunflower Oils with Different Oleic Acid Content. In *Plant Metabolic Engineering: Methods and Protocols. Methods in Molecular Biology Series*, vol 2396, Vladimir Shulaev, Ed, 161-173. New York, NY: Humana, 2022.
2. Stark, K.D., Omega 3 and omega 6 fatty acids. In *Handbook of Analysis of Active Compounds in Functional Foods*, LML Nollet & F Toldrá, Eds, 725-745. Boca Raton, FL: CRC Press, 2012.

d) Participation in Government Reports:

1. Schantz, M.M. Interlaboratory Analytical Comparison Study of Total Fatty Acid Concentrations in Human Serum: Results for Exercise 03: QA16FASER03 NIST Interagency/Internal Report (NISTIR) – 8146, 2016 (Participating Lab).
2. Schantz, M.M. Interlaboratory Analytical Comparison Study of Total Fatty Acid Concentrations in Human Serum: Results for Exercise 02: QA15FASER02 NIST Interagency/Internal Report (NISTIR) – 8086, 2015 (Participating Lab).
3. Schantz, M.M., Powers, C., Schleicher, R. Interlaboratory Analytical Comparison Study of Total Fatty Acid Concentrations in Human Serum: Results for Exercise 01: QA12FASER01 NIST Interagency/Internal Report (NISTIR) – 7953, 2013 (Participating Lab).

PRESENTATIONS TO SCHOLARLY GROUPS:

a) Invited

1. Stark, K.D. Lipidomic Profiles of Common Dietary Sources of Long-Chain Omega-3 Polyunsaturated Fatty Acids. November 4, 2024, The 22nd Toronto Post-ASMS Symposium, Canadian Forum for Analytical and Bioanalytical Sciences.
2. Stark, K.D. Meeting Fetal Demand for DHA: Maternal Metabolic Adaptations. October 26, 2023, The Role of DHA in Maternal and Early Childhood Webinar. Canadian Nutrition Society.
3. Stark, K.D. The Blood and Guts of Fatty Acids in the Lipidome. March 23, 2022, Lipids Online Webinar Series. International Society for the Study of Fatty Acids and Lipids.
4. Stark, K.D. Using Nutritional Lipidomics to Understand the Impact of Diet on Health. December 3, 2021, Lake Louise, AB. The 33rd Annual Tandem Mass Spectrometry Workshop.
5. Stark, K.D. Evidence for CVD. December 4, 2019, Ottawa, ON. How to develop Dietary Reference Intakes based on chronic disease endpoints - The omega-3's EPA & DHA, a case study workshop.
6. Stark, K.D. Unlocking the potential of nutritional lipidomics requires acyl isomer information. June 4, 2019, Atlanta, GA. The 67th American Society for Mass Spectrometry Conference on Mass Spectrometry and Allied Topics.
7. Stark, K.D. Canadian Nutrition Society response to edible cannabis regulations. May 3, 2019, Niagara Falls, ON. Canadian Nutrition Society 2019 Annual Conference.
8. Stark, K.D. Macrolipidomics: Determining acyl isomers and regioisomers for nutritional research. April 25, 2019, Toronto, ON. Canadian Forum for Analytical and Bioanalytical Sciences. 2019 Toronto Spring Mass Spectrometry Group Meeting.
9. Stark, K.D. Applications of innovative lipidomic methods for blood lipid biomarkers. September 6, 2018, Kobe, Japan. Japan Oil Chemists' Society 57th Annual Meeting.
10. Stark, K.D. Fatty acid best practices: Laboratory analysis and reporting. May 29, 2018, Las Vegas, NV. The 13th Congress of the International Society for the Study of Fatty Acids and Lipids.
11. Stark, K.D. Understanding the relationship between dietary fatty acids and blood and tissue fatty acid composition, May 6–May 9, 2018, Minneapolis, MN, USA. The 2018 American Oil Chemists' Society Annual Meeting and Expo.
12. Stark, K.D. Fatty acid best practices: Laboratory analysis and reporting. May 4, 2018, Halifax, NS. Annual Scientific Meeting of the Canadian Nutrition Society.
13. Stark, K.D. Using lipidomics to understand metabolism, April 5, 2018, Waterloo, ON. Nanotechnology and Applied Health Sciences: An Interdisciplinary Research Mixer.
14. Stark, K.D. Using lipidomic analyses to understand metabolic changes in rats during pregnancy, October 16, 2017, Toronto, ON. Canadian Forum for Analytical and Bioanalytical Sciences 17th Toronto Post-ASMS Mass Spec Symposium.
15. Stark, K.D. Interpreting and using different omega-3 blood biomarkers, February 8, 2017, Rockville, MD. Update on Fatty Acids in Clinical Measurements and Applications Symposium, National Institutes of Health.
16. Stark, K.D. Fatty acid analysis of fingertip prick blood, November 17, 2014, Somerset, NJ. Eastern Analytical Symposium and Exposition.
17. Stark, K.D. Do we need and how can we increase omega-3 fatty acid intakes in retirement and long term care? October 16, 2014, Niagara Falls, ON. Canadian Association on Gerontology Annual Conference.

18. Stark, K.D. Fatty acid and lipidomic blood biomarkers, July 4, 2014, Copenhagen, DK, Department of Nutrition, Exercise and Sports, University of Copenhagen.
19. Stark, K.D. Omega-3 blood biomarkers: What do they say about diet, metabolism and their potential impact on function? June 5-7, 2014, St. John's, NL. Annual Scientific Meeting of the Canadian Nutrition Society.
20. Stark, K.D. What's the deal with omega-3 and heart health? March 25, 2013, Toronto, ON. Graduate Department of Exercise Sciences, University of Toronto.
21. Stark, K.D. High throughput fatty acid analyses, May 28, 2012, Vancouver, BC. The 10th Congress of the International Society for the Study of Fatty Acids and Lipids.
22. Stark, K.D. Blood biomarkers for omega-3 fatty acids, April 25, 2012, Toronto, ON. Department of Nutritional Sciences, University of Toronto.
23. Stark, K.D., Understanding Omega-3 Blood Biomarkers, April 19, 2012, Montreal QC. 3rd Annual GENESIS PRAXY Meeting.
24. Stark, K.D., There and back again: adventures in fatty acid research, November 7, 2011, Guelph, ON. Department of Nutritional Sciences and Human Health, University of Guelph.
25. Stark, K.D., Sex and fatty acids: mechanisms, measurements & monitoring, June 13, 2011, Montreal QC. 2nd Annual GENESIS PRAXY Meeting.
26. Stark, K.D., Establishing Dietary Reference Intakes for DHA and EPA, June 3-5, 2010, Edmonton, AB. Annual Scientific Meeting of the Canadian Nutrition Society.
27. Stark, K.D., Facts about folate, March 22, 2010, Montreal, QC. Department of Exercise Science, Concordia University.
28. Stark, K.D., Omega-3 fatty acid status: Sex, blood and diet, March 23, 2010, Montreal, QC. Department of Exercise Science, Concordia University.
29. Stark, K.D., Omega-3 fatty acid profiling and dietary forensics, May 6, 2009, Orlando, FL. The 100th American Oil Chemists' Society Annual Meeting & Expo.
30. Stark, K.D., Sex differences in long-chain omega-3 fatty acid biosynthesis, February 27, 2009, Montreal QC. 5th Annual GENESIS Meeting.
31. Stark, K.D. Omega-3 HUFA intakes and blood levels of residents in a long-term care facility, January 30, 2008, St. John's NL. Department of Biochemistry, Memorial University.
32. Stark, K.D. Monitoring omega-3 fatty acids in clinical populations, June 21, 2007, Winnipeg, MB. The Canadian Nutrition Congress.
33. Stark, K.D. The alpha to omega of lipidomics and health research, May 16, 2007, Quebec City, QC. The 98th American Oil Chemists' Society Annual Meeting & Expo.
34. Stark, K.D. The high throughput research facility for the study of fatty acids and lipidomics on chronic disease, March 8, 2007, Montreal QC. 3rd Annual GENESIS Meeting.
35. Stark, K.D., Cardiovascular disease risk and n-3 fatty acid status in men and women, February 27, 2006, Montreal QC. 2nd Annual GENESIS Meeting.
36. Stark, K.D., October 21, 2005, Guelph, ON. Using omega-3 measurements as a risk factor for cardiovascular disease, omega-3 fatty acids: From bench to bedside symposium.
37. Stark, K.D. The impact of alcohol consumption and nutrition on the essential fatty acid status on women whose fetuses are at-risk for Fetal Alcohol Spectrum Disorders, September 22, 2005, Bethesda MD. Board of Scientific Councillors, Laboratory of Membrane Biochemistry and Biophysics, NIAAA.
38. Stark, K.D. A simplified and efficient method for analysis of fatty acid methyl esters suitable for large clinical studies, May 18, 2005, Atlanta, GA. Division of Laboratory Sciences, Centers for Disease Control and Prevention.
39. Stark, K.D. Dietary manipulation of tissue fatty acid composition, January 28, 2005, Barrie, ON. Ontario Exercise Physiology Conference.
40. Stark, K.D. Evidence of gender differences in the metabolism of docosahexaenoic acid, June 2, 2004, Urbana, IL. Department of Food Science and Human Nutrition, University of Illinois at Urbana-Champaign.
41. Stark, K.D. Effects of alcohol on n-3 fatty acid status during pregnancy, March 26, 2004, St. Catharines, ON. Department of Community Health Sciences, Brock University.
42. Stark, K.D. N-3 fatty acids and cardiovascular disease risk in women, March 1, 2004, Waterloo, ON. Department of Kinesiology, University of Waterloo.

43. Stark, K.D. Fatty acid status of pregnant women whose fetuses are at risk for alcohol-related birth defects, September 16, 2003, Rockville, MD. NIAAA/DICBR/LMBB Seminar Series, National Institutes of Health.
44. Stark, K.D. Prenatal, peripartum and postpartum fatty acid status of African-American women, July 18, 2003, Guelph, ON. Human Nutraceutical Research Unit, University of Guelph.
45. Stark, K.D. Is docosahexaenoic acid affected by estrogen therapy use in postmenopausal women? November 20, 2001, Rockville, MD. NIAAA/DICBR/LMBB Seminar Series, National Institutes of Health.

b) Self-initiated

1. Cocco, A.D., Berdeklis, A., Hashemi, A., Liu, M.R., Chan, J.Z., Bradley, R.M., Stark, K.D., Duncan, R.E. Novel roles for Plaat1 in lipid biosynthetic gene expression and cardiac cardiolipin composition. August 12-13, 2024, Guelph, Ontario, Canada. The 6th Annual Ontario Cell Biology Symposium.
2. Chan, J.Z., Tomczewski, M.V., Rahman, F., Liu, M.R., Musa, M., Grog, M., Sciani, G., Stark, K.D., Quadrilatero, J., Duncan, R.E. Effects of Compound X on Tafazzin-deficient B-lymphoblast growth and mitochondrial parameters. July 28-August 3, 2004, Bonita Springs, Florida, USA. Barth Syndrome Foundation Biennial International Scientific, Medical, and Family Conference.
3. Hashemi, A., Liu, M.R., Chan, J.Z., Tomczewski, M.V., Cocco, A.D., Strathdee, D., Stark, K.D., Duncan, R.E. Characterization of Plaat1^{-/-} mice. July 28-August 3, 2004, Bonita Springs, Florida, USA. Barth Syndrome Foundation Biennial International Scientific, Medical, and Family Conference.
4. Cowan, A., Gruben, A., Lester, A., Wolki, D., Harry, J., Arey, S., Memogana, S., Kalinek, M., Swanson, H., Loseto, L., Houde, M., Stark, K., Skinner, K., Laird, B., Ostertag, S. Country food profiles for the Inuvialuit Settlement Region. November 3-5, 2024, Halifax, Nova Scotia, Canada. The 18th International Congress on Circumpolar Health.
5. Stark, K.D., Aristizabal-Henao, J.J., Patterson, A.C., Kiebish, M. Human plasma and erythrocyte lipidomic profiles after controlled intakes of 0.25, 0.5, and 1 g/d of EPA+DHA from fish oil. July 2 – 5, 2023, Nantes, France. The 15th Congress of the International Society for the Study of Fatty Acids and Lipids.
6. Lewis, J.I., Lind, M.V., Hansen, T., Stark, K.D., Bjerregaard, P., Jørgensen, M.E., Lauritzen, L.. A traditional marine diet affects glucose homeostasis in Greenlandic Inuit: A randomized crossover study. July 2 – 5, 2023, Nantes, France. The 15th Congress of the International Society for the Study of Fatty Acids and Lipids.
7. Lamontagne-Kam, D.M., Davari, S., Aristizabal-Henao, J.J., Cho, S., Chalil, D., Mielke, J.G., Stark, K.D. Adolescent female rats benefit the most in hippocampal-dependent memory with DHA-supplementation that is reflected in the hippocampal and erythrocyte lipidome. July 2 – 5, 2023, Nantes, France. The 15th Congress of the International Society for the Study of Fatty Acids and Lipids.
8. Stark, K.D., Aristizabal-Henao, J.J., Steckel, K.E. Blais, A.S.N., Chalil, D., Biloft-Jensen, A.P. Lipidomic biomarkers of dietary omega-3 polyunsaturated fatty acids. August 7-12, 2022, Newry, Maine, USA. Lipidomics Gordon Research Conference.
9. Bai, L., Stark, K.D. Scoping review of reviews on the beneficial health effects of consuming fish. May 10 – 14, 2021, Virtual. The 14th Congress of the International Society for the Study of Fatty Acids and Lipids.
10. Steckel, K.E., Aristizabal-Henao, J.J., Chalil, D., Stark, K.D. Medio level characterization of the macrolipidome of human plasma standard reference material 1950. May 10 – 14, 2021, Virtual. The 14th Congress of the International Society for the Study of Fatty Acids and Lipids.
11. Yu, T., Aristizabal-Henao, J.J., Chalil, D., Steckel, K.E., Stark, K.D. Medio level macrolipidomic analysis of common Canadian meals. May 10 – 14, 2021, Virtual. The 14th Congress of the International Society for the Study of Fatty Acids and Lipids.
12. Chalil, D., Stark, K.D. Skeletal muscle is a possible source of maternal docosahexaenoic acid for fetal/infant transfer. May 10 – 14, 2021, Virtual. The 14th Congress of the International Society for the Study of Fatty Acids and Lipids.
13. Damsgaard, C.T., Vuholm, S., Teisen, M.N., Stark, K.D., Lauritzen, L. Does polymorphisms in the PPAR and APOE genes modify associations between FADS, n-3 long-chain polyunsaturated fatty acids, and cardiometabolic markers in 8-11 year-old Danish children? August 27-29, 2020, London, UK/Virtual Online. The 7th International Conference on Nutrition and Growth.

14. *Aristizabal Henao, J.J., Meitei, N.S., Biloft-Jensen, A.P., †Stark, K.D. Quantitative macrolipidomics of human whole blood for the discovery of novel biomarkers of omega-3 polyunsaturated fatty acid intake. May 31 - June 4, 2019, Atlanta, GA. The 67th American Society for Mass Spectrometry Conference on Mass Spectrometry and Allied Topics.
15. *Aristizabal Henao, J.J., Fernandes, M.F., Duncan, R.E., †Stark, K.D. Identification and quantitation of lysophosphatidic acid regioisomeric species in mouse plasma. May 31 - June 4, 2019, Atlanta, GA. The 67th American Society for Mass Spectrometry Conference on Mass Spectrometry and Allied Topics.
16. *Aristizabal Henao, J.J., Meitei, N.S., †Stark, K.D. Untargeted macrolipidomic profiling of plant-based oils. May 31 - June 4, 2019, Atlanta, GA. The 67th American Society for Mass Spectrometry Conference on Mass Spectrometry and Allied Topics.
17. Vuholm, S., Teisen, M.N., Mølgaard, C., Christensen, J.H., Rantanen, J.M., Stark, K.D., Lauritzen, L., Damsgaard, C.T. Oily fish intake and cardiovascular physiology, plasma lipids, and glucose homeostasis in healthy 8-9-year-old children: The FiSK junior randomized controlled trial. March 7-9, 2019, Valencia, Spain. The 6th International Conference on Nutrition and Growth.
18. Brenna, J.T., Plourde, M., Stark, K.D., Jones, P.J., Lin, Y-H. Best practices for the design, laboratory analysis, and reporting of trials involving fatty acids. November 28-30, 2018, Camperdown, Australia. The 4th Australian Lipid Meeting.
19. *Aristizabal Henao, J.J., Meitei, N.S., *Chalil, D., Smith, R.W., †Stark, K.D. Comparing automatic identifications in the macro-lipidomic profiles of human whole blood across UHPLC-MS/MS platforms and acquisition modes. June 3-7, 2018, San Diego, CA. The 66th American Society for Mass Spectrometry Conference.
20. Metherel, A.H., Lacombe, R.J.S., Kitson, A.P., Hopperton, K.E., *Chalil, D., Stark, K.D., Bazinet, R.P. Two weeks compared to eight weeks of DHA supplementation increases synthesis-secretion kinetics of n-3 polyunsaturated fatty acids. May 27 – 31, 2018, Las Vegas, NV. The 13th Congress of the International Society for the Study of Fatty Acids and Lipids.
21. *Aristizabal Henao, J.J., Bradley, R.M., Duncan, R.E., †Stark, K.D. Brutto, medio and genio lipidomics: Discrimination of regioisomeric phospholipids by UPLC-MS/MS. May 27 – 31, 2018, Las Vegas, NV. The 13th Congress of the International Society for the Study of Fatty Acids and Lipids.
22. *Chalil, D., *Aristizabal Henao, J.J., *Chalil, A., †Stark, K.D. Maternal plasma palmitoyldocosahexaenoyl phosphatidylcholine concentrations are maintained during pregnancy despite differences in DHA intake in rats. May 27 – 31, 2018, Las Vegas, NV. The 13th Congress of the International Society for the Study of Fatty Acids and Lipids.
23. *Lamontagne-Kam, D.M.E., *Chalil, A., †Stark, K.D. Maternal rats mobilize docosahexaenoic acid from cardiac tissue to meet fetal demand when dietary DHA is low. May 27 – 31, 2018, Las Vegas, NV. The 13th Congress of the International Society for the Study of Fatty Acids and Lipids.
24. †Stark, K.D., *Aristizabal Henao, J.J., *Chalil, D., Engert, J.C., Thanassoulis, G., Pilote, L. Fatty acid and lipidomic differences due to FADS genotypes (rs174547). May 27 – 31, 2018, Las Vegas, NV. The 13th Congress of the International Society for the Study of Fatty Acids and Lipids.
25. *Flis, A.R., *Aristizabal Henao, J.J., †Stark, K.D. Rapid methods to profile omega-3 biomarkers in plasma phospholipids. May 27 – 31, 2018, Las Vegas, NV. The 13th Congress of the International Society for the Study of Fatty Acids and Lipids.
26. †Stark, K.D., *Squire, P.T., *Aristizabal Henao, J.J., Rasmussen, I.B., Lauritzen, L., Damsgaard, C.T. Lost in Memphis: The effect of eleven days in July on the fatty acid composition of erythrocytes. May 27 – 31, 2018, Las Vegas, NV. The 13th Congress of the International Society for the Study of Fatty Acids and Lipids.
27. *Aristizabal Henao, J.J., *Ralph, L.T., *Chalil, D., Meitei, N.S., Smith, R.W., †Stark, K.D. Phosphatidylcholine acyl-lipid species identifications are influenced by sample preparation. May 27 – 31, 2018, Las Vegas, NV. The 13th Congress of the International Society for the Study of Fatty Acids and Lipids.
28. *Lamontagne-Kam, D.M.E., *Will, E., *Rabak, B.N., †Stark, K.D. An examination of sex differences in docosahexaenoic acid in plasma, liver, heart and brain from birth to adulthood in rats. May 27 – 31, 2018, Las Vegas, NV. The 13th Congress of the International Society for the Study of Fatty Acids and Lipids.

29. *Gunash, J., *Aristizabal Henao, J.J., †Stark, K.D. Quantitating unknown volumes of blood on dried blood spots and determining fatty acid stability during storage. May 27 – 31, 2018, Las Vegas, NV. The 13th Congress of the International Society for the Study of Fatty Acids and Lipids.
30. Vuholm, S., Teisen. M.N., Mølgaard, C., Stark, K.D., Lauritzen. L., Damsgaard, C.T. Oily fish intake improves the plasma lipid profile in healthy 8-9-year-old children: The FiSK Junior randomized controlled trial. May 27 – 31, 2018, Las Vegas, NV. The 13th Congress of the International Society for the Study of Fatty Acids and Lipids.
31. Vuholm, S., Teisen. M.N., Stark, K.D., Astrup, A., Lauritzen. L., Damsgaard, C.T. PPARG and APOE polymorphisms modify associations between n-3 LCPUFA and plasma lipid profile and insulin in 8-11 year-old children. May 27 – 31, 2018, Las Vegas, NV. The 13th Congress of the International Society for the Study of Fatty Acids and Lipids.
32. Teisen. M.N., Vuholm, S., Geertsens, S.S., Ritz, C., Stark, K.D., Niclasen, J., Damsgaard, C.T., Lauritzen, L. Oily fish improves attention and well-being in children aged 8-9: The FiSK Junior randomized controlled trial. May 27 – 31, 2018, Las Vegas, NV. The 13th Congress of the International Society for the Study of Fatty Acids and Lipids.
33. *Aristizabal Henao, J.J., †Stark, K.D. Identifying novel docosahexaenoic acid-containing phospholipids in human whole blood as indicators of omega-3 PUFA intake. May 6 - May 9, 2018, Minneapolis, MN. The 2018 American Oil Chemists' Society Annual Meeting and Expo.
34. Seneviratne, A., *Aristizabal Henao, J.J., Xu, W., Hurren, R., Gronda, M., Kim, S., Mclean, N., Wang, X., Xu, M., Fajardo, V., Hao, Z., Jeyaraju, D., Chouinard-Watkins, R., Schafer, C., LeBlanc, P., Khuchua, Z., Claypool, S., Stark, K.D., Schimmer, A.D. Tafazzin (TAZ) regulates the differentiation of AML cells by reducing levels of the phospholipid phosphatidylethanolamine. December 9-12, 2017, Atlanta, GA, 59th American Society of Hematology Annual Meeting and Exposition.
35. Seneviratne, A., *Aristizabal Henao, J.J., Xu, W., Hurren, R., Gronda, M., Kim, S., Mclean, N., Wang, X., Xu, M., Fajardo, V., Hao, Z., Jeyaraju, D., Chouinard-Watkins, R., Schafer, C., LeBlanc, P., Khuchua, Z., Claypool, S., Stark, K.D., Schimmer, A.D. Tafazzin (TAZ) regulates the differentiation of AML cells by reducing levels of the phospholipid phosphatidylethanolamine. November 6-8, 2017, Mont-Tremblant, QC, Till & McCulloch Meeting.
36. Babirekere-Iriso, E., Mortensen, C.G., Mupere, E., Rytter, M.J.H., Namusoke, H., Michaelsen, K.F., Briend, A., Stark, K.D., Friis, H., Lauritzen, L. Changes in whole-blood polyunsaturated fatty acids and their predictors during recovery from severe acute malnutrition. October 15-20, 2017, Buenos Aires, Argentina. International Congress of Nutrition.
37. Laird, M., *Aristizabal Henao, J.J., Stark, K.D., Low, G., Swanson, H., Ratelle, M., Laird, B. Characterizing Dietary Methylmercury Exposure in Subarctic First Nations Communities in the Dehcho Region of the Northwest Territories, Canada. July 16-21, 2017, Providence, RI. The 13th International Conference on Mercury as a Global Pollutant.
38. Meitei, N.S., Gupta, H., Apte, A., Barsch, A., Alving, A., *Aristizabal Henao, J.J., †Stark, K.D. Automated lipid profiling of a plasma sample using ultra-high resolution Qq-Time-Of-Flight Impact IITM mass spectrometer with SimLipid software. June 4-8, 2017, Indianapolis, IN. The 65th American Society for Mass Spectrometry Conference.
39. *Aristizabal Henao, J.J., Seneviratne, A.K., Smith, R.W., Schimmer, A.D., †Stark, K.D. Characterization of cardiolipin and monolysocardiolipin acyl-lipid species in an acute myeloid leukemia cell line. June 4-8, 2017, Indianapolis, IN. The 65th American Society for Mass Spectrometry Conference.
40. *Aristizabal Henao, J.J., *Patterson, A.C., Smith, R.W., †Stark, K.D. Whole blood, plasma, and erythrocyte acyl-lipids are remodeled at different rates with fish oil supplementation. April 30-May3, 2017, Orlando, FL. The 2017 American Oil Chemists' Society Annual Meeting.
41. *Aristizabal Henao, J.J., Smith, R.W., †Stark, K.D. Optimization of female sex hormone extraction for semi-quantitative analysis in human plasma by UHPLC-MS/MS. October 17, 2016, Toronto, ON. The 16th Toronto Post-ASMS Mass Spectrometry Group Meeting of the Canadian Forum for Analytical and Bioanalytical Sciences (CFABS).
42. Bradley, R.M., Mardian, E.B., Marvyn, P.M., *Aristizabal Henao, J.J., Mitchell, A.S., Bloemberg, D., Bombardier, E., Aucoin, M.G., Tupling, A.R., Quadrilatero, J., Stark, K.D., Duncan, R.E. AGPAT4 is a mitochondrial lysophosphatidic acid acyltransferase that regulates spatial learning and memory in mice. September 15-18, 2016, St. John's, NL, ON. 41st Annual Canadian Lipoprotein Conference.

43. *Aristizabal Henao, J.J., *Metherel, A.H., *Muresan, J., Smith, R.W., †Stark, K.D. Examining lipid extraction methods and fatty acid methylation techniques for the analysis of human breast milk. September 5 – 9, 2016, Stellenbosch, South Africa. The 12th Congress of the International Society for the Study of Fatty Acids and Lipids.
44. *Aristizabal Henao, J.J., *Metherel, A.H., Smith, R.W., †Stark, K.D. Semi-quantitative lipidomic profiling of dried blood spots requires a tailored extraction procedure to maximize lipid yields. September 5 – 9, 2016, Stellenbosch, South Africa. The 12th Congress of the International Society for the Study of Fatty Acids and Lipids.
45. *Aristizabal Henao, J.J., *Patterson, A.C., Smith, R.W., †Stark, K.D. Lipidomic profiling of human whole blood following omega-3 polyunsaturated fatty acid supplementation. September 5 – 9, 2016, Stellenbosch, South Africa. The 12th Congress of the International Society for the Study of Fatty Acids and Lipids.
46. †Stark, K.D., Lauritzen, L., Friis, H., Yameogo, C., Rytter, M., Babirekere-Iriso, E., Roos, N., Owino, V., Ayoma, S., Konyole, S., Michaelsen, K. The Fatty Acid Composition of Whole Blood of Young Children from Burkina Faso, Cambodia, Denmark, Kenya, and Uganda. September 5 – 9, 2016, Stellenbosch, South Africa. The 12th Congress of the International Society for the Study of Fatty Acids and Lipids.
47. †Stark, K.D., Van Elswyk, M.E., Higgins, M.R., Weatherford, C.A., Salem, N. Jr. A global map of blood levels of EPA + DHA in healthy adults. September 5 – 9, 2016, Stellenbosch, South Africa. The 12th Congress of the International Society for the Study of Fatty Acids and Lipids.
48. †Stark, K.D., *Aristizabal Henao, J.J., *Metherel, A.H., Pilote, L. Harmonizing fatty acid composition results from different blood fractions. September 5 – 9, 2016, Stellenbosch, South Africa. The 12th Congress of the International Society for the Study of Fatty Acids and Lipids.
49. *Aristizabal Henao JJ, Smith RW, †Stark KD. Semi-quantitative lipidomic profiling of docosahexaenoic acid (DHA)-containing complex lipids in human breast milk and dried milk spots. August 20-26, 2016, Toronto, ON. The 21st International Mass Spectrometry Conference.
50. Bradley, R.M., Mardian, E.B., Marvyn, P.M., *Aristizabal Henao, J.J., Mitchell, A.S., Bloemberg, D., George, S., Bombardier, E., Aucoin, M.G., Tupling, A.R., Quadrilatero, J., Stark, K.D., Duncan, R.E. AGPAT4 is a mitochondrial lysophosphatidic acid acyltransferase that regulates learning and memory in mice. July 18-23, 2016. The 8th International Scientific, Medical & Family Conference of the Barth Syndrome Foundation. Clearwater, FL.
51. Bradley, R.M., Bloemberg, D., Mitchell, A.S., Fajardo, V.A., *Aristizabal Henao, J.J., Mardian, E.B., Bellissimo, C., Paré, M.F., Bombardier, E., Stark, K.D., Tupling, A.R., Quadrilatero, J., Duncan, R.E. AGPAT4 ablation significantly decreases maximal force contractility in the soleus muscles of mice, but does not affect muscular endurance. July 18-23, 2016. The 8th International Scientific, Medical & Family Conference of the Barth Syndrome Foundation. Clearwater, FL.
52. Reyes, E.S., *Aristizabal Henao, J.J., Kornobis, K.M., Hanning, R.M., Majowicz, S.E., Liber, K., Stark, K.D., Lowe, G., Swanson, H.K., Laird, B.D. Assessing mercury risks for the optimization of nutrient benefits from wild-harvested fish consumption in the Northwest Territories, Canada. July 18-22, 2016. The Second Annual Connaught Summer Institute in Arctic Science: Atmosphere, Cryosphere, and Climate. Alliston, ON.
53. Laird, M.J., *Aristizabal Henao, J.J., Stark, K.D., Lowe, G., Swanson, H.K., Laird, B.D. Characterizing dietary mercury (MeHg) exposure in subarctic First Nations communities in the Dehcho Region of the Northwest Territories, Canada. June 24, 2016. The 21st Annual Meeting of the Laurentian Chapter of the Society of Environmental Toxicology and Chemistry (SETAC). Waterloo, ON.
54. Reyes, E.S., *Aristizabal Henao, J.J., Kornobis, K.M., Hanning, R.M., Majowicz, S.E., Liber, K., Stark, K.D., Lowe, G., Swanson, H.K., Laird, B.D. Assessing mercury risks for the optimization of nutrient benefits from wild-harvested fish consumption in the Northwest Territories, Canada. June 24, 2016. Waterloo, ON. The 21st Annual Meeting of the Laurentian Chapter of the Society of Environmental Toxicology and Chemistry (SETAC). Waterloo, ON.
55. Hindle, R., Smith, R.W., *Aristizabal Henao, J.J., Stark, K.D., Moshin, S., Reverse phase LC–ESI-QTOF methodology for the analysis of lipids in whole blood. June 5-9, 2016, San Antonio, TX. The 64th American Society for Mass Spectrometry Conference.

56. *Aristizabal Henao, J.J., Smith, R.W., †Stark, K.D. Optimization of female sex hormone extraction for semi-quantitative analysis in human plasma by UHPLC/MS/MS. June 5-9, 2016, San Antonio, TX. The 64th American Society for Mass Spectrometry Conference.
57. *Aristizabal Henao, J.J., Smith, R.W., †Stark, K.D. Lipidomic discrimination of omega-3 polyunsaturated fatty acid status in whole blood and dried blood spots. May 19, 2016, Toronto, ON. The 2016 Toronto Mass Spectrometry Group Meeting of the Canadian Forum for Analytical and Bioanalytical Sciences (CFABS).
58. *Lamontagne-Kam, D.M.E., *Chalil, A., *Aristizabal Henao, J.J., †Stark, K.D. Examining changes in fatty acid concentrations of maternal tissues throughout pregnancy and postpartum in rats fed diets with different levels of fat and docosahexaenoic acid. May 1-4, 2016, Salt Lake City, UT. The 107th American Oil Chemists' Society Annual Meeting & Expo.
59. Lauritzen, L., Eriksen, S.E., Hjorth, M.F., Nielsen, M.S., Olsen, S.F., Stark, K.D., Michaelsen, K.F., Damsgaard, C.T. Maternal fish oil supplementation during lactation reduces height at 13 years of age and affects blood pressure in a sex-specific manner. March 17-19, 2016, Vienna, Austria. The 3rd International Conference on Nutrition and Growth.
60. *Lamontagne-Kam, D.M.E., *Chalil, A., *Aristizabal Henao, J.J., †Stark, K.D. Is docosahexaenoic acid mobilized from tissues to blood during pregnancy in rats? Ontario Exercise Physiology Conference, Barrie, ON, February 26-28, 2016. (Oral Presentation).
61. Reyes ES, *Aristizabal Henao JJ, Kornobis KM, Hanning RM, Majowicz, Liber K, Stark KD, Low G, Swanson H, Laird BD. Associations between omega-3 fatty acids, selenium content, and mercury levels in wild-harvested fish from the Dehcho Region, Northwest Territories, Canada. The 2015 Northern Contaminants Program Results Workshop. Vancouver, British Columbia, Canada, December 7, 8, 2015
62. Marvyn, P.M., Bradley, R.M., Mardian, E.B., *Aristizabal Henao, J.J., Stark, K.D., Duncan, R.E. Renal steatosis impairs glucose tolerance through lysophosphatidic acid-mediated signaling. October 15-18, 2015, Toronto, ON. 40th Annual Canadian Lipoprotein Conference.
63. Mardian, E.B., Bradley, R.M., *Marks, K.A., Marvyn, P.M., *Aristizabal Henao, J.J., Bombardier, E., Tupling, A.R., Stark, K.D., Duncan, R.E. Characterization of acylglycerophosphate acyltransferase 4 (AGPAT4) in white adipose tissue in a murine knockout model. October 15-18, 2015, Toronto, ON. 40th Annual Canadian Lipoprotein Conference.
64. Bradley, R.M., Marvyn, P.M., Mardian, E.B., *Aristizabal Henao, J.J., Mitchell, A., Bloemberg, D., George, S., Bombardier, E., *Marks, K.A., Aucoin, M.G., Tupling, A.R., Quadrilatero, J., Stark, K.D., Duncan, R.E. AGPAT4 is a mitochondrial lysophosphatidic acid acyltransferase that regulates mouse brain phosphatidylinositol levels, and learning and memory. October 15-18, 2015, Toronto, ON. 40th Annual Canadian Lipoprotein Conference.
65. Bradley, R.M., Bellissimo, C., M.-F., Paré, Mardian, E.B., *Aristizabal Henao, J.J., Fajardo, V., Bombardier, E., Stark, K.D., Tupling, A.R., Quadrilatero, J., Duncan, R.E. Investigation of a role for AGPAT4 in mouse skeletal muscle. October 15-18, 2015, Toronto, ON. 40th Annual Canadian Lipoprotein Conference.
66. *Marks, K.A., Marvyn, P.M., *Aristizabal Henao, J.J., Bradley, R.M., Duncan, R.E., †Stark, K.D. Fasting enriches liver triacylglycerol with n-3 polyunsaturated fatty acids: implications for understanding the adipose-liver axis in serum docosahexaenoic acid regulation. October 15-18, 2015, Toronto, ON. 40th Annual Canadian Lipoprotein Conference.
67. Bradley, R.M., Marvyn, P.M., *Aristizabal Henao, J.J., Mardian, E.B., George, S., Aucoin, M.C., Stark, K.D., Duncan, R.E. (2015). AGPAT 4 is a mitochondrial lysophosphatidic acid acyltransferase that regulates mouse brain phosphatidylinositol levels and learning and memory. June 14-17, 2015, Halifax, NS. The 58th Annual Meeting of the Canadian Society for Molecular Biosciences.
68. *Aristizabal Henao, J.J., Smith, R.W., †Stark, K.D. Lipidomic discrimination of omega-3 polyunsaturated fatty acid status in whole blood and dried blood spots. May 31-June 4, 2015, St. Louis, MO. The 63rd American Society for Mass Spectrometry Conference.
69. *Aristizabal Henao, J.J., Smith, R.W., †Stark, K.D. Comprehensive lipidomics of plasma, erythrocyte, and whole blood of humans with low, intermediate, and high n-3 PUFA status. May 3-6, 2015, Orlando, FL. The 106th American Oil Chemists' Society Annual Meeting & Expo.
70. *Chalil, A., *Kitson, A.P., *Aristizabal Henao, J.J., *Marks, K.A., *Elzinga, J.L., Badoud, F., Mutch, D.M., †Stark, K.D. Examining temporal changes in docosahexaenoic acid status during pregnancy

using lipidomics and transcriptomics. May 3-6, 2015, Orlando, FL. The 106th American Oil Chemists' Society Annual Meeting & Expo.

71. *Kurtin, C., *Marks, K.A., *Aristizabal Henao, J.J., *Elzinga, J.L., †Stark, K.D. Changes in fatty acid and lipidomic profiles during the menstrual cycle. Ontario Exercise Physiology Conference, Barrie, ON, February 27 – March 1, 2015. (Oral Presentation).
72. *Elzinga, J.L., *Marks, K.A., *Aristizabal Henao, J.J., *Lamontagne-Kam, D.M.E., †Stark, K.D., Docosahexaenoic acid in blood is increased while desaturase and elongase mRNA expression are decreased during proestrus of the rat. February 27- March 1, 2015, Barrie, ON. Ontario Exercise Physiology Conference.
73. *Marks, K.A., Marvyn, P.M., *Aristizabal Henao, J.J., Bradley, R.M., Stark, K.D., Duncan, R.E. Enrichment of liver with docosahexaenoic acid during fasting may be a result of increased uptake and is not a result of increased hepatic *de novo* synthesis or adipose lipolysis. February 27- March 1, 2015, Barrie, ON. Ontario Exercise Physiology Conference.
74. Reyes, E.S., Kornobis, K.M., Swanson, H.K., *Henao, J.J.A., Stark, K.D., Laird, B.D. Dietary exposure assessment and risk-benefit characterization of mercury and nutrient intakes among First Nation communities in the Deh Cho Region of the Northwest Territories. October 12-16, 2014, International Society of Exposure Science. Cincinnati, Ohio.
75. *Chalil, A., *Kitson, A.P., Henao, J.J.A., *Marks, K.A., *Elzinga, J.L., †Stark, K.D. Phosphatidylethanolamine methyltransferase, $\Delta 6$ desaturase and palmitoyldocosahexaenoyl phosphatidylcholine are increased in rats during pregnancy. June 28 – July 2, 2014, Stockholm, Sweden. The 11th Congress of the International Society for the Study of Fatty Acids and Lipids.
76. *Kitson, A.P., *Marks, K.A., *Pasha, S., †Stark, K.D. Estrogen receptor α -knockout mice do not exhibit altered hepatic docosahexaenoic acid levels or $\Delta 5$ - or $\Delta 6$ -desaturase expression compared with wild-type. June 28 – July 2, 2014, Stockholm, Sweden. The 11th Congress of the International Society for the Study of Fatty Acids and Lipids.
77. Damsgaard, C.T., Eidner, M.B., Stark, K.D., Hjorth, M.F., Sjödin, A., Andersen, M.R., Andersen, R., Tetens, I., Astrup, A., Michaelsen, K.F., Lauritzen, L., EPA and DHA in whole blood are differentially and sex-specifically associated with cardio-metabolic risk markers in 8-11-year-old children, June 28 – July 2, 2014, Stockholm, Sweden. The 11th Congress of the International Society for the Study of Fatty Acids and Lipids.
78. *Henao, J.J.A., Smith, R.W., †Stark, K.D. Lipidomic analysis of whole blood and dried blood spots. May 4-7, 2014, San Antonio, Texas. The 105th American Oil Chemists' Society Annual Meeting & Expo.
79. Leung Yinko, S.S.L., Thanassoulis, G., Engert, J.C., Stark, K.D., Avgil Tsadok, M., Pilote, L. A Gene-Diet Interaction Study of Omega-3 Fatty Acids and the Genetic Risk of Early Onset Acute Coronary Syndrome, March 29-31, 2014, Washington, DC. American College of Cardiology 63rd Annual Scientific Session & Expo.
80. *Marks, K.A., *Kitson, A.P., Duncan, R.E., †Stark, K.D. Monounsaturated fatty acid biosynthesis is influenced by estrogen effects on elongase 6 expression in Sprague-Dawley rats and MCF7 cells. September 25-29, 2013, Mont Tremblant, QC. Canadian Lipoprotein Conference.
81. Lavoie, K.L., Pelletier, R., Bacon, S.L., Karp, I., Humphries, K., Stark, K.D., Eisenberg, M., Cox, J., Daskalopoulou, S., Pilote, L. for the GENESIS-PRAXY Investigators. Impact of depression on premature acute coronary syndrome: is depression associated with a higher risk profile among women? May 23-26, 2013, Washington, DC. The 25th Annual Convention of the Association for Psychological Science.
82. *Metherel, A.H., Ciobanu, F., †Stark, K.D. A novel one-step method for lipid extractions from food samples and animal tissues. April 28-May 1, 2013, Montreal QC. The 104th American Oil Chemists' Society Annual Meeting & Expo.
83. *Metherel, A.H., †Stark, K.D. Assessing stability of fingertip prick and whole blood stability during long-term storage and associated mechanisms of degradation. April 28-May 1, 2013, Montreal QC. The 104th American Oil Chemists' Society Annual Meeting & Expo.
84. *Aristizabal Henao, J.J., *Metherel, A.H., Pilote, L., †Stark, K.D., for the GENESIS PRAXY Investigators. Plasma, erythrocytes and whole blood fatty acids: Translating compositional data. April 28-May 1, 2013, Montreal QC. The 104th American Oil Chemists' Society Annual Meeting & Expo.

85. *Chalil, A., †Stark, K.D. Fatty acid composition of plasma phospholipid fractions of women during pregnancy and postpartum: A pilot study. April 28-May 1, 2013, Montreal QC. The 104th American Oil Chemists' Society Annual Meeting & Expo.
86. *Kitson, A.P., *Marks, K.A., Shaw, B., Mutch, D.M., †Stark, K.D. Hepatic $\Delta 6$ -desaturase and docosahexaenoic acid are increased by supplementation of ovariectomized rats with 17 β -estradiol, but not progesterone. April 28-May 1, 2013, Montreal QC. The 104th American Oil Chemists' Society Annual Meeting & Expo.
87. *Streit, I.T., *Lien, W., *Kitson, A.P., *Aristizabal Henao, J.J., *Marks, K.A., Rush, J.W.E., †Stark, K.D. 17 β -estradiol is associated with higher Docosahexaenoic acid in liver and plasma but not adipose or heart. Ontario Exercise Physiology Conference, Barrie, ON, January 25-27, 2013.
88. Bjerg, A.T., Kristensen, M., Stark, K.D., Astrup, A. Effect of *Lactobacillus casei* W8 on blood lipids and stearyl-Coenzyme A desaturase 1 activity. September 20-24, 2012, San Antonio, Texas. Obesity 2012.
89. *Marks, K.A., *Kitson, A.P., Shaw, B., Mutch, D.M., †Stark, K.D. Changes in expression of lipid and fatty acid metabolism genes in liver of ovariectomized rats as measured by high-density microarray support a role of ovarian hormones in hepatic lipid metabolism. September 4-9, 2012, Banff, AB. Frontiers in Lipid Biology/Canadian Lipoprotein Conference.
90. Poulsen, S.K., Kiens, B., Due, A.P., Stark, K.D., Stender, S., Holst, C., Astrup, A., Larsen, T.M. The New Nordic Diet increases weight loss and improves blood pressure – a 6 month randomized controlled trial. June 3-5, 2012, Reykjavik, Iceland. 10th Nordic Nutrition Conference.
91. Sørensen, L.B., Dyssegaard, C.B., Egelund, N., Stark, K.D., Damsgaard, C.T., Astrup, A., Lauritzen, L., Michaelsen, K.F. Cognitive performance – associations with iron and n-3 PUFA status among 8-11 year old Danish children in the OPUS School Meal Study. June 3-5, 2012, Reykjavik, Iceland. 10th Nordic Nutrition Conference.
92. *Smith, T.L., Rush, J.W.E., †Stark, K.D. The infusion of docosahexaenoic acid during reperfusion after ischemia has dose dependent effects in isolated perfused rat hearts. May 26-30, 2012, Vancouver, BC. The 10th Congress of the International Society for the Study of Fatty Acids and Lipids.
93. Bjarnadottir, E., Pedersen, L., Stark, K.D., Lauritzen, L., Bisgaard, H. The association between lifestyle factors and composition of whole blood fatty acids in pregnant women. May 26-30, 2012, Vancouver, BC. The 10th Congress of the International Society for the Study of Fatty Acids and Lipids.
94. Damsgaard, C.T., Stark, K.D., Michaelsen, K.F., Lauritzen, L. Whole blood n-3 PUFA-status in school children is associated with improved plasma lipid profile and increased blood pressure in boys. March 1-3, 2012, Paris, France. The 1st International Conference on Nutrition and Growth.
95. Bowes, J.C., Dunn, H.A., Stacey, E.A., Keller, H.H., Duizer, L.M., Stark, K.D., Sharratt, M.T., d'Avernas, J., Duncan, A.M. Agri-food for Healthy Aging (A-HA): Linking agri-food, nutrition & health. February 1, 2012, Guelph, ON. OMAFRA Knowledge Exchange Day: KTT in Action.
96. *Ciobanu, F., Zou, Y.Y., *Metherel, A.H., Schreiber, A., Ellis, R., Taha, A.Y., Cracauer, R., †Stark, K.D. A novel one-step method for nutrient and pesticide extractions from food samples. September 18-21, 2011, New Orleans, LA. The 125th AOAC International Meeting.
97. Bowes, J., Dunn, H., Kellar, H., Stark, K.D., Sharratt, M.T., d'Avernas, J., Duncan, A. Agri-food for Healthy Aging: Building connections and advancing knowledge within the agri-food, nutrition and health sectors. March 1, 2011, Guelph, ON. Partnership Practices: Working with Community, Industry and Government.
98. *Marks, K., *Kitson, A.P., *Metherel, A.H., †Stark, K.D. Sexual dimorphisms in fatty acid profiles and expression of stearyl CoA desaturase. January 21-23, 2011, Barrie, ON. Ontario Exercise Physiology Conference.
99. *Metherel, A.H., *Buzkievich, L.M., *Charkharin, P., *Patterson, A.C., *Peel, A.C., *Howorth, A.M., *Kishi, D.M., †Stark, K.D. Postprandial response of omega-3 blood biomarkers in erythrocytes, whole blood and plasma total lipids, phospholipids and triacylglycerols. May 29 – June 3, 2010, Maastricht, The Netherlands. The 9th Congress of the International Society for the Study of Fatty Acids and Lipids.
100. *Patterson, A.C., *Metherel, A.H., Hanning, R.M., †Stark, K.D. Long term adherence following advice to increase eicosapentaenoic and docosahexaenoic acid intakes using different dietary

- strategies. May 29 – June 3, 2010, Maastricht, The Netherlands. The 9th Congress of the International Society for the Study of Fatty Acids and Lipids.
101. *Kitson, A.P., *Smith, T.L., †Stark, K.D. Tissue specific sex differences in the expression of genes involved in docosaehaenoic acid biosynthesis in rats. May 29 – June 3, 2010, Maastricht, The Netherlands. The 9th Congress of the International Society for the Study of Fatty Acids and Lipids.
 102. *Smith, T.L., *Patterson, A.C., *Metherel, A.H., †Stark, K.D. Clinical preparation of erythrocytes can influence fatty acid composition. May 16 - 19, 2010, Phoenix, AZ. The 101th American Oil Chemists' Society Annual Meeting & Expo.
 103. *Charkhzarin, P., Izadi, H., †Stark, K.D. Soleus preferentially accumulates labelled linoleate and α -linolenate as compared with red and white gastrocnemius muscles. May 16 - 19, 2010, Phoenix, AZ. The 101th American Oil Chemists' Society Annual Meeting & Expo.
 104. *Patterson, A.C., Hanning, R.M., Stark, K.D. Increasing omega-3 fatty acid intakes through nutraceutical, functional food and whole food strategies in those at risk for the development of cardiovascular disease. May 6, 2010, Toronto ON, Canadian Foundation for Dietetic Research Breakfast & Research Showcase.
 105. *Smith, T.L., *Kitson, A.P., †Stark, K.D. Tissue specific sex differences in fatty acid content and mRNA expression of delta 5 and 6 desaturase, acyl coA oxidase and PPAR α , January 22-24, 2010, Barrie, ON. Ontario Exercise Physiology Conference.
 106. *Kishi, D., *Peel A.C., Patterson, A.C., Ilhamto, N., Duizer, L.M., †Stark, K.D. The development and sensory assessment of novel foods enriched with n-3 fatty acids that are suitable for use in long term care residences, January 22-24, 2010, Barrie, ON. Ontario Exercise Physiology Conference.
 107. Gamu, D., Bombardier E., Sayer, R., Trinh, A., Stark, K.D., Tupling, A.R. Effects of high-fat feeding and exercise training on skeletal muscle metabolism in sarcolipin knock-out mice, January 22-24, 2010, Barrie, ON. Ontario Exercise Physiology Conference.
 108. †Stark, K.D., *Metherel, A.H. Omega-3 fatty acid profiling to assess cardiovascular disease risk. May 20 - 22, 2009, Ottawa, ON. Institute of Circulatory and Respiratory Health Young Investigators Forum.
 109. *Metherel, A.H., †Stark, K.D. A novel method to quantify fatty acids in fingertip prick blood. May 2 - 6, 2009, Orlando, FL. The 100th American Oil Chemists' Society Annual Meeting & Expo.
 110. *Patterson, A.C., *Hogg, R.C., *Fratesi, J.A. †Stark, K.D. Comparison of n-3 fatty acid status via blood biomarker and dietary intake in elderly, middle-age and young adult populations. May 2 - 6, 2009, Orlando, FL. The 100th American Oil Chemists' Society Annual Meeting & Expo.
 111. *Kitson, A.P., *Stroud, C.K., †Stark, K.D. Flaxseed lignans alter the transcription of genes controlled by peroxisome proliferator activated receptors. April 27 - 30, 2009, Waterloo, ON. Graduate Students Association Conference, University of Waterloo.
 112. *Fratesi, J.A., *Hogg, R.C., *Young, G.S., *Patterson, A.C., Thomas, K., Sharratt, M.T., †Stark, K.D. Residents in a long term retirement community in Canada have low blood levels and low dietary intakes of n-3 highly unsaturated fatty acids, May 18 - 22, 2008, Kansas City, MO. The 8th Congress of the International Society for the Study of Fatty Acids and Lipids.
 113. Taha, A.Y., *Metherel, A.H., †Stark, K.D. Higher lipid extraction throughput of solid matrix samples including food, May 18 - 22, 2008, Kansas City, MO. The 8th Congress of the International Society for the Study of Fatty Acids and Lipids.
 114. *Metherel, A.H., *Armstrong, J.M., *Patterson, A.C., *Charkhzarin, P., Hughson, R.L., Holub, B.J. †Stark, K.D. Hemodynamic responses of men and women before and after fish oil supplementation, May 13 - 16, 2007, Quebec City, QC. The 98th American Oil Chemists' Society Annual Meeting & Expo.
 115. *Metherel, A.H., Irvine, T., Green, H.J., †Stark, K.D., Tupling, A.R. Sarcoplasmic reticulum phospholipid and fatty acid composition in rat soleus and red and white gastrocnemius, January 27, 2007, Barrie, ON. Ontario Exercise Physiology Conference.
 116. *Patterson, A.C., †Stark, K.D. Fatty acid profiles of a typical Canadian diet compared to diets supplemented with omega-3 enriched nutraceuticals and functional foods, January 26 - 28, 2007, Barrie, ON. Ontario Exercise Physiology Conference.
 117. *Izadi, H., Modi, N.J., Bird, R.P., †Stark, K.D. Hepatic triacylglycerol and phospholipid fatty acid composition of lean and obese zucker rats, January 26 - 28, 2007, Barrie, ON. Ontario Exercise Physiology Conference.

118. *Charkhzarin, P., Quadrilatero, J., †Stark, K.D. Docosahexaenoic acid (DHA) content in subcellular membranes of various rat skeletal muscles differs by fiber type, January 26 - 28, 2007, Barrie, ON. Ontario Exercise Physiology Conference.
119. *Armstrong, J.M., *Metherel, A.H., †Stark, K.D. A comparison of a rapid finger prick blood sample/direct microwave methylation method with conventional methods for the determination of omega-3 fatty acids. July 23 - 28, 2006, Cairns, Australia. The 7th Congress of the International Society for the Study of Fatty Acids and Lipids.
120. Masood, A., Stark, K.D., Salem, N., Jr. High throughput fatty acid analysis. July 23 - 28, 2006, Cairns, Australia. The 7th Congress of the International Society for the Study of Fatty Acids and Lipids.
121. *Metherel, A.H., *Armstrong, J.M. and Stark, K.D. Female washout response to omega-3 fatty acid supplementation in plasma, erythrocytes and whole blood. July 23 - 28, 2006, Cairns, Australia. The 7th Congress of the International Society for the Study of Fatty Acids and Lipids.
122. *Metherel, A.H., Stark, K.D., *Armstrong, J.M., Tupling, A.R. Heat stress increases the free fatty acid concentration in rat skeletal muscle. April 3 - 6, 2006, Waterloo, ON. Graduate Students Association Conference, University of Waterloo.
123. *Armstrong, J.M., *Metherel, A.H., †Stark, K.D. A rapid and efficient method for the determination of omega-3 fatty acids from finger prick blood samples. January 27 - 29, 2006, Barrie, ON. Ontario Exercise Physiology Conference.
124. Stark, K.D., Beblo, S., Murthy, M., Whitty, J.E., Buda-Abela, M., Janisse, J., Martier, S.S., Sokol, R.J., Hannigan, J.H., Salem, N. Jr. Essential fatty acids and fetal alcohol spectrum disorders. June 25, 2005, Santa Barbara, CA. Fetal Alcohol Syndrome Study Group Symposium at the 28th Annual Scientific Meeting of the Research Society on Alcoholism.
125. Stark, K.D., Lim, S.Y., Loewke, J. and Salem, N. Jr. The fatty acid composition of muscle types differ and are altered by n-3 fatty acid deficiency. June 22, 2005, Guelph, ON. Canadian Federation of Biological Sciences 48th Annual Meeting.
126. Stark, K.D., Pawlosky, R.J., Sokol, R.J., Hannigan, J.H., Salem, N., Jr. Maternal smoking is associated with decreased 5-methyltetrahydrofolate in infant cord plasma. June 21 - 24, 2005, Guelph, ON. Canadian Federation of Biological Sciences 48th Annual Meeting.
127. Irvine, T., Holloway, G.P., Green, H.J., Bombardier, E., Duhamel, T.A., Stark, K.D., Tupling, A.R. Association between SR Membrane Permeability to Ca²⁺ and lipid composition in rat skeletal muscle. June 21 - 24, 2005, Guelph, ON. Canadian Federation of Biological Sciences 48th Annual Meeting.
128. Duhamel, T.A., Green, H.J., Irvine, T., Graham, D.A., Denniss, S.G., Rush, J.W.E., Stark, K.D., Tupling, A.R. Sarcoplasmic reticulum Ca²⁺-handling properties in skeletal muscle following an 8-week docosahexaenoic acid (DHA) diet. June 21 - 24, 2005, Guelph, ON. Canadian Federation of Biological Sciences 48th Annual Meeting.
129. Salem, N., Jr., Stark, K.D., Masood, A., Sidisky, L.M. Fast GC analysis of fatty acid methyl esters and concepts for automated transmethylation reactions. June 27 - July 1, 2004, Brighton, UK. The 6th Congress of the International Society for the Study of Fatty Acids and Lipids.
130. Stark, K.D., Denomme, J., Holub, B.J. Determination of dietary n-3 fatty acid intakes of pregnant canadian women by direct quantitation. June 27 - July 1, 2004, Brighton, UK. The 6th Congress of the International Society for the Study of Fatty Acids and Lipids.
131. Stark, K.D., Sidisky, L.M., Salem, N., Jr. Development of a fast gas chromatography method for identification of fatty acid methyl esters from mammalian samples. June 27 - July 1, 2004, Brighton, UK. The 6th Congress of the International Society for the Study of Fatty Acids and Lipids.
132. Salem, N., Jr., Lim, S.Y., Loewke, J., Stark, K.D. Alterations in the fatty acid compositions of various tissues after dietary supplementation with DPAn-6 or DHA. June 27 - July 1, 2004, Brighton, UK. The 6th Congress of the International Society for the Study of Fatty Acids and Lipids.
133. Stark, K.D., Beblo, S., Sokol, R.J., Hannigan, J.H., Salem N, Jr. A comparison of plasma and erythrocyte fatty acids from african-american women at gestation, delivery and postpartum, June 27 - July 1, 2004, Brighton, UK. The 6th Congress of the International Society for the Study of Fatty Acids and Lipids.
134. Stark, K.D., Beblo, S., Sokol, R.J., Hannigan, J.H., Salem, N., Jr. Lifestyle factors that influence the fatty acid status of African-American women during pregnancy. June 27 - July 1, 2004, Brighton, UK. The 6th Congress of the International Society for the Study of Fatty Acids and Lipids.

135. Stark, K.D., Beblo, S., Murthy, M., Janisse, J., Rockett, H., Whitty, J.E., Buda-Abela, M., Sokol, R.J., Hannigan, J.H., Salem, N., Jr. Comparison of prenatal, peripartum and postpartum fatty acid composition of total lipids from plasma and erythrocytes of African-American women. October 14, 2003, Bethesda, MD. NIH Research Festival.
136. Pawlosky, R.J., Stark, K.D., Murthy, M., Janisse, J., Rockett, H., Whitty, J.E., Buda-Abela, M., Sokol, R.J., Hannigan, J.H., Salem, N., Jr. Influences of dietary folate and alcohol consumption on plasma 5-methyltetrahydrofolate in African American women at 24 weeks of pregnancy. October 14, 2003, Bethesda, MD. NIH Research Festival.
137. Stark, K.D. Holub, B.J. The effect of DHA supplementation: in vivo retroconversion to EPA and effects on serum lipids in postmenopausal women receiving and not receiving hormone replacement therapy. May 8 - 11, 2002, Montreal, QC. The 5th Congress of the International Society for the Study of Fatty Acids and Lipids.
138. Stark, K.D., Park, E.J., Holub, B.J. Evidence of female hormonal status differences on the n-3 fatty acid content of serum phospholipids. June 4 - 9, 2000, Tsukuba, Japan. The 4th Congress of the International Society for the Study of Fatty Acids and Lipids.
139. Stark, K.D., Mulvad, G., Pedersen, H.S., Park, E.J., Dewailly, E., Holub B.J. The fatty acid compositions of serum phospholipids of postmenopausal women from Greenland and Canada, April 25 - 28, 2000, San Diego, CA. The 91st American Oil Chemists' Society Annual Meeting & Expo.
140. Stark, K.D., Maines, V.A., Park, E.J., Holub, B.J. The effect of omega-3 supplementation on serum lipids in post-menopausal women taking and not taking hormone replacement therapy in a placebo-controlled double-blind trial. September 23 - 25, 1999, New York, NY. The 10th Annual Meeting of the North American Menopause Society.
141. Stark, K.D., Park, E.J., Holub, B.J. The effect of omega-3 supplementation on serum lipids in post-menopausal women with or without hormone replacement therapy (HRT). December 11, 1998, Toronto, ON. The 29th Heart and Stroke Clinical Update.
142. Stark, K.D., Meckling-Gill, K.A. Regulation of tumour growth by dietary fatty acids and voluntary exercise in Fischer 344 rats, July 27 - August 1, 1997, Montreal, QC. The 16th International Congress of Nutrition.

PRESENTATION TO PROFESSIONAL GROUPS (this category for non-peer groups)

a) Invited

1. Stark, K.D. The how, what, why and where about omega-3 fatty acids. April 10, 2013, Village of Winston Park, Kitchener, ON, Innovative Agri-Food & Nutrition Strategies for Healthy Aging.
2. Stark, K.D. The how, what, why and where about omega-3 fatty acids. April 4, 2013, Village of Humber Heights, Etobicoke, ON, Innovative Agri-Food & Nutrition Strategies for Healthy Aging.
3. Stark, K.D., Assessing and recommending intakes of omega-3 fatty acids, October 29, 2012, School of Pharmacy, University of Waterloo, Waterloo, ON. Functional Foods, Nutraceuticals & Beyond: Collaboration in Action.
4. Stark, K.D., Strategies to increase intake of omega-3 fatty acids (DHA/EPA) in retirement and long-term care facilities, November 10, 2010, Toronto, ON. Royal Agricultural Winter Fair Health Professionals' Forum.
5. Stark, K.D. Enriching the diets of retirement community residents with functional foods: An omega example, October 28, 2009, Guelph, ON. Guelph Food Technology Centre Innovation Breakfast.
6. Stark, K.D. Intakes and blood levels of omega-3 polyunsaturated fatty acid of Canadian elderly are lower than estimates associated with protection from cognitive decline and aging, February 11, 2009. Toronto, ON. Agri-Food Innovation Forum.
7. Stark, K.D. Omega-3 fatty acids & human health - Don't skip on the shrimp, January 29-30, 2008, St. John's NL. Atlantic Coldwater Shrimp Conference.
8. Stark, K.D. Lipid oxidation and health concerns, June 22, 2006, Guelph ON. Guelph Food Technology Centre Lipid Oxidation and Antioxidants Course.
9. Stark, K.D. and Holub, B.J. The human health benefits of DHA, October 15, 1999, Toronto, ON. Canadian Health Food Association Meeting.

OTHER PRESENTATIONS:

Television

1. Omega-3 fish oil supplement benefits doubted, Nov 11, 2012. The National, Canadian Broadcasting Company, <http://www.cbc.ca/news/health/story/2012/11/09/omega-3-fish.html>
2. Health from the sea, August 14, 2000. Global First National News, CanWest MediaWorks Publications Inc.
3. Fish oil and heart health, August 17, 2000. ONTV News at Noon, WIC Western International Communications Ltd.

Radio

1. How fish oil can help prevent childhood asthma, Dec 29, 2016. The Morning Edition – K-W, CBC Radio One, Canadian Broadcasting Company. <http://www.cbc.ca/player/play/843678275869>
2. The promise of phytoestrogens, May 28, 1998. Health report, CBC Radio One, Canadian Broadcasting Company.

Magazines

1. *Steckel, K.E., *Aristizabal Henao, J.J., Stark, K.D. Medio level macrolipidomics for nutritional research, *Inform*, July/August 2020, Volume 31 (7) 18-21, AOCS Press, Inc.
2. Stark, K.D. Here's one really easy way to lower your baby's risk of developing childhood asthma, Jan 17, 2017, *Today's Parent*, St. Joseph Communications.
3. Stark, K.D. Omega-3 fatty acid profiling and dietary forensics, *Inform*, August 2009, Volume 20 (8) 501-503, AOCS Press, Inc.
4. Stark, K.D. UW scientist receives major award for omega-3 research contributions, May 1, 2009, *Exchange*, Exchange Business Communication Inc.
5. Stark, K.D. The next great Canadian idea, September 29, 2008, *Canadian Business*, Rogers Publishing Limited.
6. Stark, K.D. Catch of the day keeps heart failure away, January 2001 edition, *Alive*, Alive Publishing Group.

Newspapers/E-news

1. Fish oil supplements during pregnancy don't improve child's intelligence, study says, March 21, 2017, CBCNews <http://www.cbc.ca/news/health/fish-oil-intelligence-1.4035205>
2. Omega-3 supplement for pregnant women reduces childhood asthma risk, Dec 29, 2016, Waterloo Region Record.
3. Study links trans fat to depression, January 26, 2011, healthzone.ca.
4. Study helps boost intake of omega-3 fatty acids, May 30, 2009, Waterloo Region Record.
5. How do you like your omega-3 fatty acids? May 17, 2008, Waterloo Region Record.

YouTube

1. Omega-3 supplements can prevent childhood asthma. Jan 9, 2016, <https://www.youtube.com/watch?v=oWmf8M5CV0E>
2. What are the challenges with assessing a global status for Omega-3s? Jan 6, 2016, <https://www.youtube.com/watch?v=PPaP3x8fNg0>

Community Group Presentations

1. Stark, K.D. Understanding omega-3 fatty acids and how they affect brain and heart health. Extended Learning Opportunities, Branch 442 Royal Canadian Legion. April 2, 2015, Erin, ON. Branch 442 Royal Canadian Legion.
2. Stark, K.D. Fatty acid profiling and dietary forensics. Waterloo Unlimited. November 13, 2014, Waterloo, ON. Department of Kinesiology, University of Waterloo.
3. Stark, K.D. Fatty acid profiling and dietary forensics. Waterloo Unlimited. November 14, 2013, Waterloo, ON. Department of Kinesiology, University of Waterloo.
4. Stark, K.D. Understanding omega-3 fatty acids. Kitchener Public Library Lecture Series. October 23, 2013, Kitchener, ON. Forest Heights Community Library.
5. Stark, K.D. Omega-3 fatty acids and health: Am I eating enough? Westhill Retirement Community Speaker Series. May 7, 2013, Waterloo, ON. Westhill Sifton Retirement Residence.

6. Stark, K.D. Community helpers: Professors, Diet and Fat. March 6, 2012, Waterloo, ON. Kitchener-Waterloo Bilingual School.
7. Stark, K.D. Omega-3 polyunsaturated fatty acids. PHARM 366 Guest Lecture, January 19, 2012, Waterloo, ON, University of Waterloo.
8. Stark, K.D. Omega-3 polyunsaturated fatty acids. PHARM 366 Guest Lecture, January 20, 2011, Waterloo, ON, University of Waterloo.
9. Stark, K.D. We are what we eat? KIN 104 Guest lecture, November 2, 2010, Waterloo, ON, University of Waterloo.
10. Stark, K.D. Introductory Nutrition. PHARM 220/221 Guest Lectures, January 18 & 25, 2010, Waterloo, ON, University of Waterloo.
11. Stark, K.D. Fatty acids? November 18, 2008, Waterloo, ON. Kitchener-Waterloo Bilingual School.
12. Stark, K.D. Cardiovascular health & dietary fat, September 25, 2001, Ingersoll, ON. Ingersoll Chapter of the Heart and Stroke Foundation of Ontario.
13. Stark, K.D. Nutraceuticals & functional foods, May 1-30, 2000, Guelph, ON. Agrifood Choices Camp 2000, University of Guelph.
14. Stark, K.D. Cardiovascular disease & women, November 16, 1999, Guelph, ON. Metabolic Control of Disease Lecture, University of Guelph.
15. Stark, K.D. Nutrition and the prevention of cardiovascular disease. February 15, 1999, Guelph, ON. The Guelph Cardiac Support Group, Guelph General Hospital.
16. Stark, K.D. Breast cancer and dietary influences. December 17, 1998, Guelph, ON. Guelph Collegiate & Vocational Institute.
17. Stark, K.D. Nutrition and cardiovascular disease risk in women. November 7, 1998, Guelph, ON. Women, Heart & Stroke Initiative Information Workshop, University of Guelph.
18. Stark, K.D. Phytoestrogens and breast cancer. October 19, 1998, Guelph, ON. The Guelph and Wellington Area Breast Cancer Awareness Group.
19. Stark, K.D. Cardio-foods. Nutraceuticals and Functional Foods Lecture, October 7, 1998, Guelph, ON University of Guelph.
20. Stark, K.D. Good fat, bad fat and the healthy heart. August 13, 1998, Cambridge, ON. Camp Discovery, Salvation Army.
21. Stark, K.D. Exercise and cancer. Nutrition, exercise and metabolism lecture, March 25, 1998, Guelph, ON. University of Guelph.

RESEARCH GRANTS AND CONTRACTS:

<u>Names of Researcher(s)</u>	<u>Agency</u>	<u>\$ Amount</u> <u>(UW)</u>	<u>Tenure</u>	<u>Short Title</u>
Stark, K.D.	IAFNS	\$97,596 (USD)	11/24 – 02/27	Blood Levels of Omega-3 In Teens
Stark, K.D.	NSERC	\$165,000	05/24 – 05/29	Untargeted Lipidomics for Oxidized Phospholipids
Stark, KD.	NSERC RTI	\$142,745	04/22 – 03/23	Replacing Fatty Acid Profiling System
Stark, KD.	HEALTH NSERC RTI	\$5,00	04/22 – 03/23	Replacing Fatty Acid Profiling System
Laird, B., Skinner, K., Ostertag, S. Co-Applicants: De Silva, A., Dunmall, K., Etter, M., Gallagher, C., Gillis, M., Gruben, R., Jenkins, E., Kenny, T., Kutz, S., Lea, E., Little, M., Loseto, L., MacLean, J., Rand, A., Stark, K., Tornig, A., Wania, F., Wong, M.	NCP Canada	\$166,750	04/21– 04/24	Country Foods for Good Health (Database)
Ostertag, S. Laird, B.,	NCP Canada	\$249,734	04/21– 04/24	Country Foods for

Skinner, K., Co-Applicants: De Silva, A., Dunmall, K., Etter, M., Gallagher, C., Gillis, M., Gruben, R., Jenkins, E., Kenny, T., Kutz, S., Lea, E., Little, M., Loseto, L., MacLean, J., Rand, A., Stark, K., Tornig, A., Wania, F., Wong, M.				Good Health (Phase 2)
Laird, B., Skinner, K., Ostertag, S. Co-Applicants: Chan, L., Dunmall, K., Gallagher, C., Hu, D., Jenkins, E., Kutz, S., Lea, E., Loseto, L., Ratelle, M., Stark, K.D., Tornig, A., Wania, F.	NCP Canada	\$396,750	04/20– 04/22	Country Foods for Good Health (Inuvialuit Settlement)
Beazley, M.A., Stark, K.D.	NAR-Catalyst	\$20,000	05/19 – 05/20	Neuronal Membranes in Aging and Alzheimer's
Stark, K.D.	NSERC	\$198,000	05/18 – 05/24	Nutritional Lipidomics
Honek, J.F., Stark, K.D.	WIN-IRF	\$99,031	09/18 – 09/19	Lipid Delivery by Nano Protein Capsules
Laird, B. Co-Applicants: Bouchard, M., Boyd, A., Furgal, C., Hanning, R., Low, G., Majowicz, S., Ratelle, M., Simmons, D., Skinner, K., Stark, K.D., Swanson, H.	NCP Canada	\$194,258	04/18– 04/19	Contaminant Biomonitoring in the NWT Mackenzie Valley
Ma, D.M. Co-Applicants: Duncan, A.M., Little, J., Mutch, D.M., Palmer, L.J., Stark, K.D.	CIHR	\$409,276	03/18 – 03/22	Global Fatty Acid Reference Ranges
Laird, B. Co-Applicants: Bouchard, M., Boyd, A., Furgal, C., Hanning, R., Low, G., Majowicz, S., Ratelle, M., Simmons, D., Skinner, K., Stark, K.D., Swanson, H.	NCP Canada	\$420,000	07/17– 04/18	Contaminant Biomonitoring in the NWT Mackenzie Valley
Stark, K.D. Co-Applicants: Duncan, R.E., Gorecki, T., Murphy, G.K., Schipper, D.J.	NSERC RTI	\$149,961	05/17 – 05/18	Atmospheric Pressure Gas Chromatograph
Stark, K.D.	UW CIHR RIF	\$8,000	09/16 – 09/17	Novel Biomarkers Using Lipidomics
Duncan, R.E. Co-Applicants: Stark, K.D.	CDA	\$121,893	02/16 – 02/19	Renal-metabolic axis in glucose control
Laird, B. Co-Applicants: Bouchard, M., Hanning, R., Low, G., Majowicz, S., Power, M., Simmons, D., Stark, K.D., Swanson, H.	NCP Canada	\$182,420	04/15 – 04/17	Contaminant Biomonitoring in the Delcho Region
McIlroy, W. Co-Applicants: Callaghan, J., Giangregario, L., Hughson, R., Keller, H. Safavi-Naeini, S., Staines, R., Stark, K.D., Tupling, A.R., Wong, A.	CFI-IF	\$693,512	06/15 – 06/16	ARCH Facility
McIlroy, W.	ORF-RI	\$693,512	06/15 – 06/16	ARCH

Co-Applicants: Callaghan, J., Giangregario, L., Hughson, R., Keller, H. Safavi-Naeini, S., Staines, R., Stark, K.D., Tupling, A.R., Wong, A.				Facility
Stark, K.D. Co-Applicants: Duncan, R.E., Guillemette, J.G., Honek, J.G., Jones, L.W., Laird, B.D. Meiering, E.M., Mielke, J., Mourtzakakis, M., Quadrilatero, J. Spagnuolo, P.A., Taylor, S.D., Tupling, A.R.	NSERC RTI	\$149,961	05/15 – 05/16	Nanospray LC
Duncan, R.E. Co-Applicants: Mielke, J., Mourtzakakis, M., Niechwiej-Szwedo, E. Quadrilatero, J., Stark, K.D., Tupling, A.R.	NSERC RTI	\$29,943	05/15 – 05/16	Gel documentation system
Duncan, A.M. Co-Applicants: Duizer, L., Dunn, H., Keller, H., Stark, K.D.	OMAF & MRA KTT	\$35,000	09/14 – 09/17	Ontario agriculture & healthy aging
Stark, K.D. Elzinga, J.L.	UW-AHS	\$5,000	09/14 – 12/14	Hallman Undergraduate Research Fellowship
Laird, B. Co-Applicants: Bouchard, M., Hanning, R., Low, G., Majowicz, S., Power, M., Simmons, D., Stark, K.D., Swanson, H.	NCP Canada	\$73,925	07/14– 04/15	Pilot: Contaminant Biomonitoring in the Delcho Region
Stark, K.D.	UW CIHR RIF	\$8,000	04/14 – 04/15	DHA and Ischemia Reperfusion Injury
Quadrilatero, J. Co-Applicants: Duncan, R.E., Gorbet, M., Glerum, D.M., Mielke, J., Mourtzakakis, M. Spagnuolo, P.A., Stark, K.D., Tupling, A.R.	NSERC RTI	\$69,903	05/14 – 05/15	Cell Respirometer
Ma, D.M., Palmer, L.J. Co-Applicants Little, J., Stark, K.D.	CIHR	\$545,111 (\$120,000)	07/13 – 12/17	Canadian Fatty Acid Reference Ranges
Stark, K.D.	NSERC	\$145,000	05/13 – 05/18	Sex and Fatty Acid Metabolism
Duncan, R.E. Co-Applicants: Hughson, R., McIlroy, W., Mielke, J., Mourtzakakis, M. Niechwiej-Szwedo, E., Staines, R., Stark, K.D.	NSERC RTI	\$95,389	05/13 – 05/14	Next generation Sequencer
Stark, K.D.	NSERC	\$25,000	05/12 – 05/13	Sex and Fatty Acid Metabolism
Keller, H. Co-Applicants: Duizer, L., Duncan, A., Stark, K.D.	CIHR Dissemination	\$11,205	06/12 – 06/13	Innovative Agri-food and Nutrition Strategies for Aging
Duizer, L. Co-Applicants:	OMAFRA Dissemination	\$144,700 (\$37,770)	06/12 – 06/15	Improving the nutrient intake of older adults

Duncan, A., Keller, H., Stark, K.D.

Stark, K.D.	Tier 2 CRC	\$500,000	05/12 – 05/17	Chair in Nutritional Lipidomics
Stark, K.D. Certo Labs, Inc.	NSERC CRD	\$66,151	11/10 – 05/12	High throughput Solid Matrix Lipid Extraction
Pilote, L. Co-Applicants: Bacon, S., Chalifour, L., Cox, J., Dasgupta, K., Daskalopoulous, S., Eisenberg, M., Engert, J., Ghali, W., Hamet, P., Humphries, K., Kahn, N., Karp, I., Lavoie, K., Norris, C., Rabi, D., Stark, K.D., Tagalakakis, V., Tremblay, J., Tu, J.	HSFC*	\$600,000 (\$16,000)	04/11 – 04/14	Gender and sex determinants of premature acute coronary syndrome
Pilote, L., Karp, I. Co-Applicants: Bacon, S., Cox, J., Dasgupta, K., Daskalopoulous, S. Eisenberg, M., Ghali, W., Greaves, L., Humphries, K. Kahn, N., Lavoie, K., Loucks, E., Norris, C., Rabi, D., Stark, K.D. Tagalakakis, V., Tremblay, J., Tu, J.	CIHR	\$100,000 (\$5,000)	07/11 – 07/12	Gender and sex determinants of premature acute coronary syndrome
Stark, K.D. Co-Applicants: Quadrilatero, J., Tupling, A.R.	NSERC RTI	\$29,987	05/10 – 05/11	Thermal cycler & Spectrophotometer
Stark, K.D. Certo Labs, Inc.	HTX BIP	\$223,161 (\$63,161)	10/09 – 10/10	Rapid Fatty Acid Derivitization in Blood
Duncan, A.M. Demeter, J., Keller, H., Duizer, L., Stark, K.D., Sharratt, M, d'Avernas,J.	OMAFRA	\$113,525	09/10 – 04/13	Agri-food for Healthy Aging (A-HA) Knowledge Advancement
Certo Labs, Inc. Kangaroo Design Stark, K.D.	OCE Market Readiness	\$272,610 (\$10,000)	08/09 – 08/10	High throughput Homogenizer
Stark, K.D.	ERA award Ontario MRI	\$150,000	04/09 – 04/13	Novel Automated Fatty Acid Determinations
Stark, K.D. Buzikievich, L.M.	UW-AHS	\$3060	04/09 – 08/09	Hallman Undergraduate Research Fellowship
Stark, K.D.	NSERC	\$136,255	05/07 – 05/12	Gender and Fatty Acid Metabolism
Pilote, L. Co-Applicants: Bacon, S., Chalifour, L., Cox, J., Dasgupta, K., Daskalopoulous, S., Eisenberg, M., Engert, J., Ghali, W., Hamet, P., Humphries, K., Kahn, N., Karp, I., Lavoie, K., Norris, C., Rabi, D., Stark, K.D., Tagalakakis, V., Tremblay, J., Tu, J.	HSFC*	\$620,062 (\$31,000)	04/08 – 04/11	Gender and sex determinants of premature acute coronary syndrome

*This is a nationwide HSFC grant with regional contributions as follows:

HSF Alberta, NWT & Nunavut	\$144,249
HSF BC & Yukon	\$137,241
HSF Nova Scotia	\$141,000

HSF Ontario		\$136,572		
HSF Québec		\$51,000		
HSF Québec Desjardins Sécurité financière Award		\$10,000		
Pilote, L., Karp, I. Co-Applicants	CIHR	\$100,000 (\$5,000)	07/08 – 07/09	Gender and sex determinants of premature acute coronary syndrome
Bacon, S., Cox, J., Dasgupta, K., Daskalopoulous, S. Eisenberg, M., Ghali, W., Greaves, L., Humphries, K. Kahn, N., Lavoie, K., Loucks, E., Norris, C., Rabi, D., Stark, K.D. Tagalakakis, V., Tremblay, J., Tu, J.				
Stark, K.D.	CFI-IOF	\$54,000	09/07 – 04/10	Fatty Acid Facility Operating Fund
Perry S.D. Stark, K.D., Fletcher P.C.	CIHR	\$99,700 (\$25,000)	09/08 – 09/09	Improved Motor Function in Arthritis Sufferers with Fish Oil Intake
Stark, K.D. Hanning, R.M.	CFDR	\$15,000 (\$15,000)	06/07 – 06/09	Adherence to Omega-3 Diets
Stark, K.D. Certo Labs, Inc.	OCE	\$28,320 (\$28,320)	10/07 – 04/08	High throughput Solid Matrix Lipid Extraction
Stark, K.D.	UW-IPR	\$8,000	04/07 – 09/07	High throughput Fatty Acid Analytical Method
Stark, K.D.	GENESIS CIHR/HSFC	\$100,000	04/05 – 04/07	New Investigator Scholarship Award
Stark, K.D.	ORF	\$180,000	07/06 – 04/07	Fatty Acid Research Facility
Stark, K.D.	CFI-NOF	\$180,000	11/05 – 04/07	Fatty Acid Research Facility
Holub, B.J. Stark, K.D.	AFMnet	\$100,000 (\$30,000)	12/05 – 12/06	Omega-3 Fatty Acids and Heart Rate Dynamics

GRADUATE STUDENT SUPERVISION

a) As Supervisor

Postdoctoral fellows

1. Adam Metherel	Development of Novel Methods for the Automated Extraction of Lipid-Soluble Compounds	2012-2014
2. Chad Stroud	PUFA Metabolism and Sex Differences	2009
3. Genevieve Young	Fat Intakes in Retirement Community Residents	2007

PhD

1. Owen Babcock	TBD	2025-
2. Juan Aristizabal Henao	Fatty Acyl-Specific Macrolipidomics and Microlipidomics for Nutritional Research	2015-2019
3. Kristin Marks (Co-supervised)	Determination of the Effects of Estradiol and Its Mechanism of Action on Fatty Acid Biosynthesis	2012-2016

4. Alex Kitson	Characterization of the effects of sex, pregnancy, and 17 β -estradiol on docosahexaenoic acid biosynthesis (Started MSc in 2008 with fast track to PhD)	2008-2013
5. Ashley Patterson	Evaluation of Conventional and Novel Dietary Strategies to Promote Intake of Omega-3 Highly Unsaturated Fatty Acids Canadians (Started MSc in 2007 with fast track to PhD)	2007-2012
6. Adam Metherel	The development and assessment of rapid methods for fatty acid profiling	2008-2012

An examination of fish consumption and human health and the potential role of fish species on nutrient and fatty acid composition

Masters

1. Ming Rong Liu	TBD	2023-
2. Lu Bai	An examination of fish consumption and human health and the potential role of fish species on nutrient and fatty acid composition	2019-2022
3. Klaudia Steckel	Characterization of the human plasma macrolipidome using Standard Reference Material 1950 – Metabolites in frozen human plasma	2019-2021
4. Tianchunlu Yu	Developing macrolipidomics profiling methods for dietary food samples	2018-2021
5. Daniel Lamontagne-Kam	The effects of dietary DHA during development on maternal tissue and spatial memory in female and male pups during adolescence	2016-2019
6. Jan Gunasingham	Dried blood spot fatty acid quantitation: developing methods for determining unknown volumes, identifying contaminants and assessing fatty acid stability during storage	2015-2018
7. Dan Chalil	Maternal adaptations and lipid mobilization during pregnancy in rats	2015-2017
8. Juan Aristizabal Henao	Development and validation of a human blood acyl-specific lipidomic profiling method for clinical applications	2012-2015
9. Isaac Streit (Co-supervised)	Docosahexaenoic acid as a sex-dependent effector of ROS-mediated preconditioning in myocardial ischemia-reperfusion injury	2012-2015
10. Alan Chalil	Evaluation of the role of phospholipids in fatty acid delivery to the fetus during pregnancy	2011-2013
11. Kristin Marks	Examination of the effects of sex and sex hormones on monounsaturated fatty acid biosynthesis	2010-2012
12. Tracy Smith	Comparison of the effects of docosahexaenoic acid and palmitic acid on ischemia reperfusion injury using an isolated perfused rat heart	2009-2012
13. Payman Charkhzarin	Evaluation of polyunsaturated fatty acid uptake, distribution, and incorporation into specific muscle types	2007-2009
14. Hamid Izadi	Development of a novel mass-selected internal positive chemical ionization quadrupole ion trap mass spectrometry technique for the quantitative analysis of isotopic polyunsaturated fatty acids	2007-2009
15. Adam Metherel	Omega-3 fatty acid blood biomarkers before and after acute fish oil supplementation in men and women	2005-2007

b) As Committee Member

Ph.D.

1. Safura Syed (in progress)

2. Ashkan Hashemi (2023)
3. Ryan Bradley (2018)
4. Katie Di Sebastiano (2016)
5. Katy Field (2016)
6. Chris Vigna (2015)
7. Ian Smith (2013)
8. Andrew Robertson (2013)
9. Heather Edgell (2010)
10. Eric Bombardier (2010)

M.Sc.

1. Michelle Tomczewski (2022)	16. Ryan Bradley (2014)
2. Chia Chun Joey Hung (2021)	17. Sylvie S.L. Leung Yinko (2013)
3. Cory Tremblay (2020)	18. Kristina Durham (2011)
4. Diagarachchige Kalsha Hansini De Silva (2020)	19. Chris Smith (2011)
5. John Chan (2020)	20. Karlee Hall (2011)
6. Nour Mashmoushi (Chemistry, 2019)	21. Aaron Dam (2010)
7. Meryl Black (2019)	22. Megan Bedbrook (2010)
8. Iman M'Hiri (2018)	23. Kayla Hummel (2010)
9. Riley Sonnenburg (2018)	24. Andrew Hopf (2009)
10. Steven Dragos (U. Guelph, 2017)	25. Justin Chung (2008)
11. Emily Mardian (2016)	26. Kevin Foley (2007)
12. Phillip Marvyn (2015)	27. Louis Mattar (2006)
13. Ivy Lam (2014)	28. Nita Modi (2006)
14. Marcia Domingos (2014)	29. Kathleen Hill (2005)
15. Peter Holder (2014)	30. David Quinlin (2005)

c) PhD External Examiner

1. Nando Rosales (2023) Solid Phase Microextraction: A Versatile Technique for Lipid Analysis. University of Waterloo, Department of Chemistry.
2. Hei-Yin (John) Chow (2023) Temperature Programming of the Second Dimension in Comprehensive Two-Dimensional Gas Chromatography (GC × GC). University of Waterloo, Department of Chemistry.
3. Habtamu B. Beyene (2021) Plasma lipidomics to define the relationship of lipid metabolism with cardiometabolic risk factors and type 2 diabetes. Monash University, Central Clinical School.
4. Sandi Azab (2020) Multisegment injection-nonaqueous capillary electrophoresis-mass spectrometry based metabolomics for rapid analysis of fatty acids for dietary and cardiometabolic risk assessment. McMaster University, Department of Chemistry and Chemical Biology.
5. Haleigh Boswell (2019) In search of an ideal modulator for comprehensive two-dimensional gas chromatography. University of Waterloo, Department of Chemistry.
6. Md Monirujjaman (2019) Effect of dietary oils and protein and cyclooxygenase-2 inhibition on disease progression and oxylipin alterations in cystic kidney disease. University of Manitoba, Department of Food and Human Nutritional Sciences.
7. Michael Macartney (2018) Characterizing *in vivo* cardiac function in the rat following supplementation of human dietary achievable fish oil doses. University of Wollongong, School of Medicine.
8. Ye Yuan (2017) The relationship between long chain polyunsaturated fatty acids and body composition in infants. McGill University, School of Human Nutrition. MSc.
9. Evan Lewis (2016) An examination of neuromuscular fatigue and adaptations to exercise and the effect of mammalian omega-3 fatty acid supplementation in trained and untrained males. University of Toronto, Department of Nutritional Sciences.
10. Afsoon Parjand Birjandi (2015) Application of solid phase microextraction for lipid analysis and lipidomics. University of Waterloo, Department of Chemistry.
11. Fatemeh Mousavi (2015) Targeted and untargeted metabolomics by SPME-LC-MS. University of Waterloo, Department of Chemistry.

12. Erasmus Cudjoe (2014) In vivo solid phase microextraction for brain tissue analysis. University of Waterloo, Department of Chemistry.
13. Brian Chow (2013) Stress physiology of bears: Cortisol dynamics and identification of novel serum proteins. University of Waterloo, Department of Biology.
14. Farhad Riazi Kermani (2012) Optimization of solid phase microextraction for determination of disinfection by-products in water. University of Waterloo, Department of Chemistry.
15. Wei Xie (2011) In-tip solid phase microextraction for high throughput drug analysis. University of Waterloo, Chemistry Department.
16. Mitra Amiri-Jami (2009) Cloning and sequencing of omega-3 fatty acids gene cluster from *Shewanella baltica* MAC1 and achieving recombinant production of omega-3 fatty acids in *E. coli*. University of Guelph, Department of Food Science.
17. Xinyu Liu (2005) Development of solventless sampling/sample preparation and introduction techniques for on-site determinations. University of Waterloo, Department of Chemistry.

c) International Exchange PhD Research Supervisor

1. Rasmus Baadsgaard Mærkedahl (2013) The effect of grain and gluten diets on blood fatty acids. University of Copenhagen, Paediatric Nutrition and International Nutrition.
2. Pretzel Zuniga (2012). Philippine Thraustochytrids as Potential Source of Omega-3: Comparative Method Analysis, Mindandanao State University - Iligan Institute of Technology, Sustainable Development Studies.

d) MSc-PhD Reclassification External Examiner

1. Anthony Domenichiello (2012) Can the rat synthesize enough DHA from ALA to maintain brain DHA homeostasis? University of Toronto, Department of Nutritional Sciences.

e) MSc External Examiner

1. Ye Yuan (2017) The relationship between long chain polyunsaturated fatty acids and body composition in infants. McGill University, School of Human Nutrition.

UNDERGRADUATE STUDENT SUPERVISION

a) Undergraduate Theses (KIN 431/432, KIN 433, HLTH 432A/B)

1.	Grady Smith	Fatty Acid Profiles of Meat and Vegetable Based Burgers	2024
2.	Ming Rong Liu	Evaluation of Variance for Bead Milling and Content Uniformity using Atlantic Salmon	2023
3.	Annette Blais	Lipidomic Biomarkers of Omega-3 Intake	2022
4.	Adrian Flis	Methods to rapid determine phospholipid fatty acid compositions	2018
5.	Liam Ralph	Lipidomics of phosphatidylcholine species	2018
6.	Daniel Lamontagne-Kam	Fatty acid changes in maternal tissues	2016
7.	Sam Hogenhout	Maternal diet and rat pup fatty acids	2016
8.	Chloe Kurtin	Fatty acids and the menstrual cycle	2015
9.	Jason Elzinga	Changes in fatty acids with the rat estrus cycle	2015
10.	Jan Gunasingham	Acetonitrile adduct chemical ionization for GC-MS	2014
11.	Jonathan Best	Neurodevelopmental mechanisms of DHA	2014
12.	Saamir Pasha	MUFA metabolism in estrogen receptor-alpha knockout mice	2014
13.	Juan Aristizabal Henao	Relationship between blood fatty acids	2012
14.	Isaac Streit	Fatty acid infusions in isolated rat hearts	2012
15.	Eric Earl	CD36 expression in rats is higher in selected tissues of females	2011
16.	Alan Chalil	HPLC/MS of vitamin D metabolites	2011
17.	Diane Kishi	Omega-3 enriched foods in long term care	2010
18.	Mat MacLeod	Lipid extraction efficiencies in different tissues	2010
19.	Karla Schuldes	Artificial sweeteners' potential to cause weight gain and obesity	2009
20.	Tracy Smith	Oxidation of fatty acids in erythrocytes during analytical handling	2009
21.	Aaron Dam	Cholesterol and cardiovascular disease	2008
22.	Roxanna Moses	Diabetes and dietary strategies	2008
23.	Alex Kitson	Effect of preparation techniques on salmon fatty acids	2008

24. Ryan Hogg	Validation of an omega-3 food frequency survey	2008
25. Jennifer Fratesi	Omega-3 intake and status in a retirement community	2008
26. Ben (Yen Ju) Huang	The fatty acid composition of fast food breakfast sandwiches	2007
27. Payman Charkhzarin	The fatty acid composition of isolated muscle membranes	2007
28. Adam Brown	Iron deficiency in sport – causes and consequences	2006
29. Anali Maneshi	Gender differences in hepatic omega-3 fatty Acids	2006
30. Derek Vandenbrink	Calcium nutrition – a review	2005
31. Jeff Armstrong	Rapid finger-tip prick determinations of omega-3 fatty acids	2005

b) NSERC Undergraduate Student Research Awardees

1. Seungjae Cho	Fatty acid composition of fish tissues	2018
2. Peter Squire	Preventing fatty acid oxidation in clinical samples	2018
3. Adrian Flis	Methods to selectively analyze tissue phospholipid fatty acids	2017
4. Daniel Lamontagne-Kam	Regulation of fatty acids in maternal tissues	2016
5. Jason Elzinga	Derivatization of estrogens for UHPLC-MS/MS analysis	2015
6. Juan Aristizabal Henao	Lipidomic analyses	2013
7. Alan Chalil	Vitamin D analysis	2010
8. Diane Kishi	Novel analytical methods for food analysis	2010
9. Ryan Hogg	Advanced techniques for fatty acid analyses of foods	2008
10. Ryan Hogg	Fatty acid composition of novel foods	2007
11. Payman Charkhzarin	Effect of heat stress on muscle fatty acid composition	2006
12. Hamid Izadi	Hepatic steatosis in Zucker obese rats	2006
13. Jeff Armstrong	Microwave fatty acid methylation	2005

c) Undergraduate Research Assistants

1. Grady Smith	Fatty Acid Profiles of Meat and Vegetable Based Burgers	2024
2. Tasha McFarland	Fatty acid composition of breast milk after storage	2016
3. Daniel Lamontagne Kam	Fatty acid analysis of blood spots from Burkina Faso	2015
4. Eric Earl	Isolating subcellular fractions of CD36	2011
5. Diane Kishi	Novel analytical methods for food analysis	2010
6. Alexandra Peel	Assessing novel omega-3 enriched foods	2009
7. Lindy Buzikievich	Postprandial assessment of fatty acids in fingertip prick blood	2009
8. Jennifer Fratesi	Omega-3 intake and status in a retirement community	2007
9. Ashley Patterson	Omega-3 fatty acid content differs by supplementation strategy	2006
10. Jeff Armstrong	Heart rate dynamics before and after fish oil supplementation	2006
11. Adam Metherel	Impact of individual fatty acids on muscle calcium handling	2005

d) Independent Research Projects (KIN 472)

1. Avah Olsen	Variation in the Fatty Acid Composition of Commercial Eggs	2024
2. Victor Charette	Bead Milling for Fatty Acid Analyses	2023
3. Lu Bai	Fatty acid composition of vegetable oils	2018
4. Joel Muresan	Dried milk spots and fatty acid analyses	2016
5. Daniel Lamontagne-Kam	Fatty acids during pregnancy and the postpartum	2015
6. Chloe Kurtin	Do fatty acids change during the menstrual cycle?	2015
7. Kory Allen	Developing a curriculum for a sports nutrition course	2013
8. Ben Pickard	Developing a curriculum for a sports nutrition course	2013
9. David Wu	Developing a curriculum for a sports nutrition course	2013
10. Robert Reed	Protein expression in brains of fetal rat pups	2013
11. Adam Gawne	Fatty acid composition of fetal rat pups with maternal intervention	2013
12. Juan Aristizabal Henao	Translating fatty acid compositional data between blood fractions	2013
13. Kory Allen	Creatine and strength gain	2012
14. Ben Pickard	Branched chain amino acids for muscle growth	2012
15. David Wu	Caffeine and performance	2012
16. Selena Vermey	Sex differences in fatty acid transporters	2011
17. William Lien	The effects of cooking on the fatty acid composition of eggs	2011
18. Kristin Marks	Fatty acid analyses in acute myocardial infarction patients	2010

19. Allison Howorth	Fatty acid analyses in clinical populations	2010
20. Alan Chalil	HPLC-MS methods for lipidomic analyses	2010
21. Mat Macleod	Postprandial erythrocyte fatty acid composition	2009
22. Lindy Buzikievich	Vacuum packaging to prevent oxidation of blood fatty acids	2009
23. Hamid Izadi	Automatic software integration and quantitation of fatty acids	2007
24. Antonio Di Tullio	Trans fatty acid determinations	2005

e) Research Apprenticeship (KIN 391)

1. Elaina Vuu	2024	24. Hilary Campbell	2012
2. Kevin Weijie Shen Cao	2024	25. Heidi Stoute	2012
3. Grady Smith	2023	26. Jeff Barrett	2012
4. Jack Hawkins	2023	27. Isaac Streit	2011
5. Aida Zaheer	2022	28. Juan Aristizabal Henao	2011
6. Annette Blais	2022	29. Grace Wong	2011
7. Pak-To Kwok	2020	30. Betty Tran	2011
8. Hanyang (David) Wang	2020	31. Eric Earl	2010
9. Lu Bai	2018	32. Diane Kishi	2009
10. Megan Fluit	2018	33. Shelly Rampersad	2009
11. Peter Squire	2017	34. Shahin Moslehi	2008
12. Eric Will	2017	35. Saudia Jabar	2008
13. Adrian Flis	2016	36. Grace (Nga Yin) Fan	2008
14. Tasha McFarland	2016	37. Tracey Smith	2008
15. Yan Lam Lee	2015	38. Josh Droppert	2008
16. Jan Gunasingham	2014	39. Grace (Yu-Hsing) Chen	2007
17. Daniel Lamontagne-Kam	2014	40. Aaron Dam	2007
18. Chloe Kurtin	2014	41. Drew Lubczuk	2007
19. Jason Elzinga	2013	42. Ben (Yen Ju) Huang	2006
20. Lois Adrienne Sy	2013	43. Hamid Izadi	2006
21. Praneeth Ellanti	2013	44. Payman Charkhzarin	2006
22. Bandhana Maheru	2013	45. Karen Lau	2005
23. Christiane Brown	2012		

Technician Supervision

1. Flaviu Ciobanu	2009-2012
2. Payman Charkhzarin	2009-2012
3. Adam Metherel	2007-2008

SERVICE:

a) University

1. International Life Sciences Institute	2016 - present
Omega 3 methodology and reporting best practices working group	
2. NIST/NIH Fatty Acid Quality Assurance Program	2013 - 2016
3. Canadian Nutrition Society Correspondent for University of Waterloo	2010 - 2016
4. Founding member, Agri-food for Healthy Aging Program	2007 - present
- A Schlegel-UW Research Institute for Aging, University of Guelph Initiative	
5. Human Research Ethics Committee including ad-hoc committee service	2006 - 2011
- Acting Chair January, 2010	
6. Interview, Farm Credit Canada Knowledge Insider	2010
7. Oral Presentation Judge, University of Waterloo Graduate Student Research Conference	2007
8. Ad Hoc Review Committee, VO ₂ Max Learning Object	2006

b) Faculty

1. University Tenure and Promotion Advisory Committee	2016-2019
2. Nutrition Program Development, Lead	2009-2010
3. Faculty Undergraduate Appeals Committee	2013-2015

4.	Applied Health Sciences, Kinesiology Chair Search Committee	2012-2013
5.	Applied Health Sciences, Tenure and Promotion Committee	2012
6.	Faculty of Science, Tenure and Promotion Committee	2010-2011
7.	Undergraduate Studies Kinesiology Representative	2008-2010
8.	Committee on Student Appeals	2008-2010
9.	AHS Faculty of Science Representative	2005-2008

c) Department

1.	Annual Performance Review Committee	2019-2020
2.	Gap analysis Working Group	2018-2019
3.	Department, Tenure and Promotion Committee	2017
4.	Faculty Association Departmental Rep	2013-2017
5.	Space Committee	2016
6.	Department, Tenure and Promotion Committee	2015-2016
7.	Undergraduate Committee	2011-2013
8.	Human Nutrition Minor, Director	2011-2016
9.	Department of Kinesiology Graduate Studies Committee	2006-2008
10.	Academic Lab Review Committee	2005-2006

d) Community

1.	Head Coach, U16BB Gold, Waterloo Minor Hockey Association	2024-2025
2.	Student Mentor, Waterloo Catholic District School Board, University Cooperative Education Program	2023-2025
3.	Head Coach, Pee wee White MD, Waterloo Minor Hockey Association	2018-2019
4.	Student Mentor, Waterloo Catholic District School Board, University Cooperative Education Program	2013-2020
5.	Head Coach, Novice Gold MD, Waterloo Minor Hockey Association	2017-2018
6.	Head Coach, Novice Red MD, Waterloo Minor Hockey Association	2016-2017
7.	Director, Kitchener Waterloo Skating Club	2014-2017
8.	Waterloo Unlimited Host Laboratory	2014-2017
9.	Team Manager, Tyke 1, Kitchener Waterloo Minor Lacrosse Association	2016
10.	Convener/Head Coach, Pretyke, Waterloo Minor Hockey Association	2015-2016
11.	Student Mentor, Waterloo Catholic District School Board, Regular Cooperative Education Program	2014, 2016
12.	Student Mentor, Waterloo Catholic District School Board, University Cooperative Education Program	2010-2011
13.	Waterloo-Wellington Science and Engineering Fair Judge	2005-2008

AREAS OF TEACHING EXPERTISE:

Courses Taught

Fall	2024	KIN 217	Human Biochemistry
		KIN 346	Human Nutrition and Metabolism
Winter	2024	KIN 704	Bioactive Lipids
Fall	2023	KIN 217	Human Biochemistry
		KIN 346	Human Nutrition and Metabolism
		KIN 680	Topics in Physiol & Nutrition - Nutritional Biochemistry
Winter	2023	KIN 704	Bioactive Lipids
Fall	2022	KIN 217	Human Biochemistry
		KIN 346	Human Nutrition and Metabolism
Fall	2021	KIN 217	Human Biochemistry
		KIN 470	Dietary DHA and Maternal and Fetal Health

Fall	2019	KIN 217 KIN 346 KIN 680	Human Biochemistry Human Nutrition and Metabolism Topics in Physiol & Nutrition - Nutritional Biochemistry
Fall	2018	KIN 346 KIN 704	Human Nutrition and Metabolism Bioactive Lipids
Fall	2017	KIN 217 KIN 704	Human Biochemistry Bioactive Lipids
Winter	2017	KIN 470	Dietary Fat and Health
Fall	2016	KIN 217	Human Biochemistry
Fall	2015	KIN 217 KIN 670	Human Biochemistry Graduate Seminar: Physiology and Nutrition
Winter	2015	KIN 446 KIN 670 KIN 780	Advanced Nutrition Graduate Seminar: Physiology and Nutrition Topics in Physiol & Nutrition - Expmnt'l Std: Lipid Metabolism
Spring	2014	KIN 680	Topics in Physiol & Nutrition - Expmnt'l Std: Lipid Metabolism
Winter	2014	KIN 446	Advanced Nutrition
Fall	2013	KIN 217	Human Biochemistry
Winter	2013	KIN 446/646 KIN 472 KIN 472	Advanced Nutrition Advanced Physiol Lab Sports Nutrition 2
Fall	2012	KIN 217 KIN 472 KIN 704	Human Biochemistry Sports Nutrition Bioactive Lipids
Winter	2011	KIN 446/646	Advanced Nutrition
Fall	2011	KIN 217 KIN 471	Human Biochemistry Nutrition and Exercise
Winter	2011	KIN 446/646 KIN 670	Advanced Nutrition Graduate Seminar: Exercise Physiology
Fall	2010	KIN 217 KIN 704	Human Biochemistry Bioactive Lipids
Winter	2010	KIN 446/646	Advanced Nutrition
Fall	2009	KIN 217	Human Biochemistry
Spring	2009	KIN 217	Human Biochemistry
Winter	2009	KIN 217 KIN 446/646 KIN 680a KIN 680c	Human Biochemistry Advanced Nutrition Selected Topic in Work Physiology - Nutritional Biochemistry Selected Topic in Work Physiology - Peptide Spectroscopy
Spring	2008	KIN 217 KIN 680b	Human Biochemistry Selected Topic in Work Physiology - Bioactive Lipids
Winter	2008	KIN 217 KIN 472 KIN 680a	Human Biochemistry Nutrition & Health Selected Topic in Work Physiology - Nutritional Biochemistry
Winter	2007	KIN 217 KIN 670	Human Biochemistry Graduate Seminar: Exercise Physiology
Fall	2006	KIN 217	Human Biochemistry

Winter	2006	KIN 470	Seminar in Kinesiology - Bioactive Lipids
		KIN 680b	Selected Topic in Work Physiology - Bioactive Lipids
		KIN 670	Graduate Seminar: Exercise Physiology
		KIN 780	Topics in Work Physiology - Expt'l Lipid Metabolism
Fall	2005	KIN 217	Human Biochemistry
Winter	2005	KIN 472	Nutrition & Health
		KIN 680a	Selected Topic in Work Physiology - Nutritional Biochemistry

Teaching Related Presentations

1. Using video to enhance PPT presentations – Course assignment, Busting Down Screencasting Silos at UW, Center for Teaching Excellence Symposium, Waterloo, ON, January 12, 2010

Curriculum Vitae

Sue Stathopoulos

Laboratory Instructor, First-year chemistry

University of Waterloo, Department of Chemistry, 2002 – present

Courses taught:

2002 – present	CHEM 120L: General Chemistry Laboratory 1 (Non-chem majors) Class size: 1200 undergraduate students, 35-40 teaching assistants
	CHEM 121L: Chemical Reaction Laboratory 1 (Chem / Biochem majors) Class size: 200 undergraduate students, 8 teaching assistants
	CHEM 123L: General Chemistry Laboratory 2 (Non-chem majors) Class size: 1000 undergraduate students, 30-35 teaching assistants
	CHEM 125L: Chemical Reaction Laboratory 2 (Chem / Biochem majors) Class size: 180 undergraduate students, 8 teaching assistants
2010 – 2016	CHEM 224L: Analytical Chemistry Laboratory 2 (Chem / Biochem majors) Class size: 80 undergraduate students, 12 teaching assistants
2002 - 2003	CHEM 028L: Environmental Organic Chemistry Laboratory for Engineers

Degrees:

BSc – Honours Science, University of Waterloo, Canada, 1996

Employment History:

2000: Sessional Laboratory Instructor

University of Waterloo, Department of Chemistry

Courses taught: CHEM **237L**: Introductory Biochemistry Laboratory (

2000 – 2001: Chemistry Preparatory Room Technician

University of Waterloo, Department of Chemistry

1997: Waste chemical technician, Unknown analysis (part-time)

University of Waterloo, Department of Chemistry/Hazardous Materials Handling Facility

1996 – 2002: Purchasing associate, Undergraduate laboratory equipment and supplies

Chemistry Stores, University of Waterloo, Department of Chemistry

Workshops developed and facilitated:

- UW First Year Science student workshop: 2022-2024 Marketing your science skills
- SHAD Canada 3-day chemistry workshop: 2024 topic – green chemistry
- SHAD Canada 3-day chemistry workshop: 2023 topic – technology in the laboratory
- STAO 2016: Workshop presentation: Taking the fear out of the first-year chemistry lab
- Gairdner Lecture workshop: Topic- Reaction Kinetics and Rate Laws
- TD Discovery Days workshops: Topic – Vitamin C analysis
- Chem Ed Conference: Workshop presentation: First-year Chemistry Success
- UW Living Learning Community workshop: Topic – Writing Laboratory Reports

Conference work:

- BCCE 1998: Chemicals and Equipment Chair
- Chem Ed 2013: Logistics Chair

Editorial work:

- Chem13 News: reviewer (2007 – 2019)

January 2025

MORONA OLIVIA SUKHOO – PERTAB

Springs, St. George's, Grenada • Telephone: 473-535-4836 (mobile) • Email: morona_pertab@yahoo.com



PERSONAL INFORMATION

Date of Birth: 20th May, 1988
Place of Birth: Georgetown, Guyana
Nationality: Guyanese
Gender : Female
Marital Status: Single
Children: None



EDUCATION

2007 – 2012 **Bachelors of Medicine and Bachelors of Surgery (MBBS)**
University of Guyana School of Medicine

2005 – 2007 **EDEXCEL General Certificate of Education Advanced**
In Mathematics, Human Biology and Physics
Queen's College

Caribbean Examination Council (CXC) Advanced Proficiency
In Chemistry Unit II

2000 – 2005 **Caribbean Examination Council (CXC)**
Certified at the Caribbean Examinations Council Secondary Education Examination (CXC) in Mathematics, English A, English B, Biology, Integrated Science, Social Studies, Physics, Chemistry, Agricultural Science and Spanish.
The Bishops' High School



CLINICAL EXPERIENCE

2012 – 2013 **Medical Intern**
St. George's University Medical Internship Program
St. George's General Hospital, Grenada.



ACADEMIC EXPERIENCE

2016 – Present **Clinical Instructor**
Department of Clinical Skills, St. George's University

- Regular live lecture delivery for ICM and CPD courses in basic science
- Manage and Train Year 2 Clinical tutors
- Develop and Execute objective structure clinical examinations (OSCE)
- Develop course material including standardized patient protocols, workbooks, MCQs and cases
- Facilitated small group to 4th and 5th Term medical students
- Facilitate student reviews and remediation of content

2014 – 2016 **Clinical Tutor**
Department of Clinical Skills, Pharmacology and Pathophysiology
St. George's University Teaching Fellowship Program

- Facilitated small group and interactive team instruction session to 4th and 5th Term medical students
- Conduct clinical assessments including objective structure clinical examinations (OSCE)
- Build standardized patient protocols and multiple choice questions



LICENSES AND CERTIFICATIONS

2022	Strategic Leadership in Healthcare, <i>Doane University, MicoMasters Program</i>
2021	Health Informatics and Technology in Decision Making, <i>Doane University, MicoMasters Program</i>
2021	Healthcare Organization and Delivery Modes, <i>Doane University, MicoMasters Program</i>
2021	Basic Biomedical Research Certification, <i>Collaborative Institutional Training Initiative (CITI)</i>
2020	Defeating Malaria from the Genes to the Globe, <i>Harvard University, Online Learning Initiative</i>
2014 – Present	Basic Life Support (BLS), <i>American Heart Association</i>



ADMINISTRATIVE EXPERIENCE

2019 – Present	Course Director Basic Science, Principles of Clinical Medicine II, St. George's University - Organize and manage the course including schedule development and maintenance of the learning management site (SAKAI) - Coordinate formative and summative assessments - Validation, development and review the course curriculum and learning objectives - Quality and quantitative reviews of the course including end-of-term reports
2018 – Present	College Director Metrodora College, St. George's University - Provide support for new and continuing medical students - Coordinate academic and wellness activities
2018 – 2019	Content Manager Communication and Physical Diagnosis (CPD), St. George's University - Review and update content of discipline - Build and validate clinical assessments (including OSCEs) and formative material - Train clinical instructors and tutors



SERVICES AND MEMBERSHIPS

2021	BPM3 Course Evaluator, St. George's University
2020	CAAM Accreditation Working Group on Educational Database, St. George's University
2019 – Present	Basic Sciences Curriculum Subcommittee, St. George's University
2019 – Present	Committee for Academic Performance and Professional (CAPPS) Pre-Clinical Sciences
2016 – 2019	Pediatric Club, St. George's University <i>Role: Volunteer medical doctor at various centers/schools to screen and examine patients. Assisted pre-clinical medical students in history taking and physical examination skills</i>
2016 – 2019	Academic Advisor, St. George's University <i>Role: Provide counselling and guidance on academic status, academic outcomes and alternative options for post-exam medical students in Term 4 identified by the APRC</i>
2014 – present	Sparkle Grenada Children's Foundation Inc Non-governmental organization. Secretary and Project Leader "Back to School"
2009 – 2010	University of Guyana Medical Student's Association (UGMSA) Secretary



RESEARCH EXPERIENCE

2012	"Undiagnosed decreased estimated glomerular filtration rate is relatively common among type II diabetes mellitus clinic patients at GPHC" Advisors: Dr. Reeta Gobin MBBS, PhD (epidemiology) and Dr. Ramsundar Doobay MBBS, MRCP. Paper presentation at Guyana's Medical Scientific Conference, IHSE

CURRICULUM VITAE of Dr. Subramanya Upadhya



Name : **SUBRAMANYA UPADHYA**
Office address & : Professor, Chair and Course Director
Corresponding Department of Pathophysiology
address School of Medicine, St. George's
University,
P.O. Box 7, True Blue Campus,
St. George's
Grenada, West Indies
Phone:1-473-4444175 extn.3712
Fax:1-473-4398595
Mobile: 1-473-4162228
Home: 1-473-2322228
Email: supadhya@sgu.edu (office)
dayaupadhya@yahoo.co.in (personal)

Home address : Sumukha, Saraswathi Nagar,
in India Parkala, Udupi, Karnataka state, India – 576 107
India Cell: 91-9481014528
Email: dayaupadhya@yahoo.co.in

Marital status : Married, Child: One
Name of the spouse : Dr. Sharmila Upadhya, MBBS., MD

QUALIFICATIONS:

<u>YEAR</u>	<u>DEGREE OBTAINED</u>	<u>COLLEGE/UNIVERSITY</u>
1986	M.B.,B.S. (Equivalent to MD in USA)	Medical College, Bellary; Gulbarga University, India
1991	M.D. in Physiology (Postgraduate medical degree; Equivalent to PhD/Board certification in USA)	Kasturba Medical College, Manipal; Mangalore University, India
1992	Diplomat of National Board (DNB) in Physiology (Equivalent to additional Board certification in USA)	Ministry of Health & Education, Govt. of India, New Delhi

JOB DESCRIPTION and EXPERIENCE:**Teaching Experiences** (*In reverse chronological order*)

Position Title	Organization & Location	Dates
Professor, Chair and Discipline Manager of Pathophysiology	School of Medicine, St. George's University, St. George's, Grenada, West Indies	From January 2019 to date
Professor, Chair and Course Director of Pathophysiology	School of Medicine, St. George's University, St. George's, Grenada, West Indies	From July 2015 to December 2018
Professor, Chair and Course Director of BSFCR course	School of Medicine, St. George's University, St. George's, Grenada, West Indies	From January 2012 to June 2015
Professor, Chair and Course Director of Pathophysiology & BSFCR courses	School of Medicine, St. George's University, St. George's, Grenada, West Indies	From July 2011 to December 2011
Professor and Deputy Course Director of Pathophysiology	School of Medicine, St. George's University, St. George's, Grenada, West Indies	From August 2008 to June 2011
Professor of Physiology & Course Director of Physiology	St. Matthew's University School of Medicine, Grand Cayman, British West Indies	September 2006 – July 2008
Professor and Head of Physiology	Melaka-Manipal Medical College, Manipal University, Manipal, India	February 2001- August 2006
Associate Professor and Head of Physiology	Melaka-Manipal Medical College, Manipal University, Manipal, India	September 1997- February 2001
Associate Professor of Physiology	Kasturba Medical College, Manipal University, Manipal, India	February 1997- August 1997
Assistant Professor of Physiology	Kasturba Medical College, Manipal University, Manipal, India	January 1992- January 1997
Lecturer in Physiology	Kasturba Medical College, Manipal University, Manipal, India	January 1989- December 1991

Total experience after post-graduation (after residency) and courses taught: 21 years of teaching Physiology to both undergraduate and postgraduate students of Medical, Dental, Physiotherapy, Speech & Hearing, Nursing and other Health Professional courses at Kasturba Medical College, College of Dental Surgery and Melaka-Manipal Medical College, Manipal, India.

In St. Matthew's Medical school, Grand Cayman, I am using Angel software for uploading my lectures. The same software has multiple things to do for student training such as online quiz, cross-word puzzles, lecture-notes, lecture-videos, discussion forum and e-mail interactions with students.

FELLOWSHIPS:

1. Awarded with Fellow of Academy of General Education (F.A.G.E.), Manipal, India in 1991.
2. Awarded with Research Scientist fellowship and worked at VA Medical center, Loma Linda, California, USA in year 1999:
I was working as Research Scientist in the department of cardiology at VA Medical center of Loma Linda University Medical College, Loma Linda, California, USA. I was working on small animal model of diastolic cardiac functions and molecular mechanism of atherogenesis. I have published two papers on the same areas. In the same medical school, I had opportunity to teach physiology for the undergraduate medical students.
3. Awarded with Research Scientist fellowship and worked at National Guard Hospital, Riyadh, Saudi Arabia in year 2000.

NON-TEACHING EXPERIENCE OF DR. SUBRAMANYA UPADHYA

A. Administrative Experience:

Working as Deputy Controller of Examinations at Manipal Academy of Higher Education (MAHE) (January 1996 to August 2006):

MAHE is an esteemed medical university in south India which runs undergraduate and postgraduate medical degree program. About 500 undergraduate medical students and 300 postgraduate medical students are admitted every year to the constituent colleges of MAHE. The office of the controller of examinations looks after the academic assessment of the students of the university. The office is a confidential cell which is involved in generating question bank, administration of written, laboratory and clinical examination, student evaluation and grading. I worked for ten years in this department in the capacity of deputy controller of examinations, as part time responsibility (apart from my teaching in the department of physiology). I was supervising all the activities going on in the examination cell.

B. Resident Medical Practitioner:

Worked as Resident Medical Practitioner/Primary Care Physician in different hospitals in India after obtaining graduate medical (MBBS) degree - during the period, July 1987 to January 1989.

C. Post-graduate Dissertation:

Wrote a dissertation entitled, “Effect of restraint stress on learning and memory in rats and its correlation with brain biogenic amines” as partial fulfillment of the MD degree to Mangalore University. This was well appreciated and approved by the same university in 1991. I have presented oral and poster presentations of this dissertation in National conferences.

D. Medical Education workshop on USMLE:

Participated in Medical Education workshop conducted by the Harvard School of Medicine, USA, held at St. Matthew’s Univ School of Medicine, Grand Cayman, Cayman Islands.

E. Faculty Development workshop:

Participated in the Faculty Development workshop: Discipline specific teaching of professionalism, held on 23 October 2009 at School of Medicine, St. George’s University, Grenada, West Indies.

F. Scientific Conferences:

Attend regularly scientific conferences/meetings at least once yearly from 1992 onwards.

INFORMATION ON RESEARCH WORKS BEING SUPERVISED BY DR. UPADHYA

Sl.No.	Topic	Project/Thesis	Supervisor	Year
1	A critical appraisal of the learning approaches of undergraduate medical student to physiology with special reference to curriculum that will create a deep approach	Ph.D. project	Co-guide or Co-Supervisor	Started in 2003 & completed in 2007
2	A critical appraisal of the effectiveness of the multi-component evaluation system in physiology	Ph.D. project	Co-guide or Co-Supervisor	Started in 2004 & completed in 2008
3	A study of compliance of anemic adolescent high school girls to iron supplementation and nutritional education and to find the effectiveness of these on scholastic performance, hematological parameters and BMI	Ph.D. project	Co-guide or Co-Supervisor	Started in 2005 and will be completed in 2010
4	Effect of bacopa monniera extract on rat central nervous system – A	Ph.D. project	Guide or Supervisor or Principal	Started in 2005 and completed in

	behavioral and morphological study		Investigator	2009
5	Effect of certain uremic toxins on functions of central nervous system on nephrectomized rat models – A behavioral and morphological study	Ph.D. project	Guide or Supervisor or Principal Investigator	Started in 2005 and will be completed in 2010

SCIENTIFIC PUBLICATIONS OF DR. SUBRAMANYA UPADHYA

1. Psychomotor functions at various weeks of chronic renal failure in rats. Merin Iype, **Subramanya Upadhy**a, Sharmila Upadhy, Gopalakrishna Bhat. **Cogn Neurodyn**. April 2015, Volume 9, Issue 2, pp 201-211; DOI 10.1007/s11571-014-9315-z.
2. Vollala VR, **Upadhy**a **Subramanya**, Nayak S.: Enhanced dendritic arborization of hippocampal CA3 neurons by Bacopa monniera extract treatment in adult rats. Rom J Morphol Embryol: 2011;52(3):879-86.
3. Vollala VR, **Upadhy**a **Subramanya**, Nayak S.: Enhancement of basolateral amygdaloid neuronal dendritic arborization following Bacopa monniera extract treatment in adult rats. Clinics (Sao Paulo): 2011;66(4):663-71.
4. Vollala VR, **Upadhy**a **Subramanya**, Nayak S.: Enhanced dendritic arborization of amygdala neurons during growth spurt periods in rats orally intubated with Bacopa monniera extract. Anat Sci Int.: 2011 Dec;86(4):179-88. Epub 2011 Mar 17.
5. Venkata Ramana, **Subramanya Upadhy**a: Effect of Bacopa monniera Linn (brahmi) extract on learning and memory in rats – A behavioral study. **Journal of Veterinary Behavior** (2010) 5, 69-74
6. Merin Iype, **Subramanya Upadhy**a, Sharmila Upadhy and Gopalakrishna Bhat: Modified uremic rat model – A tool for uremic studies in rats. **Indian Journal of Clinical Biochemistry**:2008;23(4):401-403
7. Sharmila Torke, **Subramanya Upadhy**a, Reem Rachel Abraham, Asha K, K. Ramnarayan: Integrated practical examination: A novel approach to evaluate

- undergraduate medical student in physiology practices. **South East Asian Journal of Medical Education**. vol. 2, no. 1, 2008
8. Reem Rachel Abraham, **Subramanya Upadhya** and K. Ramnarayan: Self-directed Learning in Undergraduate Physiology Curriculum in an Indian Medical School. **Indian Educational Review**. 43:01:Jan 2007:120-124
 9. Sharmila Torke, Reem Rachel Abraham, K. Ramnarayan and **Subramanya Upadhya**: Peer-Guided Cooperative Learning Enhances the Performance of Refresher Students. **Adv Physiol. Edu.** 31: 118, 2007; 118
 10. Sharmila Torke, **Subramanya Upadhya**, Reem Rachel Abraham, Ramnarayan K: Computer-assisted objective structured practical examination:An innovative method of evaluation. **Adv physiol Educ.** 2006;30:48-49
 11. Reem R Abraham, Asha Kamath, **Subramanya Upadhya** and Komattil Ramnarayan: Learning approaches to physiology of undergraduates in an Indian medical school. **Medical Education**. 2006;40:916-923
 12. Reem Rachel Abraham, **Subramanya Upadhya**, Sharmila Torke. K Ramnarayan: Student perspectives of assessment by TEMM model in physiology. **Adv Physiol Educ.** 2005;29:94-97
 13. Reem Rachel Abraham, **Subramanya Upadhya**, K Ramnarayan: Self –Directed Learning. **Adv Physiol Educ.** 2005;29:135-136
 14. **Upadhya S**, Mooteri S, Peckham N, Pai RG: Atherogenic effect of interleukin-2 and antiatherogenic effect of interleukin-2 antibody in apo-E-deficient mice. **Angiology**. 2004 May-June;55(3):289-294
 15. Sharmila Upadhya, **Subramanya Upadhya** et al: Astudy of hypoglycemic and antioxidant activity of aegle marmelos in alloxan induced diabetic rats. **Indian Journal of Physiol Pharmacol.** 2004;48(4)476-480

16. Reem Rachel Abraham, **Subramanya Upadhy**a, Sharmila Torke. K Ramnarayan: Clinically oriented physiology teaching: strategy for developing critical thinking skills in undergraduate medical students. **Adv Physiol Educ.** 2004;28:102-104
17. Sharmila Upadhy, **Subramanya Upadhy**a et al.: Oxidant-antioxidant status in colorectal cancer patients – Before and after treatment. **Indian Journal of Clinical Biochemistry**;2004;19(2):91-95
18. Sharmila Upadhy, **Subramanya Upadhy**a, Vasudevan DM: Tissue polypeptide specific antigen in the post therapeutic evaluation of patients with ovarian and colorectal cancer. **Indian Journal of Clinical Biochemistry**;2003;18(1)46-51
19. Sharmila Upadhy, **Subramanya Upadhy**a et al.: Lipid peroxidation in different tissues: Effect of high cholesterol and fish oil in the diet. **Indian Journal of Physiol Pharmacol**;2002;46(4):475-481
20. Sharmila Upadhy, **Subramanya Upadhy**a, Prabhu KS: Serum glycoconjugates and ceruloplasmin in cancer of uterine cervix. **Indian Journal of Clinical Biochemistry**;2002;17(1)20-24
21. **Subramanya Upadhy**a, Shantha Mooteri, Ramdas G Pai: Role of interleukins in atherogenesis. **International Journal of Angiology**;2001;10:227-236.

EXAMINERSHIPS:

1. Served as external examiner for MBBS, BDS, Physiotherapy, Nursing courses of various universities of India for 15 years (1991 to 2006).
2. Served as external examiner for MBBS twinning program at University of Health Sciences, St. Augustine, Trinidad and Tobago in 1994-1998.
3. Served as external examiner for MBBS and Physiotherapy at Gulf medical College, Ajman, UAE during 2001-2005.
4. Served as external evaluator for PhD thesis of the Manipal University, Manipal, India.

REFERENCES:

ON REQUEST

* * *

Dr. Paul Wehr

502 Birchleaf Walk · Waterloo, ON, N2T2W6 · 519-998-4912 · pwehr@uwaterloo.ca

PROFILE

- University instructor specializing in introductory psychology, evolutionary psychology, statistics & research methods. Auxiliary expertise in cultural psychology, abnormal psychology, & social psychology.
- Sixteen years of experience teaching 113 undergraduate psychology courses, utilizing a variety of pedagogical techniques in a variety of class sizes and formats.

EDUCATION

- **Doctorate in Psychology (2005) from The University of British Columbia, Vancouver, BC.**
Dissertation: “Three theories for facial paedomorphosis in human evolution and the preference for facial underdevelopment”.
Committee: Dr. Darrin Lehman (Chair), Dr. Mark Schaller, & Dr. Ralph Hakstian.
- **Master’s in Psychology (1998) from California State University, Long Beach, Long Beach, California.**
Thesis: “Impact of childlike features on perceived attractiveness in computer-manipulated faces”
Committee: Dr. Kevin MacDonald (Chair), Dr. Rhoda Lindner, Dr. Francine Fidler.
- **Bachelor of Arts in Psychology (1994) from McMaster University, Hamilton, Ontario.**
Undergraduate research assistant for Drs. Martin Daly & Margo Wilson.

HONOURS & AWARDS

- University of Waterloo Online Course Design Award (2019) for PSYCH101.
- Arts First Teaching Fellow with grant (CDN 2,000), University of Waterloo (2018 – 2020).
- Learning Innovation and Technology Enhancement Full Grant (CDN 30,000), University of Waterloo (2016 – 2017).
- Recipient of the Knox Master Teaching Award (2011) for best sessional instructor in the psychology department at UBC, as voted by the student body.
- Recipient of an Award for Teaching Excellence (2007), Kwantlen Polytechnic University. Student nominated award.
- Notice of Special Recognition (2011, 2012), Capilano University. Submitted by

graduating students to thank a faculty or staff member who made an impact on their life, or who helped them to achieve their educational goals.

- Centre of Excellence Research Grant (CDN 10,000), Hokkaido University (2004 – 2006).
- University Graduate Fellowship (CDN 40,000), University of British Columbia (2000 – 2003).
- Best Thesis in Psychology, Nomination, CSULB (1998).

ACADEMIC POSITIONS

- **Continuing Lecturer, Department of Psychology, University of Waterloo (2014 – present).**

Courses: Introductory Psychology (PSYCH101), Basic Data Analysis (PSYCH292), Cultural Psychology (PSYCH352), Research seminar in Social Sciences (PSYCH398: I/O, Memory, Personality, Social), Research in Applied Science (PSYCH390: Evolution), Evolutionary Perspectives in Mental Health (PSYCH470).

Presented and organized demonstrations of Student Response Systems and other pedagogical techniques for large classrooms.

Proficient with Course Management System (LEARN).

Participate in various pedagogical workshops and colloquiums related to instructional methods and assessment.

Organize annual undergraduate research conference.

Redeveloped online offering of Introductory Psychology.

Mentored graduate students in pedagogy.

Undergraduate student advising.

Board member on the Faculty Association University of Waterloo (2015 – 2019).

Member of Lecturer's Committee (2016 – present); Committee Chair (2017 – 2019); Past Chair (2019 – 2020).

Annual Performance Review Committee (2020 – 2021).

Advisory Committee and Working Group to develop new communications courses for all incoming Arts students (Arts First Program).

Awards Committee for online course instruction and design (2017 – 2018).

Reviewer: Lite Grant applications for pedagogical research.

Reviewer: Waterloo Teaching and Learning Conference submissions.

Regular participant in Convocation.

- **Sessional Faculty, Department of Psychology, University of British Columbia (2007 – 2014).**

Courses: Introductory Psychology (PSYC100), Darwinian Perspectives on Mental Health and Illness (PSYC208), Research Methods (PSYC217), & Evolutionary Psychology (PSYC358).

Psychology instructor for the Coordinated Arts Program (2008 – 2014): Gateway cohort program utilizing team teaching in reduced class sizes.

Co-presented workshop on team teaching to CAP faculty.

Participated in departmental meetings and functions for instructors involved in teaching psychology at UBC.

Participated in convocation.

- **Non-regular Faculty, Department of Psychology, Capilano University (2007 – 2013).**

Courses: Introductory Psychology (PSYC101 & PSYC102) for both small classroom & mixed mode formats (35 or fewer students).

Attend regular departmental meetings throughout the semester as well as Social Sciences area meetings, and Capilano Faculty Association meetings.

Capilano Faculty Association Union Steward (2010).

- **Non-regular Faculty, Department of Psychology, Kwantlen Polytechnic University (2006 – 2013).**

Courses: Introductory Psychology (PSYC1100 & PSYC1200), Statistics for Behavioural Sciences (PSYC2300), Research Methods for Behavioural Sciences (PSYC2400), Social Psychology (PSYC2330), & Evolutionary Psychology (PSYC3800) for both small classroom & online formats (35 or fewer students).

- **Non-regular Faculty, Vancouver Community College (2008 – 2010).**

Courses: Introductory Psychology (PSYC1100 & PSYC1200) for 17-week small classroom format (25 or fewer students).

- **Post-doctoral Scholar, Department of Behavioral Science, Hokkaido University, Sapporo, Japan (2004 – 2006).**

Collaborated with faculty and graduate students to develop research projects in the areas of culture and evolution.

Edited manuscripts for submission to English language tier-one academic journals.

Developed poster and oral format presentations for international conferences in the areas of evolution & culture.

Assisted graduate students in creating research presentations in English.

TEACHING EXPERIENCE

Course Delivery: Delivered 113 courses in total for a variety of class sizes, from small seminar courses (fewer than 25 students), to large lecture halls with over 600 students in attendance. Delivered courses in a variety of formats, from live classroom settings, to blended & fully online.

Course Materials: Authored course materials for 1) in-class presentation of content using PowerPoint, 2) online delivery of course content using Web/CT, Vista, Connect, Moodle, and Learn 3) in-class activities to illustrate key content and help students practice and master new skills, 4) test bank questions (multiple-choice & short-answer) to evaluate students' understanding and preparation of course content, and 5) assignment instructions and guidelines including in-class workshops to develop cognitive skills required to complete assessments.

Undergraduate Supervision: Supervised four Directed Studies projects and two Undergraduate Honour's Thesis students. Served as second reader on three additional Honour's Thesis projects.

Student Response Systems: Familiar with both i-clickers and software-based SRS such as Learning Catalytics and Top Hat. Heavily utilized in large enrolment courses.

Cohort Learning: Psychology instructor for the Individual & Society stream in the Coordinated Arts Program (CAP) from 2008 to 2014. The CAP programme at UBC offers first-year undergraduate students an enriched educational experience through smaller class sizes and team-based teaching. Students in this stream take Psychology, Economics, and Arts Studies (Academic Writing and Literature). Faculty teach three to four joint lectures per year, collaborate to make cross-disciplinary connections, and align assignment schedules to manage student workload.

International Students: The Individual & Society stream of the Coordinated Arts Programme has a particularly large proportion of international students (about 25%). In addition, I worked closely with undergraduate and graduate students in Japan to develop their projects and presentations. Responsible for teaching the BASE section of Introduction to Psychology for international students.

Research Methods: Mentored hundreds of undergraduate research projects as part of the Research Methods for Behavioural Sciences courses at UBC, Kwantlen Polytechnic University, and the University of Waterloo.

Statistics: Responsible for teaching Basic Data Analysis to undergraduate students at the University of Waterloo. Developed graduate and undergraduate level statistics tutorials. Developed undergraduate exercises in R. Taught an introduction to matrix algebra mini-course to graduate students at UBC. Acted as the statistics consultant for the Psychology Department at UBC (2001 – 2004) and for the Psychology & Economics Departments at CSULB (1997 – 1998).

PUBLICATIONS

- Ohmura, Y., Takahashi, T., Kitamura, N., & Wehr, P. (2006). Three-month stability of delay and probability discounting measures. *Experimental & Clinical Psychopharmacology*, 14, 318 – 328.
- Paulhus, D., Wehr, P., & Harms, P. D., & Strasser, D. I. (2002). Use of exemplar surveys to reveal implicit types of intelligence. *Personality and Social Psychology Bulletin*, 28, 1051 – 1062.
- Wehr, P., MacDonald, K., Lindner, R., & Yeung, G. (2001). Stabilizing and directional selection on facial paedomorphosis: Averageness or juvenilization? *Human Nature*, 12, 383 – 402.
- Paulhus, D., & Wehr, P. (2000). Resolving controversy over birth order and personality: By debate or by design? *Politics and the Life Sciences*, 19, 177 – 179.

CONFERENCE PRESENTATIONS

- Anthony, K., Forrest, B., Ng, E., Tsedryk, K., & Wehr, P. (2017, April). Online teaching and learning: From curious questioner to proud proponent. D. Meunier (Chair). Symposium conducted at the Teaching and Learning Conference, Waterloo, ON.
- Wehr, P., & Torp, M. (2007). Facial paedomorphosis in hominid evolution and the preference for truncated facial development. Poster session presented at the annual meeting of the Human Behavior and Evolution Society, Williamsburg, Virginia.
- Wehr, P., & Kameda, T. (2006). Interracial Dating in a homogeneous society. Poster session presented at the annual meeting of the Human Behavior and Evolution Society, Philadelphia, Pennsylvania.
- Wehr, P., & Kameda, T. (2005). Uncertainty influences mate preferences. Poster session presented at the annual meeting of the Human Behavior and Evolution Society, Austin, Texas.
- Wehr, P. (2004). Facial Paedomorphosis in Human Evolution. Talk presented at the annual meeting of the Japanese Human Behavior and Evolution Society, Nagoya, Japan.
- Wehr, P. (2000). Bereavement as a function of reproductive value: Evidence from spousal and offspring loss. Talk presented at the annual meeting of the Human Behavior and Evolution Society, Amherst, Massachusetts.
- Wehr, P., & Paulhus, D. (2000). Within-family vs. between-family analyses of birth order effects on personality. Poster session presented at the annual meeting of the Canadian Psychological Association, Ottawa, Ontario.
- Wehr, P., & Paulhus, D. (1999). Birth order and attachment style. Poster session presented at the annual meeting of the Human Behavior and Evolution Society, Salt Lake City, Utah.

SERVICE

- **University of Waterloo**

Student Mentorship: Provide support for undergraduate students; write letters of reference for students applying to international & post-graduate programs; available for extended office hours every week; Student Advising.

Organize annual undergraduate research conference.

Participate in various aspects of departmental and university culture including conferences, colloquia and guest lectures.

Annual Performance Review Committee: evaluating colleague's contributions in service, teaching, and research for the purpose of merit.

Board member of the Faculty Association (FAUW) and Chair of the Lecturer's Committee (FAUW subcommittee). Subsequently served as an Executive Board member of FAUW: Treasurer and Interim President.

Faculty Relations Committee

Policy Development Committee: Policies 76 and 77.

Arts Teaching Fellow.

Committee work addressing issues and concerns of teaching faculty.

Advisory Committee and Workgroup developing undergraduate cohort communications program (Arts First).

Awards Committee evaluating online instruction and course design.

Orientation professor during orientation events for incoming students.

Regular participant at Convocation.

Community Service: Guest Judge at the Centennial Public-School Annual Science Fair.

First Aid Training.

- **University of British Columbia**

Student Mentorship: Provide support for undergraduate students; write letters of reference for students applying to international & post-graduate programs; available for extended office hours every week.

Orientation professor for Imagine Day (2011 & 2013). Students nominate professors to participate in orientation day activities to welcome first-year students to UBC.

Attend the annual Coordinated Arts Program Student Conference. Faculty attend student talks and poster sessions and engage students in discussion of their projects.

Attend convocation ceremonies for psychology majors.

Participate in faculty wide meetings for the Coordinated Arts Program: the

purpose of these meetings is to share strategies and experiences related to multidisciplinary team-teaching, and to offer mentorship to new faculty entering the programme for the first time.

- **Capilano University**

Student Mentorship: Provide support for first-year undergraduate students; write letters of reference for students applying to international & postgraduate programs.

Union Steward for the Psychology Department (2011).

Management of departmental e-mail correspondence.

Compile and track grade averages for all psychology courses.

- **Kwantlen Polytechnic University**

Student Mentorship: Provide support for undergraduate students.

Development of student projects for annual Celebration of Student Research conference at Kwantlen.

Participated in the development of BA applied programme.

ADDITIONAL MANAGEMENT & LEADERSHIP EXPERIENCE

- **Centrepont Strata Corporation President (2008 – 2010, 2012 – 2014), Vice President (2011).**

Participated in developing the following building projects: installing additional security measures (garage gates, stairwell cages, cameras), installing a bike room, adding additional exercise machines to the athletic room.

Chair monthly council meetings as well as the Annual General Meeting.

Prepare the Strata Corporation's annual budget and set maintenance fees.

Hire replacement contractors responsible for the repair and maintenance of the building including, but not limited to, landscaping, pool maintenance, painting, mechanical repairs, locksmiths, alarms, cleaners, etc.

Hire residential caretaker & replacement property management company.

Respond to building emergencies.

Liaise with property manager & manage the Strata Council e-mail correspondence.

Centrepont was one of the best-managed buildings in Burnaby, B.C. with some of the lowest maintenance fees in the Metrotown area upon my leaving the strata corporation.

INTERNATIONAL EXPERIENCE

- **Living & working in Sapporo, Japan (2004 – 2006).**

Integration into a homogeneous society as a visible minority foreigner.

Working as a post-doctoral researchers in a professional academic environment in Japan.

Learning Japanese language skills for purpose of social functioning (e.g., shopping for food, clothing, furniture, utilities, taxes, etc.)

Adjusting to, and learning about a new culture.

**FACULTY OF HEALTH VITAE FORMAT
CURRICULUM VITA**

NAME: Diane E. (Ronan) Williams, PhD

March 13, 2024

CONTACT INFORMATION: 473 Regency Crescent, Waterloo, ON, 519-208-7891

diane.williams@uwaterloo.ca

DEGREES RECEIVED:

<u>Degree</u>	<u>Institution</u>	<u>Years</u>
Ph.D.	Massachusetts Institute of Technology	2003
B.Sc.	Massachusetts Institute of Technology	1992

EMPLOYMENT HISTORY:

<u>Date</u>	<u>Position</u>	<u>Institution</u>
2018-present	Associate Director Undergrad	University of Waterloo
2016-present	Continuing Lecturer	University of Waterloo
2013 – 2016	Lecturer - DTA	University of Waterloo
2008 - 2013	Sessional Lecturer	Wilfrid Laurier University
2003 - 2006	Postdoctoral Research Associate	Oregon Health Sciences University

ACADEMIC AWARDS AND DISTINCTIONS:

- Vollum Institute Training Grant, April 2003-2004, Oregon Health and Sciences University.
- NSF Fellowship to attend the 4th international IEEE EMBS (Engineering in Medicine and Biology Society) Summer School on Biocomplexity, Bioscaling, and Biosignal Interpretation at Dartmouth College in New Hampshire. June 24-July 1, 2001

PUBLICATIONS:

a) Refereed Journals:

Timmermans, J. A., Bruni, C., Gorbet, R., Moffatt, B., Stublely, G., **Williams, D.**, & Holmes, T. (2018). The flourishing of care in a multidisciplinary Faculty Learning Community. *International Journal for Academic Development*, 23(4), 367-373.

Zhao H, **Williams DE**, Shin JB, Brügger B, Gillespie PG. Large Membrane Domains in Hair Bundles Specify Spatially Constricted Radixin Activation. *J Neurosci*. 2012 Mar 8;32(13):4600-9.

Hill JK, **Williams DE**, LeMasurier M, Dumont RA, Strehler EE, Gillespie PG. Splice-site A choice targets plasma-membrane Ca²⁺-ATPase isoform 2 to hair bundles. *J Neurosci*. 2006 Jun 7;26(23):6172-80.

Ronan D, Gillespie P. Metazoan mechanotransduction mystery finally solved. *Nat Neurosci*. 2005 Jan;8(1):7-8. Review.

Ronan D.E., Dix A.K., Shah P., Braid L.D. Integration across frequency bands for consonant identification. *J Acoust Soc Am*. 2004 Sep;116(3):1749-62.

PRESENTATION TO SCHOLARLY GROUPS:

b) Self-initiated

D.E. Ronan, M. Hirono, P.G. Gillespie, "Cholesterol Modulates Mechanotransduction and Lipid Diffusion in Hair Bundles", 2005, New Orleans, Association for Research in Otolaryngology Midwinter Meeting, Poster Presentation

J.K. Hill, **D.E. Ronan**, E. Strehler, P.G. Gillespie, "Hair-Cell Expression of Plasma Membrane Ca²⁺-ATPase Splicing Region A Isoforms", 2005, New Orleans, Association for Research in Otolaryngology Midwinter Meeting. Poster Presentation.

D.E. Ronan, C. Lechene, E.A. Mroz, "Intracellular sodium increases during recovery of isolated goldfish hair cells from an acid load.", 2002, Florida, Association for Research in Otolaryngology Midwinter Meeting, Poster Presentation

E.A. Mroz and **D.E. Ronan**, "An approach for analyzing interactions among solute-transport processes.", 1997, Florida, Association for Research in Otolaryngology Midwinter Meeting, Poster Presentation.

D.E. Ronan and E.A. Mroz, "Stability of solute composition in a simple hair-cell model", 1996, Florida, Association for Research in Otolaryngology Midwinter Meeting, Poster Presentation.

GRADUATE STUDENT SUPERVISION:a) **As Supervisor**b) **As Committee Member**

1. Ph.D. (2)
2. Masters (8)

SERVICE:

a) University

- FAUW Lecturers Committee (2015 – 2017)

b) Faculty

- Faculty Undergraduate Studies Committee (2017 – Present)
- Undergraduate Operations Committee (2017 – Present)
- AHS Teaching Champions Committee Members (2013 – 2017)
- AHS Standings and Promotions Committee (June 2018 – Present)

c) Department

- Associate Director, Undergraduate Studies (June 2018 – Present)
- School Executive Committee (June 2018 – Present)
- Accreditation and Program Evaluation Team (2018 – Present)

d) Community

- Volunteer leader with Girl Guides of Canada

AREAS OF TEACHING EXPERTISE:

Biological determinants of health; development, aging, and health; epigenetics; cell and molecular biology; human anatomy and physiology; experimental research methods; misconceptions about health, disease, and disease risks; problem-based learning; student engagement; blended and active learning approaches; online learning; open educational resources; scientific communication and health information literacy.

CURRENT RESEARCH INTERESTS:

Current research interests are related to pedagogy and teaching, including: facilitators and barriers to innovative teaching and experiential learning, student-led independently created courses (SLICCs), threshold concepts and decoding the disciplines, and curriculum mapping.



EXTERNAL REVIEWERS' REPORT FOR NEW PROGRAMS

Reviewers' Report on the Proposed **Bachelor of Medical Sciences** Program at the University of Waterloo.

Robert Bailey

Biology Undergraduate Program Director
Faculty of Science
Ontario Tech University
2000 Simcoe St N
Oshawa ON L1G 0C5
robert.bailey@ontariotechu.ca

David Hansen

Head, Department of Biological Sciences
Faculty of Science
University of Calgary
2500 University Drive NW
Calgary AB T2N 1N4
dhansen@ucalgary.ca

SUMMARY

We found the proposed program to be an innovative partnership between Waterloo University and St. George's University, coupling academic rigor with appropriate student support in their journeys from high school graduation to an MD. The careful assessment of applicants, including an interview, is essential for a program where a recent high school student is applying for a seat in medical school. We suggest considering including recent graduates of SGU medical school, and eventually the Waterloo/SGU B.Med.Sci-MD program, as part of the interview team.

We applaud the mission of the program addressing Canada's doctor shortage and suggest expanding this to articulate the challenge of the *distribution* of doctors in Canada, and suggest more strongly linking this mission to the application process by asking applicants what their ultimate goal will be as a working doctor. We are not suggesting quotas based on an applicant's vision of themselves as a working doctor, but rather consideration of this as part of a comprehensive application process. We also think "diversity of career destination" could be at least partially addressed in the first two years of study at Waterloo University by providing extra-curricular opportunities for students to meet and hear from a variety of working physicians from different contexts in Ontario. This would also help the students prepare for their future careers.

A strong initial two years of study at Waterloo has been proposed, and suggest that instructors for the new 2B semester courses be identified as soon as possible so that they can prepare for effective delivery of these new courses.

We recognize the financial challenges for students in all medical school programs, and suggest more explicit articulation of available student financial support at all stages of the program to increase accessibility for financially disadvantaged but otherwise well-qualified applicants.

Finally, we recognize the value and challenges of an institutional partnership and suggest that Waterloo and St. George's have a formal agreement for Quality Assurance and Faculty exchange visits to maintain and increase the strength of both the administrative and academic components of the program and the partnership.

1.0 DETAILS OF THE SITE VISIT

1.1 Outline of the Visit

- Meetings
 - Academic Administration
 - Dr. David DeVidi (UW Associate VP Academic)
 - Angela Christelis (UW Director, Academic Quality Enhancement)
 - Dr. Chris Houser (UW Dean, Faculty of Science)
 - Dr. Laura Deakin (UW Associate Dean, Faculty of Science (Teaching & Learning))
 - Laura Bruno (SGU VP & Dean of Enrollment)
 - Dr. Marios Loukas (SGU Dean, School of Medicine)
 - Dr. Mark Clunes (SGU, Senior Associate Dean of Basic Sciences)
 - Academic Program Overview, Outcomes, and Delivery
 - Dr. Laura Deakin (UW Associate Dean, Faculty of Science (Teaching & Learning))
 - Dr. John Corrigan (UW Chair, Department of Chemistry)
 - Dr. Paul Craig (UW Interim Chair, Department of Biology)
 - Laura Bruno (SGU VP & Dean of Enrollment)
 - Dr. Marios Loukas (SGU Dean, School of Medicine)
 - Dr. Mark Clunes (SGU, Senior Associate Dean of Basic Sciences)
 - Dr. Robert Finn (SGU, Assistant Dean, Basic Sciences)
 - Faculty Member Roundtable Discussions
 - Dr. Stefan Idziak (UW Department of Physics & Astronomy)
 - Dr. Vivian Dayeh (UW Department of Biology)
 - Dr. Thorsten Dieckmann (UW Department of Chemistry)
 - Dr. Jola Gurska (UW Department of Biology)
 - Dr. Mary Maj (SGU Department of Biochemistry)
 - Anna Cyrus-Murden (SGU Assistant Dean of Simulation)
 - Dr. Rachael George (SGU Department of Anatomical Sciences)
 - Dr. Mark Clunes (SGU, Senior Associate Dean of Basic Sciences)
 - Dr. Robert Finn (SGU, Assistant Dean, Basic Sciences)
 - Administrative Support Services
 - Jennifer Coghlin (UW Associate Registrar Enrolment Services & Academic Policy)
 - André Jardin (UW Associate Registrar Admissions)
 - Gina Moreno (UW Manager, Student Financial Services)
 - Brooke Sterritt (UW Student Awards and Financial Aid)
 - Laura Bruno (SGU VP & Dean of Enrollment)
 - John McLoughlin (SGU Executive Director, Enrollment Partnerships)
 - Gary Belotzerkovsky (SGU VP Student Operations and University Registrar)
 - Student Support Services
 - Stephen Woods (UW Science: Director, Undergraduate Operations)
 - Lori Labelle (UW Science: Associate Director, Undergraduate Operations)
 - Maya Ewert (UW Science: Academic Services Coordinator, Science Undergraduate Office)
 - Susan Whyte (UW Science: Undergraduate Program Manager)
 - Siu Hong Yu (UW Library: Librarian)
 - Kathy Muratis (UW Wellness Navigator)
 - Zina Bartolatta (UW Manager, Academic Accommodations)

- Dr. Kerry Mitchell (SGU Assistant Dean of Students)
- St. George's University medical program students
 - Christopher Haddad, M.D. (graduate)
 - Yimika Odusi, M.D. (graduate)
 - Amanda Nandkissore (current student; UOttawa graduate; submitted statement)
- What facilities were seen?
 - St. George's University Campus (virtual tour)
 - UW campus and science facilities tour

1.2 Effectiveness of the Pre-visit Documentation and Site Visit

- The proposal brief, along with links to Waterloo's mission and academic plan and SGU's website, were great preparation for our site visit.
- The logistics were well managed; to maximize the time available for discussion, we suggest a staff member greeting reviewers at the transportation drop-off point and escorting them to the initial meeting room and any transitions on campus after that.
- We suggest not characterizing the first meeting of the day as "breakfast".
- The meetings were very well organized, with great discussions with a wide and appropriate range of administrators, support staff, faculty, and students and graduates of the SGU medical school. It was very beneficial to have a wonderful tour of Waterloo facilities by current Waterloo students and a great virtual tour of SGU with SGU staff.

2. EVALUATION CRITERIA

2.1 Objectives

- *Is the program consistent with the [university mission and academic strategic plan](#)?* **Yes**
- *Are the program requirements and learning outcomes*
 - *in alignment with the University of Waterloo's [Undergraduate](#) or [Graduate](#) Degree Level Expectations?* **Yes**
 - *clear and appropriately communicated?* **Yes**
- *Do the program name and credential earned (e.g., BA, MSc, PhD, etc.)*
 - *reflect the content of the program?* **Yes**
 - *advance the program's objectives?* **Yes**

2.2 Admission requirements

- *Are admission requirements appropriately aligned with the learning outcomes established for completion of the program?* **Yes**
- *Is there sufficient explanation of alternative requirements, if any, for admission into a graduate, second-entry or undergraduate program, such as minimum grade point average, additional languages or portfolios, along with how the program recognizes prior work or learning experience?* **Yes**

2.3 Structure

- *Are the program's structure and regulations appropriate to meet the specified program learning outcomes and Degree Level Expectations?* **Yes**

2.4 Program Content

- Does the curriculum reflect the current state of the discipline or area of study? **Yes**
- What evidence is there of any significant innovation, distinctiveness or creativity in the content and/or delivery of the program?
 - The innovation, distinctiveness and creativity of this program largely stems from the formal relationship with St. George's University and the acceptance of students to this program directly out of high school. Faculty members teaching in existing Biology programs at Waterloo stated that many, if not most, of their current students have the goal of gaining acceptance to professional schools, including medical school. Since acceptance to these schools usually requires very high grades in undergraduate courses, and even with such grades a small proportion of students are accepted, students with this goal are under significant stress and pressure to perform. By accepting students to the proposed Bachelor of Medical Sciences program directly out of high school, with only a requirement to maintain performance levels that are quite reasonable, can relieve students of significant stress and allow them to focus on the learning that they require to be successful in medical school and in their future roles as physicians.
 - Another innovative aspect of this program is that the first two years of study are located at the University of Waterloo. This allows Canadian students to become acclimated to post-secondary education while still living close to home. For some students, going to St. George's University directly out of high school may be too much of an adjustment, causing them to be unsuccessful in their studies. By having the first two years at Waterloo, the students can become more independent prior to moving to St. George's, and be more likely to focus on their learning.
 - Most of the courses in the first two years of the program at Waterloo are courses that are already offered as part of other programs. This minimizes the resources needed to offer the program. Additionally, it provides an important off-ramp for students who change their minds and decide not to attend medical school at St. George's University. These students can use these courses to meet the requirements of another program, such as Honours Bachelor of Biomedical Sciences (Biomedical Sciences) program. Importantly, students who exit the proposed Bachelor of Medical Sciences program and join another program, can still graduate in the regular four-year timeframe (depending on their new program).

2.5 Mode of Delivery

- Is the proposed mode(s) of delivery appropriate to meet the intended program learning outcomes and Degree Level Expectations? **Yes**

2.6 Assessment of Teaching and Learning

All programs are expected to map the courses and related academic elements to the program learning outcomes and Degree Level Expectations (UDLEs or GDLEs). This section intends to evaluate these relationships.

- Is there a clear relationship between diverse academic elements: core courses, electives, and other program elements? **Yes**
- Are the proposed assessment methods appropriate to effectively show student achievement of program learning outcomes and Degree Level Expectations? **Yes**
- Is there a clear articulation of the plans for documenting and demonstrating the level of performance of students, consistent with the University of Waterloo's Undergraduate or Graduate Degree Level Expectations? **Yes**

2.7 Resources

- Is the academic unit's (or units') planned use of existing resources (e.g., human, physical) appropriate and effective for delivering the program? (*NOTE: Reviewers are encouraged to articulate and demonstrate the value added of any additional resources - e.g., new academic elements such as offering a new degree, or improved delivery of existing offerings, etc.*) **Yes**
- If necessary, is there sufficient evidence of the plans and commitment to provide the necessary resources in step with the implementation of the program? **Yes**
- Is there a sufficient number and quality of faculty and staff to achieve the goals of the program? **Yes**
- Are the academic support services (e.g., library, co-op, technology, etc.), related to the program being reviewed, appropriate and effective? **Yes**

For proposed undergraduate programs,

- Are planned/anticipated class sizes appropriate? **Yes**
- If required, is there sufficient provision of supervision of experiential learning opportunities? **Yes**
- Is the proposed role of adjunct and part-time faculty appropriate? **Yes**

For proposed graduate programs,

- Do faculty have adequate and recent research or professional/clinical expertise needed to sustain the program, promote innovation and foster an appropriate intellectual climate? **NA**
- Where appropriate, is there adequate evidence that financial assistance for students will be sufficient to ensure the number and quality of students? **NA**
- Is the quality and availability of graduate supervision sufficient? **NA**

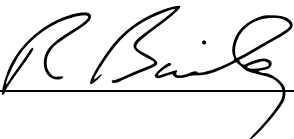
2.8 Quality Indicators (Faculty Complement)

- *Their qualifications, research and scholarly record*
 - Most of the courses that are part of the proposed Bachelor of Medical Sciences program are already offered as part of the requirements of other programs. Therefore, these courses are well-established and taught by experts in the field. The instructors listed as being part of the delivery of these courses are highly successful instructors with a proven track record of successfully delivering these and other courses. Indeed, many of these instructors have received awards for the quality of their instruction.
 - Instructors have not yet been identified for many of the courses in the 2B semester. It is very important to identify qualified instructors for these courses as they are highly relevant to the material taught in medical school, and they will be vitally important for the students to be set up for success in medical school. Importantly, the material for the courses taught in this semester is prepared by St. George's University; therefore, the instructors will not be expected to develop the material for these courses from scratch.
- *Evidence that the program's structure and faculty research will ensure the intellectual quality of the student experience*
 - Many of the instructors who teach courses in this program have active research programs with significant grant funding and publish high impact papers. Therefore, these instructors will ensure that the material taught in these courses is current. Likewise, many of the teaching stream faculty, who teach courses that will be included in this program, participate in learning activities meant to hone their pedagogical skills. Many of these instructors have received awards for the excellence of their teaching practices. Therefore, students in this program are likely to be taught current scientific understanding using modern and impactful pedagogical practices.

3. RECOMMENDATIONS

- 1. Review, discuss, and consider the suggested minor revisions in the Summary of this document.

Signature:  Date: 9 May 2025

Signature:  Date: 9 May 2025

Bachelor of Medical Sciences (BMSci) Program
Faculty of Science

New Program Site Visit

Thursday April 24, 2025 – Friday April 25, 2025



Site Visit Team

Dr. David Donald Hansen, University of Calgary, Alberta
Dr. Robert Bailey, Ontario Tech University, Ontario
Dr. Stephen Quilley, School of Environment, Resources and Sustainability, University of Waterloo

Thursday April 24, 2025

Rooms: NH 3043 and STC 2002 + virtual assist

Time	Topics/Areas of Focus/Session	Participants	Location
8:30 a.m. – 8:45 a.m.	<i>Transportation from hotel to UW</i>	Review Panelists	Waterloo Taxi Pick-up from Delta Hotel to Science Teaching Complex Building on Ring Road
8:45 – 9:00	<i>Review Panel Briefing and Preparation for Day 1</i>	Faculty of Science representatives are not included in this session	NH 3043
9:00 - 9:50	<i>Welcome Breakfast Meeting</i>	• Dr. David DeVidi (UW) Associate Vice-President Academic • Angela Christelis (UW) Director, Academic Quality Enhancement • Dr. Chris Houser (UW) Dean, Faculty of Science Professor, Department of Earth and Environmental Sciences • Dr. Laura Deakin (UW) Associate Dean, Faculty of Science (Teaching and Learning) Associate Professor, Department of Chemistry • Laura Bruno (SGU) Vice President & Dean of Enrollment • Dr. Marios Loukas, MD, PhD (SGU) Dean, School of Medicine	NH 3043

Time	Topics/Areas of Focus/Session	Participants	Location
		Professor, Department of Anatomical Sciences • Dr. Mark Clunes (SGU) Senior Associate Dean of Basic Sciences Professor, Department of Physiology/Neuroscience	
9:50 – 10:00	Walk to Science Teaching Complex (STC)		
10:00 – 12:00	Break for Panel Reviewers		STC 2002
12:00 – 1:30	Lunch Meeting - Academic Program Overview, Outcomes, and Delivery <i>Discussion of topics related to program structure and content, including details of curriculum, program outcomes, content, course outlines, bridges (if applicable), research capacity and academic pathways. Possibility of including the faculty plan and institutional policies as applicable.</i>	• Dr. Laura Deakin (UW) Associate Dean, Faculty of Science (Teaching and Learning) Associate Professor, Department of Chemistry • Dr. John Corrigan (UW) Chair, Department of Chemistry Professor • Dr. Paul Craig (UW) Interim Chair, Department of Biology Associate Professor • Laura Bruno (SGU) Vice President & Dean of Enrollment • Dr. Marios Loukas , MD, PhD (SGU) Dean, School of Medicine Professor, Department of Anatomical Sciences • Dr. Mark Clunes (SGU) Senior Associate Dean of Basic Sciences Professor, Department of Physiology/Neuroscience • Dr. Robert Finn (SGU-virtual) Associate Professor & Chair, Biochemistry Assistant Dean, Basic Sciences Associate Program Director for Preclinical Sciences	STC 2002 & Virtual SGU
1:30 – 1:45	Transitional Break to Student Support Services		

Time	Topics/Areas of Focus/Session	Participants	Location
1:45 – 2:45	<i>Student Support Services</i>	UW Undergraduate Office • Stephen Woods, Director Undergraduate Operations; Manager, Academic Advising • Lori Labelle, Associate Director, Undergraduate Operations • Maya Ewert, Academic Services Coordinator Science Undergraduate Office • Susan Whyte, Undergraduate Program Manager Library • Siu Hong Yu Librarian, Information Services and Resources, Davis Centre Campus Wellness • Kathy Muratis (UW) Wellness Navigator AccessAbility Services • Zina Bartolatta (UW) Manager, Academic Accommodations SGU • Dr. Kerry Mitchell (SGU) Assistant Dean of Students Co-Chair & Associate Professor, Department of Public Health & Preventive Medicine	STC 2002 MS Teams/Owl virtual assist
2:45 – 3:00	<i>Transitional Break to Virtual Tour of SGU Campus and Facilities</i>		
3:00 – 3:30	<i>Virtual Tour of Campus and Facilities – St. George’s University</i>	SGU Virtual Tour • Laura Bruno Vice President & Dean of Enrollment (SGU) • Dr. Marios Loukas, MD, PhD (SGU) Dean, School of Medicine Professor, Department of Anatomical Sciences	STC 2002 Experience SGU Virtual Tour - St. George's University Campus Map CampusMap.pdf

Time	Topics/Areas of Focus/Session	Participants	Location
		- Christina Verderosa (SGU) Director of Operations Dr. Mark Clunes (SGU) Senior Associate Dean of Basic Sciences Professor, Department of Physiology/Neuroscience Dr. Laura Deakin (UW) Associate Dean, Faculty of Science (Teaching and Learning)	Experience SGU True Blue Campus Experience St. George's University, Grenada YouTube Videos Campus Life in the Caribbean at St. George's University School of Medicine Academic Success in the MD Program at St. George's University School of Medicine StGeorgesU - YouTube Clinical Rotations as Part of the MD Program at St. George's University School of Medicine
3:30-4:00	<i>SGU Students and Alumni</i>	Amanda Nandkissore Dr. Christopher Haddad, M.D. Dr. Adeoluwayimika (Yimika) Odusi, M.D.	STC 2002 MS Teams/Owl virtual assist
4:00 – 4:30	<i>Review Panel Debrief</i>	Faculty of Science representatives are not included in this session.	STC 2002
4:30 -	<i>Travel to Hotel</i>	Review Panelists	Waterloo Taxi Pick-up from Science Teaching Complex Building on Ring Road to Delta Hotel

Bachelor of Medical Sciences (BMSci) Program
Faculty of Science
New Program Site Visit

Thursday April 24, 2025 – Friday April 25, 2025

Site Visit Team

Dr. David Donald Hansen, University of Calgary, Alberta
Dr. Robert Bailey, Ontario Tech University, Ontario
Dr. Stephen Quilley, School of Environment, Resources and Sustainability, University of Waterloo



Friday April 25, 2025

Rooms: NH 3043 and STC 2002 + virtual assist

Time	Topics/Areas of Focus/Session	Participants	Location
8:30 a.m. – 8:45 a.m.	<i>Transportation from hotel to UW</i>	Review Panelists	Waterloo Taxi Pick-up from Delta Hotel to Science Teaching Complex Building on Ring Road
8:45 – 9:00	<i>Review Panel Briefing and Preparation for Day 2</i>	Faculty of Science representatives are not included in this session.	STC 2002
9:00 – 9:30	Faculty Breakfast Roundtable - UW <i>Overview of the proposed program from the faculty’s point of view, including faculty’s and program’s resources (IT, laboratory, library, computing facilities, other equipment), faculty’s research capacity and the currency in their field. Topics may also cover the Program Content Standard.</i> Meeting with Faculty currently teaching or anticipated to teach in the proposed program. Please include full-time and part-time members. Please note, senior administrators/ program management such as Chair or Program Coordinator should not participate in this session.	UW • Dr. Stefan Idziak Associate Professor, Department of Physics and Astronomy Undergraduate Officer Undergraduate Advisor • Dr. Vivian Dayeh Associate Professor, Biology Teaching Fellow Undergraduate Advisor • Dr. Thorsten Dieckmann Associate Chair (Graduate Studies and Research) Associate Professor, Department of Chemistry • Dr. Jola Gurska Laboratory Instructor, Department of Biology Alternate: Dr. Kirsten Müller	STC 2002

Time	Topics/Areas of Focus/Session	Participants	Location
9:30-10:30	Faculty Roundtable – UW & SGU	UW • Dr. Stefan Idziak Associate Professor, Department of Physics and Astronomy Undergraduate Officer Undergraduate Advisor • Dr. Vivian Dayeh Associate Professor, Biology Teaching Fellow Undergraduate Advisor • Dr. Thorsten Dieckmann Associate Chair (Graduate Studies and Research) Associate Professor, Department of Chemistry • Dr. Jola Gurska Laboratory Instructor, Department of Biology SGU - virtual • Dr. Mary C. Maj, PhD, MSc, Professor of Biochemistry • Anna Cyrus-Murden, MD, MPH, Assistant Dean of Simulation Assistant Professor, Clinical Skills • Dr. Rachael George (SGU) Lecturer, Department of Anatomical Sciences; Preclinical Sciences Program Director • Dr. Mark Clunes (SGU) Senior Associate Dean of Basic Sciences; Professor, Department of Physiology/Neuroscience • Dr. Robert Finn (SGU) Associate Professor & Chair, Biochemistry; Assistant Dean, Basic Sciences; Associate Program Director for Preclinical Sciences	STC 2002 MS Teams/Owl virtual assist
10:30 - 10:45	Transitional Break to Administrative Support Services		

Time	Topics/Areas of Focus/Session	Participants	Location
10:45 – 11:45	Administrative Support Services	Registrar/Enrolment Services • Jennifer Coghlin (UW) Associate Registrar – Enrolment Services & Academic Policy • André Jardin (UW) Associate Registrar Admissions • Laura Bruno (SGU) Vice President & Dean of Enrollment • John McLoughlin (SGU) Executive Director, Enrollment Partnerships • Gary Belotzerkovsky (SGU) Vice President, Student Operations and University Registrar Finance • Gina Moreno (UW) Manager – Student Financial Services Student Awards and Financial Aid (SAFA) • Brooke Sterritt	STC 2002 MS Teams/ Owl virtual assist
11:45 – 12:45 p.m.	Lunch		STC 2002
12:45 – 1:45	UW Campus and Science Facilities Tour	Program Representative	
1:45 – 2:15	Review Panel Debriefing	Faculty of Science representatives are not included in this session.	STC 2002
2:15 – 2:45	Meeting with the Dean	• Dr. Chris Houser (UW) Dean, Faculty of Science Professor, Department of Earth and Environmental Sciences	STC 2002 + Virtual Assist
2:45 – 3:15	Concluding Meeting	• Dr. Chris Houser (UW) Dean, Faculty of Science Professor, Department of Earth and Environmental Sciences	STC 2002 + Virtual Assist

Time	Topics/Areas of Focus/Session	Participants	Location
		• Dr. Laura Deakin Associate Dean, Faculty of Science (Teaching and Learning) • Laura Bruno, Vice President & Dean of Enrollment (SGU) • Dr. Mark Clunes (SGU) Senior Associate Dean of Basic Sciences Professor, Department of Physiology/Neuroscience	
3:15 – 3:45	<i>Review Panel Debriefing</i>	Faculty of Science representatives are not included in this session.	STC 2002
3:45 – 4:00	<i>Walking Break to Needles Hall</i>		
4:00 – 4:30	<i>Exit Interview</i>	• Dr. David DeVidi (UW) Associate Vice-President Academic • Angela Christelis (UW) Director, Academic Quality Enhancement	NH 3043
4:30	<i>Transportation from UW</i>	Review Panelists	Waterloo Taxi Pick-up from Needles Hall Building on Ring Road to Delta Hotel and Toronto Pearson Airport.

Program and Dean's Response to External Reviewers' Report **Bachelor of Medical Sciences (BMSci)** May 2025

General Commentary

The program team and Dean wish to thank the external reviewers for their thoughtful, measured, and inquisitive approach to assessing this unique proposed program. They provided recommendations that are consistent with the strategic objectives articulated in Waterloo@100. They highlight the UW's commitment to supporting students with access to education and faculty with opportunities to develop and maintain a collegial and collaborative relationship with our partner institution.

Program Response to External Reviewers' Recommendations:

Review, discuss, and consider the suggested minor revisions in the Summary of this Document:

- 1. Recommendation - Instructors:** Identify instructors for the 2B term as soon as possible.

Program Response

In response to the external reviewers' recommendation to identify instructors for the 2B term as soon as possible, it is noteworthy that the UW internal approval process for new program proposals has introduced the proposed program to many faculty members from the associated departments. This has facilitated a number of discussions/conversations with the program team and interested faculty members, several of which have expressed interest for consideration to be assigned one of the courses in the 2B term.

As part of the typical process for assigning faculty to courses, the Faculty of Science, in consultation with the Associate Chairs for the departments associated with the curriculum in 2B, will seek interest from instructors with expertise in the relevant areas for the individual courses. The typical timeframe for assigning teaching assignments is after confirmation of enrolment numbers (provided by SGU) for the academic year.

Dean's Response

The identification of the courses in the proposed program aligns with existing courses offered at UW and therefore we have the faculty expertise to teach the courses. We are

confident we will be able to identify and assign, in consultation with SGU, competent faculty prior to the delivery of the 2B term.

- 2. Recommendation - Mission:** Expand the mission to articulate the challenge of the distribution of doctors in Canada and link this mission to the application process.

Program Response

Upon reflection on the external reviewers' recommendation to enhance the student application process to include a statement about the challenge of the distribution of doctors in Canada and how this impacts their goal in becoming a practicing physician, it is important to note the current application process. The application process will be managed by the Registrar's office at SGU and currently the student application does not include a reflective statement as identified by the external reviewers; however, SGU supports the inclusion. They have identified this can be accomplished in one of three ways:

1. Update the SGU application with new conditional logic so that applicants who apply to these programs are asked to complete a supplemental personal statement that addresses the topic.
2. We could build in a "checklist" item that would allow the student to start application process without the statement but would collect it before the final decision is made.
3. We could include this topic as standard interview question.

SGU will continue to work internally with the stakeholders responsible for designing and launching this initiative to determine the most effective mechanism.

Dean's Response

I was intrigued by the external reviewers' recommendation to include a statement from student applicants about addressing the challenge of the distribution of doctors in Canada as it aligns with the objective of the partnership with SGU. We are confident SGU will find a mechanism to support this recommendation. We look forward to receiving feedback from SGU about how student applicants are addressing this question.

- 3. Recommendation - Institutional Partnership Agreement:** UWaterloo and St. George's have a formal agreement for Quality Assurance and Faculty exchange visits to maintain and increase the strength of both the administrative and academic components of the program and the partnership.

Program Response

UW and SGU want to recognize the commitment of the external reviewers to providing quality curriculum to students and developing strong faculty partnerships. In this regard, The current practice at SGU (which is currently reflected in the partnership agreement) regarding curricular quality assurance is managed with the production of end of course

reports and faculty/course evaluations, collected anonymously, and reported to the Curriculum Committee. The committee reviews the reports and evaluations to assess longitudinal trends. The longitudinal trends will be reported to UW through the Curriculum Committee (see below).

Upon reflection of the external reviewers' recommendation to maintain and increase the strength of both the administrative and academic components of the program, the partnership agreement will be amended to include two initiatives. The first is a seat for a UW faculty member on the Curriculum Committee. The second is a commitment by SGU to set aside financial subsidies to support faculty from SGU to travel and work alongside UW faculty in Waterloo. SGU will begin working on language to include in the partnership agreement.

The program team agrees, this will assist with faculty collegiality and may facilitate collaborative research plans strengthening the administrative and academic components of the program and the partnership.

Dean's Response

UW values cross-institutional engagement between faculty members at various institutions.

We appreciate the seat on the Curriculum Committee as it will ensure transparency between the institutions on longitudinal trends.

I have received written confirmation from the Dean, SGU, about these amendments to the partnership agreement and agree to work to modify it to reflect the discussion above.

- 4. Recommendation - Financial Support:** Explicit articulation of available student financial support at all stages of the program to increase accessibility for financially disadvantaged but otherwise well-qualified applicants.

Program Response

UW and SGU want to underscore the alignment with the commitment of the external reviewers to provide access to students of all financial abilities to post-secondary education. The explicit articulation of the available student financial support at all stages of a program is standard practice at both institutions. UW and SGU are committed to working collaboratively to organize and present to students admitted to the proposed program a comprehensive list of available financial resources and scholarships.

Dean's Response

The Faculty of Science takes pride in providing information to students to support them at UW. Students in the first two years at UW in the proposed program will receive the standard information, including financial resources and scholarship. We are confident SGU

will provide explicit communication about the financial resources and scholarships available to students in year three and four of the proposed program.

Recommendations Not Selected for Implementation

The program team and Dean have chosen to implement all recommendations.

Signature of Approval

Laura Deakin 
Signed with ConSignO Cloud (2025/05/14)
Verify with verifio.com or Adobe Reader.

Chair/Director

Date



May 15, 2025

Faculty Dean

Date

Note: AFIW programs fall under the Faculty of ARTS; however, the Dean does not have fiscal control nor authority over staffing and administration of the program.

AFIW Administrative Dean/Head (*For AFIW programs only*)

Date

H-Medical Sciences

Medical Sciences (Bachelor of Medical Sciences - Honours)

Under Review | Fall 2026

Proposal Information

Workflow Status	
In Progress	
SUC Subcommittee, SUC Curricular Subcommittee	expand ▲
Waiting for Approval Approval Delegate(s)	
Tim Weber-Kraljevski	
Mike Grivicic	
Diana Goncalves	
Kuali - Arts	
Kuali - Env	
Melanie Figueiredo	
Kuali - Math	
Kuali - Eng	
Kuali - Hlth	
Ashley Day	
Kuali - Science	

Effective Date and Career

Career	Important! ⓘ
Undergraduate	
	Effective Term and Year ⓘ
	Fall 2026

Proposal Details

Proposal Type ⓘ	Academic Unit Approval
New	02/03/2025
Quality Assurance Designation ⓘ	
Major Modification	
Major Modification Categories	
Create a brand new program	
Recruitment Materials	
Yes	

Co-operative System of Study and Requirements ⓘ

Not Applicable

Creating or Changing Invalid Combinations ⓘ

Yes

Change to Learning Outcomes

Yes

Invalid Combinations Consultations

The BMSci is a rigorous academic program that does not permit for minors, options or other credentials.

Learning Outcomes Change Details ⓘProgram Learning Outcomes (PLOs)

By the time of graduation, all students will be able to:

1. Apply communication tools and techniques to engage in a professional and respectful manner with various audiences and mediums.
2. Describe the etiology, pathogenesis, structural and molecular alterations as they relate to the signs, symptoms, laboratory results, imaging investigations and causes of common and important diseases.
3. Incorporate biological factors, such as aging, genetic and epigenetic, nutritional, molecular reactivity, and their effects on human health.
4. Incorporate the psycho-socio-cultural factors, such as behavior, psychological, cultural, environmental, economic, geographical, religious, and their effects on human health.
5. Apply scientific health information in clinical reasoning.
6. Evaluate scientific studies and evidence-based therapeutic strategies to determine the best options for the prevention, treatment and palliation of disease.
7. Adhere to ethical behaviour that respects diversity and patient autonomy, and act in accordance with ethical codes of conduct, following patient privacy and informed consent procedures.
8. Commit to self-evaluation and life-long learning by investigating and evaluating professional practices, engaging in professional development and seeking professional networking and mentorship opportunities to improve patient care and maintain a healthy professional identity.
9. Assess healthcare systems, resources, services and patient care.

Rationale and Background for New Program/Plan ⓘ

The Faculty of Science (Science) at the University of Waterloo (UW), in partnership with St. George's University (SGU) in Grenada, West Indies, has created a unique full cost-recovery co-matriculation undergraduate regular degree program. The objective of this program is to diversify medical pathways for students, generate accelerated pathways out of high school, and create a pool of skilled medical professionals to address the demands within the Canadian health care system.

This program provides students with two unique opportunities, an entry from high school into a 6-year path, or an entry with first year credits into a 5-year path. In the 6-year path, students complete two years of preclinical studies at UW and four years of clinical training at SGU. In the 5-year path, students who meet pre-requisite admission requirements complete only the second of the two years at UW, followed by four years of clinical training at SGU. The courses taken during the first two years of the M.D. program at SGU will count towards degree requirements of both the BMSci and M.D. degrees.

With the implementation of this new proposed program and agreement with SGU, it is expected that SGU enrolment of Ontario as well as Canadian students could grow, in alignment with North American students' preference to remain closer to home for the first two years of post-secondary education. The BMSci program is also an attractive alternative for a student demographic interested in an international educational pathway to practice medicine, including an interest in accessing U.S. residencies. The proposed program, with rigorous educational requirements and a shorter duration, will support Canada's efforts to recruit qualified medical professionals. Currently there are no other North American institutions with a similar partnership agreement with an international medical school.

The proposed program is administered fully on-campus (UW and SGU) with a proposed launch of Fall 2026 and a first-year intake of up to 100 students, with a projected enrolment of 25 students for each of the 6-year and 5-year tracks (a minimum student number of 10 for each track, below which the program will not be offered). The proposed program aligns the learning outcomes between UW, SGU and Northumbria University (NU). The curriculum was designed by applying long standing analytical practices of metrics and assessments that drive the success of students and graduates in medical education.

The tuition fee for Fall 2026 is projected to be \$47,904 USD for the academic year, converting to ~ \$70K CAD. A portion of the gross revenue from the tuition fee is allocated to UW to account for the human resource costs of administering the proposed program. These will be additional administrative and academic supports to promote student success in the program. This will include a dedicated advisor at the UW, after hours support, an advisor at SGU and cohort building activities, access to a peer mentorship program, and interaction with SGU alumni and physicians.

Administratively, the UW benefits from the success of existing collaborative practices, processes and procedures that puts at the center the specific needs of this student demographic. Student success drives the collaborative model between SGU and the institutional partnerships (NU and UW). As a result of the partnership agreement between SGU and NU, UW will share/access resource intensive administrative processes such as Registration and Admission, Marketing and Recruitment, and residency placement. The services through the Office of Career Guidance at SGU begin in the second year of the M.D. program (before clinical rotations) and continue after students graduate and enter residency. As per the partnership agreement, Canadian students have access to comprehensive resources for those aiming to return to Canada for residency, including a Canadian Residency Mentor who provides coaching on navigating the recruitment process.

The postsecondary credits students earn in the proposed program could be transferred to other science-related programs because there is considerable overlap in course requirements between the BMSci and other programs at UW. Students who choose not to continue in the proposed program, or who have failed to meet progression requirements will have the opportunity to transfer the course credits for entry to several existing Science programs. At this time, students will be reassessed to determine whether they meet the entry requirements for their chosen program at UW.

Consultations (Departmental) ⓘ

Science Associate Chairs notified of new program via email (L. Deakin) January 21, 2025; Feb 4, 2025- support obtained from the departments for Biology, Chemistry, and Physics courses included in the BMSci program (Jan 25 through Feb 4).

Jan 16, 2025 support from Faculties and departments offering HLTH 101, 204, HEALTH 107, KIN 146 and PSYCH 101 supporting these courses in the program for 2026 start term (email reply from L. Deakin, ADU Health, ADU Arts).

Consults with Registrar's office regarding 16 week term 2B (email J. Coghlin, Jan 31, 2025).

Supporting Documentation

General Program/Plan Information

Faculty ⓘ Faculty of Science		Academic Unit ⓘ Dean of Science Office	
Field of Study ⓘ Medical Sciences		Faculty ⓘ Faculty of Science	
Undergraduate Credential Type ⓘ Major	Program Type Honours	Degree ⓘ Bachelor of Medical Sciences	
Program/Plan Name ⓘ Medical Sciences (Bachelor of Medical Sciences - Honours)			
Systems of Study Regular		Online Degree/Diploma ⓘ	

Admissions

Admissions Entry Point ⓘ Direct Entry

Admission Requirements: Minimum Requirements ⓘ

Academic Criteria

For direct entry from high school, an Ontario Secondary School Diploma (OSSD) with an overall average of about 90% with a strong science performance, are the typical requirements for entry to St. George's University (SGU) pre-clinical programs. The students admitted into the BMSci program will have met SGU admission requirements.

Once SGU completes an assessment of the potential students' credentials and have deemed they meet the admission requirements, they are provided with a link to an Ontario Universities' Application Centre (OUAC) application specific to this program. The OUAC application fee will be waived. The OUAC application to UW will enable the standard new student processes to take place. Once the potential UW student accepts the offer from the university, they are added to the Student Information System/Student Records (Quest) and receive identical communication and services afforded any student. At this stage they are considered a standard UW student with all the rights and privileges of a first-year student which means they have access to all the resources, amenities, benefits, services on-campus, and guaranteed access to housing in residence.

Non-Academic Criteria

SGU also undertakes a holistic admission process where students are examined for personal characteristics such as motivation for medicine, empathy and compassion, communication skills, critical thinking and curiosity, resilience, and teamwork. These factors are viewed in combination to consider how an individual might contribute value not only as a medical student but also as a future physician.

Requirements Information

Invalid Combinations ⓘ

No

Average Requirement ⓘ

Yes

Minimum Average(s) Required ⓘ

- A minimum 60.0% (UW) grade in all courses (see Academic Standing rules).

Notes

- UW grades earned in 1A though 2A are provided to SGU to be converted for determination of progression.
- SGU grades terms 2B though 4C, providing transcripts to UW for conversion to UW equivalent grades for the student transcript.
- Progression rules are based on SGU requirements and converted to UW grades (see Academic Standing Rules).

Graduation Requirements ⓘ

Unit Requirements

- Complete a total of 24.0 units.

Full-Time Terms

- Have full-time enrolment in years one through four.

Undergraduate Communication Requirement (UCR)

Students are required to complete one course to meet the Undergraduate Communication Requirement: HEALTH107

Notes

1. Successful completion of the UCR will result in a communication milestone on the student record.
2. Students transferring to another faculty should note that additional courses may be required to satisfy the other faculty's UCR.
3. Normally, transfer credits cannot be used to satisfy the UCR.

Co-operative Education Program Requirements ⓘ

Required Courses (Term by Term) ⓘ**1A Term**

- Complete all of the following
 - Complete all the following:
 - BIOL130 - Introductory Cell Biology (0.50)
 - BIOL130L - Cell Biology Laboratory (0.25)
 - CHEM120 - General Chemistry 1 (0.50)
 - CHEM120L - General Chemistry Laboratory 1 (0.25)
 - HLTH101 - Introduction to Health 1 (0.50)
 - PHYS105 - Introduction to Physics for Health Care Professions (0.50)
 - Complete 1 of the following:
 - PSYCH101 - Introductory Psychology (0.50)
 - PSYCH101R - Introductory Psychology (0.50)

1B Term

- Complete all the following:
 - BIOL201 - Human Anatomy (0.50)
 - BIOL239 - Genetics (0.50)
 - CHEM123 - General Chemistry 2 (0.50)
 - CHEM123L - General Chemistry Laboratory 2 (0.25)
 - HEALTH107 - Sociology of Activity, Health, and Well-Being (0.50)
 - HLTH204 - Quantitative Approaches to Health Science (0.50)
 - KIN146 - Introduction to Human Nutrition (0.50)

2A Term

- Complete all the following:
 - BIOL240 - Fundamentals of Microbiology (0.50)
 - BIOL240L - Microbiology Laboratory (0.25)
 - BIOL273 - Principles of Human Physiology 1 (0.50)
 - CHEM237 - Introductory Biochemistry (0.50)
 - CHEM266 - Basic Organic Chemistry 1 (0.50)
 - CHEM266L - Organic Chemistry Laboratory (0.25)
 - MEDSCI200 - Learning Strategies for Pre-Professional Programs (0.25)
 - MEDSCI202 - Communication for Health Professions 1 (0.50)

2B Term

- Complete all the following:
 - MEDSCI203 - Communication for Health Professions 2 (0.50)
 - MEDSCI250 - Human Physiology (0.50)
 - MEDSCI260 - Human Anatomy (0.50)
 - MEDSCI270 - Biochemistry (0.50)
 - MEDSCI280 - Introduction to Psychopathology (0.50)
 - MEDSCI290 - Molecular Biology (0.50)

3A Term

- Complete all the following:
 - MEDSCI300 - Basic Principles of Medicine 1 (2.50)

3B Term

- Complete all the following:
 - MEDSCI350 - Basic Principles of Medicine 2 (2.50)

4A Term

- Complete all the following:
 - MEDSCI420 - Basic Principles of Medicine 3 (1.00)

4B Term

- Complete all the following:
 - MEDSCI400 - Principles of Clinical Medicine 1 (3.00)

4C Term

- Complete all the following:
 - MEDSCI450 - Principles of Clinical Medicine 2 (2.50)

Course Lists ⓘ

Required Courses

No Rules

Are there cross-listed courses listed in requirements?

Yes

Cross-Listings Options ⓘ

All cross-listings to be displayed

Additional Constraints ⓘ

- 1. Students are required to take courses in person/on campus.
- 2. The BMSci program cannot be combined with any other major, minor, or option designation except as described in the invalid credential combinations.

Notes ⓘ

- See list of academic advisors.
- Years One and Two are completed at the University of Waterloo.
- Years Three and Four are completed at the St. George's University, School of Medicine, Grenada.

Specializations

Specializations for this Major ⓘ

No

Workflow Information

Workflow Path ⓘ

Committee approvals

Faculty/AFIW Path(s) for Workflow ⓘ

Faculty of Science

Senate Workflow

--

Dependencies

Dependent Courses and Programs/Plans

There are no dependencies

MEDSCI 200

Learning Strategies for Pre-Professional Programs

Under Review | Fall 2026

Proposal Information

Workflow Status		
In Progress		
SUC Subcommittee, SUC Curricular Subcommittee		
Waiting for Approval Approval Delegate(s)		
Tim Weber-Kraljevski		
Mike Grivicic		
Diana Goncalves		
Kuali - Arts		
Kuali - Env		
Melanie Figueiredo		
Kuali - Math		
Kuali - Eng		
Kuali - Hlth		
Ashley Day		
Kuali - Science		

expand ▲

Effective Date & Career

Career ⓘ	Important! ⓘ	Quest Course ID
Undergraduate		
	Effective Term and Year ⓘ	Offering Number
	Fall 2026	

Proposal Details

Proposal Type ⓘ	Academic Unit Approval
New	01/20/2025

Rationale for New Course ⓘ

As part of the Faculty of Science partnership with St. George's University (SGU) for the new Honours Bachelor of Medical Sciences (BMSci) program and pathway to a Doctor of Medicine (M.D.), MEDSCI 200 is delivered in the 2A term, as an opportunity for students to gain and apply various learning strategies. This 0.25 credit course will be taught by a UW instructor with content provided by SGU. (See H- Medical Sciences program proposal for full background, rationale and associated supporting documents).

Consultations ⓘ

Consultations with St. George's University, Grenada have taken place. See H-Medical Sciences program proposal for consultations and supportive documentation.

Supporting Documentation

Course Information

Faculty ⓘ		Academic Unit ⓘ
Faculty of Science		Dean of Science Office
Subject Code ⓘ	Number ⓘ	Course Level
MEDSCI	200	200
Title ⓘ		
Learning Strategies for Pre-Professional Programs		
Abbreviated Title ⓘ		Undergraduate Communication Requirement Identifier
Pre-Profess Learn Strategies		No
Description ⓘ		
This is a skills development course through which students in a pre-professional program will find creative and constructive ways to gain and apply knowledge in learning situations. Students will develop a commitment to learning in a more personalized, efficient, and effective way. Significant attention will be given to study strategies and how to best place these strategies into practice in their course of study. Class sessions will provide opportunities for students to gain exposure to various learning strategies and for students to share their experiences, successes, and concerns with other students. Students will gain exposure to various learning techniques. Students will be exposed to levels of learning, types of studying, time management and planning, active review, memory, note-taking strategies, group study, and methods of developing critical-thinking skills.		
Units ⓘ	Exceptions to fees or academic progress units ⓘ	
0.25		
Components ⓘ	Primary Component	
LectureTutorial	Lecture	

Grading Information

Standard Course Grading ⓘ

Yes

Cross-Listing Information

Is this course cross-listed? ⓘ

No

Repeatable Courses

Can this course be repeated for credit? ⓘ

No

Enrolment Rules

Consent to Add ⓘ

No consent required

Consent to Drop ⓘ

No consent required

Prerequisites ⓘ

- Enrolled in H-Medical Sciences

Corequisites ⓘ

No Rules

Antirequisites ⓘ

No Rules

Course Notes

Fee Statement ⓘ**Notes** ⓘ

Workflow Information

Workflow Path ⓘ

Committee approvals

Faculty/AFIW Path(s) for Workflow ⓘ

Faculty of Science

Dependencies

Dependent Courses and Programs/Plans

There are no dependencies

MEDSCI 202
Communication for Health Professions 1
Under Review | Fall 2026

Proposal Information

Workflow Status		
In Progress		
SUC Subcommittee, SUC Curricular Subcommittee		
Waiting for Approval Approval Delegate(s)		
Tim Weber-Kraljevski		
Mike Grivicic		
Diana Goncalves		
Kuali - Arts		
Kuali - Env		
Melanie Figueiredo		
Kuali - Math		
Kuali - Eng		
Kuali - Hlth		
Ashley Day		
Kuali - Science		

expand ▲

Effective Date & Career

Career	Important!	Quest Course ID
Undergraduate		
	Effective Term and Year	Offering Number
	Fall 2026	

Proposal Details

Proposal Type	Academic Unit Approval
New	01/20/2025

Rationale for New Course

Communication skills are critical in health professions. A set of two communication courses (MEDSCI 202 and MEDSCI 203) are included as part of the Faculty of Science partnership with St. George's University (SGU) for the new Bachelor of Medical Sciences (BMSci) program and pathway to a Doctor of Medicine (M.D). These courses are in addition to HEALTH 107 which is the UCR course for the program.

MEDSCI 202 is delivered in the 2A term, followed by MEDSCI 203 in 2B. The content of both courses is provided by SGU and taught at UWaterloo. Both courses prepare students for communication requirements in their university course work, but also in their future professional careers. See H- Medical Sciences program proposal for full background, rationale and associated supporting documents.

Consultations

Consultations with St. George's University, Grenada have taken place. (See H-Medical Sciences program proposal for consultations and supportive documentation).

Supporting Documentation

Course Information

Faculty ⓘ		Academic Unit ⓘ	
Faculty of Science		Dean of Science Office	
Subject Code ⓘ	Number ⓘ	Course Level	
MEDSCI	202	200	
Title ⓘ			
Communication for Health Professions 1			
Abbreviated Title ⓘ		Undergraduate Communication Requirement Identifier	
Health Professions 1 Comm		No	
Description ⓘ			
Practicing professionals need to be able to read, understand, and evaluate research studies. They need to be able to critically evaluate research data and to determine whether research methods and arguments are sound and valid. They need to be able to summarize, paraphrase, and synthesize published work, with appropriate documentation, to support their own professional decisions, claims, and arguments. This course is designed to support students in developing these skills.			
Units ⓘ		Exceptions to fees or academic progress units ⓘ	
0.50			

Components ⓘ

LectureTutorialTest Slot

Primary Component

Lecture

Grading Information

Standard Course Grading ⓘ

Yes

Cross-Listing Information

Is this course cross-listed? ⓘ

No

Repeatable Courses

Can this course be repeated for credit? ⓘ

No

Enrolment Rules

Consent to Add ⓘ

No consent required

Consent to Drop ⓘ

No consent required

Prerequisites ⓘ

- Enrolled in H-Medical Sciences

Corequisites ⓘ

No Rules

Antirequisites ⓘ

No Rules

Course Notes

Fee Statement ⓘ

Notes ⓘ

Workflow Information

Workflow Path ⓘ

Committee approvals

Faculty/AFIW Path(s) for Workflow ⓘ

Faculty of Science

Dependencies

Dependent Courses and Programs/Plans

There are no dependencies

MEDSCI 203
Communication for Health Professions 2
Under Review | Fall 2026

Proposal Information

Workflow Status		
In Progress		
SUC Subcommittee, SUC Curricular Subcommittee		
Waiting for Approval Approval Delegate(s)		
expand ▲		
Tim Weber-Kraljevski		
Mike Grivicic		
Diana Goncalves		
Kuali - Arts		
Kuali - Env		
Melanie Figueiredo		
Kuali - Math		
Kuali - Eng		
Kuali - Hlth		
Ashley Day		
Kuali - Science		

Effective Date & Career

Career ⓘ	Important! ⓘ	Quest Course ID
Undergraduate		
	Effective Term and Year ⓘ	Offering Number
	Fall 2026	

Proposal Details

Proposal Type ⓘ	Academic Unit Approval
New	01/20/2025

Rationale for New Course ⓘ

Communication skills are critical in health professions. A set of two communication courses (MEDSCI 202 and MEDSCI 203) are included as part of the Faculty of Science partnership with St. George's University (SGU) for the new Bachelor of Medical Sciences (BMSci) program and pathway to a Doctor of Medicine (M.D). These courses are in addition to HEALTH 107, which is the UCR course for the program.

MEDSCI 203 is delivered in the 2B term. Preceding the delivery of MEDSCI 203 is MEDSCI 202 in 2A. The content of both courses is provided by SGU and taught at UWaterloo. Both courses prepare students for communication requirements in their university course work, but also in their future professional careers. See H- Medical Sciences program proposal for full background, rationale and associated supporting documents.

Consultations ⓘ

Consultations with St. George's University, Grenada have taken place. (See H-Medical Sciences program proposal for consultations and supportive documentation).

Supporting Documentation

Course Information

Faculty ⓘ		Academic Unit ⓘ	
Faculty of Science		Dean of Science Office	
Subject Code ⓘ	Number ⓘ	Course Level	
MEDSCI	203	200	
Title ⓘ			
Communication for Health Professions 2			
Abbreviated Title ⓘ		Undergraduate Communication Requirement Identifier	
Health Professions 2 Comm		No	
Description ⓘ			
This course aims to train students of the health professions to write clearly and effectively, to identify and correct punctuation and grammatical errors, and to write in style and registers that are appropriate for academic and professional contexts. Students will analyze several writing tasks commonly required in the health professions in order to identify and then apply the principles contributing to effectively performing these tasks. A process approach will be taken.			
Units ⓘ		Exceptions to fees or academic progress units ⓘ	
0.50			

Components ⓘ

LectureTutorialTest Slot

Primary Component

Lecture

Grading Information

Standard Course Grading ⓘ

Yes

Cross-Listing Information

Is this course cross-listed? ⓘ

No

Repeatable Courses

Can this course be repeated for credit? ⓘ

No

Enrolment Rules

Consent to Add ⓘ

No consent required

Consent to Drop ⓘ

No consent required

Prerequisites ⓘ

- Enrolled in H-Medical Sciences

Corequisites ⓘ

No Rules

Antirequisites ⓘ

No Rules

Course Notes

Fee Statement ⓘ

Notes ⓘ

Workflow Information

Workflow Path ⓘ

Committee approvals

Faculty/AFIW Path(s) for Workflow ⓘ

Faculty of Science

Dependencies

Dependent Courses and Programs/Plans

There are no dependencies

MEDSCI 250
Human Physiology
Under Review | Fall 2026

Proposal Information

Workflow Status

In Progress

SUC Subcommittee, SUC Curricular Subcommittee

Waiting for Approval | Approval Delegate(s)

Tim Weber-Kraljevski

Mike Grivicic

Diana Goncalves

Kuali - Arts

Kuali - Env

Melanie Figueiredo

Kuali - Math

Kuali - Eng

Kuali - Hlth

Ashley Day

Kuali - Science

expand ▲

Effective Date & Career

Career ⓘ	Important! ⓘ	Quest Course ID
Undergraduate	Effective Term and Year ⓘ	Offering Number
	Fall 2026	

Proposal Details

Proposal Type ⓘ	Academic Unit Approval
New	01/20/2025

Rationale for New Course ⓘ

This is one of a series of SGU courses (MEDSCI 203, 250, 260, 270, 280, and 290) taught by instructors at UWaterloo in the 2B term (referred to as the mirror term). As part of the Faculty of Science partnership with St. George's University (SGU) for the new Bachelor of Medical Sciences (BMSci) program and pathway to a Doctor of Medicine (M.D), it is agreed that these courses prepare students to be successful in meeting the course learning outcomes to continue to advance through the program. These courses offer consistency of course learning outcomes and assessment methods for students at SGU, Northumbria University (United Kingdom), and UWaterloo. These second year MEDSCI courses are only open to students in the BMSci program. (See H- Medical Sciences program proposal for full background, rationale and associated supporting documents).

Consultations ⓘ

Consultation with St. George's University, Grenada have taken place. In addition, the departments of Biology and Chemistry are aware that courses in the 2B "mirror" term, have similar titles and some topic overlap in existing BIOL/CHEM courses (see H-Medical Sciences program proposal for consultations and supportive documentation).

Supporting Documentation

Course Information

Faculty ⓘ		Academic Unit ⓘ
Faculty of Science		Dean of Science Office
Subject Code ⓘ	Number ⓘ	Course Level
MEDSCI	250	200
Title ⓘ		
Human Physiology		
Abbreviated Title ⓘ		Undergraduate Communication Requirement Identifier
Human Physiology		No
Description ⓘ		
This course is designed to provide a fundamental basis for understanding human physiology pertinent to clinical medicine. The course uses a variety of instructional approaches to facilitate learning using lectures, quizzes, interactive multiple choice question sessions, and small group clinical discussions. Course topics teaching the essential elements, concepts, and organ systems in human physiology are delivered consecutively, grouped as follows: cell and tissue physiology: homeostasis, excitable tissue, and introduction to nervous system; neurophysiology, autonomic nervous, and cardiovascular systems; gastrointestinal and pulmonary systems; and, endocrine and renal systems.		
Units ⓘ	Exceptions to fees or academic progress units ⓘ	
0.50		

Components ⓘ

LectureLaboratoryTutorialTest Slot

Primary Component

Lecture

Grading Information

Standard Course Grading ⓘ

Yes

Cross-Listing Information

Is this course cross-listed? ⓘ

No

Repeatable Courses

Can this course be repeated for credit? ⓘ

No

Enrolment Rules

Consent to Add ⓘ

No consent required

Consent to Drop ⓘ

No consent required

Prerequisites ⓘ

- Enrolled in H-Medical Sciences

Corequisites ⓘ

No Rules

Antirequisites ⓘ

No Rules

Course Notes

Fee Statement ⓘ

Notes ⓘ

Workflow Information

Workflow Path ⓘ

Committee approvals

Faculty/AFIW Path(s) for Workflow ⓘ

Faculty of Science

Dependencies

Dependent Courses and Programs/Plans

There are no dependencies

MEDSCI 260
Human Anatomy
Under Review | Fall 2026

Proposal Information

Workflow Status

In Progress

SUC Subcommittee, SUC Curricular Subcommittee

Waiting for Approval | Approval Delegate(s)

Tim Weber-Kraljevski

Mike Grivicic

Diana Goncalves

Kuali - Arts

Kuali - Env

Melanie Figueiredo

Kuali - Math

Kuali - Eng

Kuali - Hlth

Ashley Day

Kuali - Science

expand ▲

Effective Date & Career

Career ⓘ	Important! ⓘ	Quest Course ID
Undergraduate		
	Effective Term and Year ⓘ	Offering Number
	Fall 2026	

Proposal Details

Proposal Type ⓘ

New

Academic Unit Approval

01/20/2025

Rationale for New Course ⓘ

This is one of a series of SGU courses (MEDSCI 203, 250, 260, 270, 280, and 290) taught by instructors at UWaterloo in the 2B term (referred to as the mirror term). As part of the Faculty of Science partnership with St. George's University (SGU) for the new Bachelor of Medical Sciences (BMSci) program and pathway to a Doctor of Medicine (M.D), it is agreed that these courses prepare students to be successful in meeting the course learning outcomes to continue to advance through the program. These courses offer consistency of course learning outcomes and assessment methods for students at SGU, Northumbria University (United Kingdom), and UWaterloo. These second year MEDSCI courses are only open to students in the BMSci program (see H- Medical Sciences program proposal for full background, rationale and associated supporting documents).

Consultations ⓘ

Consultation with St. George's University, Grenada have taken place. In addition, the departments of Biology and Chemistry are aware that courses in the 2B "mirror" term, have similar titles and some topic overlap in existing BIOL/CHEM courses (see H-Medical Sciences program proposal for consultations and supportive documentation).

Supporting Documentation

Course Information

Faculty ⓘ

Faculty of Science

Academic Unit ⓘ

Dean of Science Office

Subject Code ⓘ

MEDSCI

Number ⓘ

260

Course Level

200

Title ⓘ

Human Anatomy

Abbreviated Title ⓘ

Human Anatomy

Undergraduate Communication Requirement Identifier

No

Description ⓘ

This course presents a systematic approach to the study of the human body. The course has been developed to provide students with a basic foundation in the anatomical sciences. The anatomical sciences include human gross anatomy, developmental anatomy, histology, and cell biology. The course begins with an introduction to anatomical terminology and imaging, cellular organization, and the basic tissues. The course continues with an extensive study of the eleven major systems of the human body: integumentary system, skeletal system, muscular system, cardiovascular system, lymphatic system, respiratory system, digestive system, urinary system, male and female reproductive systems, nervous system, and endocrine system. The course is composed of lecture, laboratory, small group, and online activities.

Units ⓘ

0.50

Exceptions to fees or academic progress units ⓘ

Components ⓘ	Primary Component
LectureTutorialLaboratoryTest Slot	Lecture

Grading Information

Standard Course Grading ⓘ
Yes

Cross-Listing Information

Is this course cross-listed? ⓘ
No

Repeatable Courses

Can this course be repeated for credit? ⓘ
No

Enrolment Rules

Consent to Add ⓘ No consent required	Consent to Drop ⓘ No consent required
Prerequisites ⓘ Enrolled in H-Medical Sciences	
Corequisites ⓘ No Rules	
Antirequisites ⓘ No Rules	

Course Notes

Fee Statement ⓘ

Notes ⓘ

Workflow Information

Workflow Path ⓘ Committee approvals	Faculty/AFIW Path(s) for Workflow ⓘ Faculty of Science

Dependencies

Dependent Courses and Programs/Plans
There are no dependencies

MEDSCI 270 **Biochemistry**

Under Review | Fall 2026

Proposal Information

Workflow Status

In Progress

SUC Subcommittee, SUC Curricular Subcommittee

Waiting for Approval | Approval Delegate(s)

Tim Weber-Kraljevski

Mike Grivicic

Diana Goncalves

Kuali - Arts

Kuali - Env

Melanie Figueiredo

Kuali - Math

Kuali - Eng

Kuali - Hlth

Ashley Day

Kuali - Science

expand ▲

Effective Date & Career

Career ⓘ	Important! ⓘ	Quest Course ID
Undergraduate	Effective Term and Year ⓘ Fall 2026	Offering Number

Proposal Details

Proposal Type ⓘ

New

Academic Unit Approval

01/20/2025

Rationale for New Course ⓘ

This is one of a series of SGU courses (MEDSCI 203, 250, 260, 270, 280, and 290) taught by instructors at UWaterloo in the 2B term (referred to as the mirror term). As part of the Faculty of Science partnership with St. George's University (SGU) for the new Bachelor of Medical Sciences (BMSci) program and pathway to a Doctor of Medicine (M.D), it is agreed that these courses prepare students to be successful in meeting the course learning outcomes to continue to advance through the program. These courses offer consistency of course learning outcomes and assessment methods for students at SGU, Northumbria University (United Kingdom), and UWaterloo. These second year MEDSCI courses are only open to students in the BMSci program (see H- Medical Sciences program proposal for full background, rationale and associated supporting documents).

Consultations ⓘ

Consultation with St. George's University, Grenada have taken place. In addition, the departments of Biology and Chemistry are aware that courses in the 2B "mirror" term, have similar titles and some topic overlap in existing BIOL/CHEM courses (see H-Medical Sciences program proposal for consultations and supportive documentation).

Supporting Documentation

Course Information

Faculty ⓘ

Faculty of Science

Academic Unit ⓘ

Dean of Science Office

Subject Code ⓘ

MEDSCI

Number ⓘ

270

Course Level

200

Title ⓘ

Biochemistry

Abbreviated Title ⓘ

Biochemistry

Undergraduate Communication Requirement Identifier

No

Description ⓘ

Living organisms are construed principally from macromolecules (i.e., proteins, lipids, etc.). In addition, certain proteins (enzymes) catalyze most of the reactions occurring within cells. This course is designed to deal with the structure and function of proteins (including enzymes, cofactors, and antibodies), carbohydrates, nucleic acids (DNA and RNA), and lipids (including membranes structure). All cells require a continual supply of energy in the form of adenosine triphosphate (ATP). This course begins by describing the structure and significance of ATP and explains how ATP is synthesized. The key process of the TCA cycle, oxidative phosphorylation, glycolysis, and fatty acid degradation will all be described. The course will also explain how macromolecules such as carbohydrates and lipids are synthesized from simpler precursors.

Units ⓘ

0.50

Exceptions to fees or academic progress units ⓘ

https://uwaterloocm.kuali.co/cm/#/courses/print/67928cabaf9a392277add9fd

2/3

Components ⓘ

LectureTutorialTest Slot

Primary Component

Lecture

Grading Information

Standard Course Grading ⓘ

Yes

Cross-Listing Information

Is this course cross-listed? ⓘ

No

Repeatable Courses

Can this course be repeated for credit? ⓘ

No

Enrolment Rules

Consent to Add ⓘ

No consent required

Consent to Drop ⓘ

No consent required

Prerequisites ⓘ

- Enrolled in H-Medical Sciences

Corequisites ⓘ

No Rules

Antirequisites ⓘ

No Rules

Course Notes

Fee Statement ⓘ**Notes** ⓘ

Workflow Information

Workflow Path ⓘ

Committee approvals

Faculty/AFIW Path(s) for Workflow ⓘ

Faculty of Science

Dependencies

Dependent Courses and Programs/Plans

There are no dependencies

MEDSCI 280
Introduction to Psychopathology
Under Review | Fall 2026

Proposal Information

Workflow Status		
In Progress		
SUC Subcommittee, SUC Curricular Subcommittee		
Waiting for Approval Approval Delegate(s)		
Tim Weber-Kraljevski		
Mike Grivicic		
Diana Goncalves		
Kuali - Arts		
Kuali - Env		
Melanie Figueiredo		
Kuali - Math		
Kuali - Eng		
Kuali - Hlth		
Ashley Day		
Kuali - Science		

Effective Date & Career

Career	Important!	Quest Course ID
Undergraduate		
	Effective Term and Year	Offering Number
	Fall 2026	

Proposal Details

Proposal Type	Academic Unit Approval
New	01/20/2025

Rationale for New Course

This is one of a series of SGU courses (MEDSCI 203, 250, 260, 270, 280, and 290) taught by instructors at UWaterloo in the 2B term (referred to as the mirror term). As part of the Faculty of Science partnership with St. George's University (SGU) for the new Bachelor of Medical Sciences (BMSci) program and pathway to a Doctor of Medicine (M.D), it is agreed that these courses prepare students to be successful in meeting the course learning outcomes to continue to advance through the program. These courses offer consistency of course learning outcomes and assessment methods for students at SGU, Northumbria University (United Kingdom), and UWaterloo. These second year MEDSCI courses are only open to students in the BMSci program (see H- Medical Sciences program proposal for full background, rationale and associated supporting documents).

Consultations

Consultation with St. George's University, Grenada have taken place. In addition, the departments of Biology and Chemistry are aware that courses in the 2B "mirror" term, have similar titles and some topic overlap in existing BIOL/CHEM courses (see H-Medical Sciences program proposal for consultations and supportive documentation).

Supporting Documentation

Course Information

Faculty ⓘ		Academic Unit ⓘ	
Faculty of Science		Dean of Science Office	
Subject Code ⓘ		Number ⓘ	
MEDSCI		280	
		Course Level	
		200	
Title ⓘ			
Introduction to Psychopathology			
Abbreviated Title ⓘ		Undergraduate Communication Requirement Identifier	
Intro Psychopathology		No	
Description ⓘ			
This course is designed to provide a fundamental basis for understanding psychopathology. It reviews the major psychiatric disorders as defined in the DSM-5. The salient diagnostic features of the mental disorders are highlighted. Major theories of the etiology of mental illness are reviewed, and neurobiological correlates of abnormal behaviour are emphasized when possible. Both psychotherapeutic and biological treatment options and outcome measures for mental illness are covered. Clinical cases and clinical videos illustrating psychopathology are utilized to enhance learning.			
Units ⓘ		Exceptions to fees or academic progress units ⓘ	
0.50			

Components ⓘ

LectureTutorialTest Slot

Primary Component

Lecture

Grading Information

Standard Course Grading ⓘ

Yes

Cross-Listing Information

Is this course cross-listed? ⓘ

No

Repeatable Courses

Can this course be repeated for credit? ⓘ

No

Enrolment Rules

Consent to Add ⓘ

No consent required

Consent to Drop ⓘ

No consent required

Prerequisites ⓘ

- Enrolled in H-Medical Sciences

Corequisites ⓘ

No Rules

Antirequisites ⓘ

No Rules

Course Notes

Fee Statement ⓘ

Notes ⓘ

Workflow Information

Workflow Path ⓘ

Committee approvals

Faculty/AFIW Path(s) for Workflow ⓘ

Faculty of Science

Dependencies

Dependent Courses and Programs/Plans

There are no dependencies

MEDSCI 290
Molecular Biology
Under Review | Fall 2026

Proposal Information

Workflow Status

In Progress	expand ▲
SUC Subcommittee, SUC Curricular Subcommittee	
Waiting for Approval Approval Delegate(s)	
Tim Weber-Kraljevski	
Mike Grivicic	
Diana Goncalves	
Kuali - Arts	
Kuali - Env	
Melanie Figueiredo	
Kuali - Math	
Kuali - Eng	
Kuali - Hlth	
Ashley Day	
Kuali - Science	

Effective Date & Career

Career ⓘ	Important! ⓘ	Quest Course ID
Undergraduate		
	Effective Term and Year ⓘ	Offering Number
	Fall 2026	

Proposal Details

Proposal Type ⓘ	Academic Unit Approval
New	01/20/2025

Rationale for New Course ⓘ

This is one of a series of SGU courses (MEDSCI 203, 250, 260, 270, 280, and 290) taught by instructors at UWaterloo in the 2B term (referred to as the mirror term). As part of the Faculty of Science partnership with St. George's University (SGU) for the new Bachelor of Medical Sciences (BMSci) program and pathway to a Doctor of Medicine (M.D), it is agreed that these courses prepare students to be successful in meeting the course learning outcomes to continue to advance through the program. These courses offer consistency of course learning outcomes and assessment methods for students at SGU, Northumbria University (United Kingdom), and UWaterloo. These second year MEDSCI courses are only open to students in the BMSci program (see H- Medical Sciences program proposal for full background, rationale and associated supporting documents).

Consultations ⓘ

Consultation with St. George's University, Grenada have taken place. In addition, the departments of Biology and Chemistry are aware that courses in the 2B "mirror" term, have similar titles and some topic overlap in existing BIOL/CHEM courses (see H-Medical Sciences program proposal for consultations and supportive documentation).

Supporting Documentation

Course Information

Faculty ⓘ		Academic Unit ⓘ	
Faculty of Science		Dean of Science Office	
Subject Code ⓘ	Number ⓘ	Course Level	
MEDSCI	290	200	
Title ⓘ			
Molecular Biology			
Abbreviated Title ⓘ		Undergraduate Communication Requirement Identifier	
Molecular Biology		No	
Description ⓘ			
This course is designed to help students develop an understanding of the molecular mechanisms that biological organisms use to store and preserve genetic information, the means by which they use that information to create functional biological structures, and the techniques that are commonly used to manipulate and study these processes in the laboratory.			
Units ⓘ		Exceptions to fees or academic progress units ⓘ	
0.50			
Components ⓘ		Primary Component	
LectureTutorialLaboratoryTest Slot		Lecture	

Grading Information

Standard Course Grading ⓘ

Yes

Cross-Listing Information

Is this course cross-listed? ⓘ

No

Repeatable Courses

Can this course be repeated for credit? ⓘ

No

Enrolment Rules

Consent to Add ⓘ

No consent required

Consent to Drop ⓘ

No consent required

Prerequisites ⓘ

- Enrolled in H-Medical Sciences

Corequisites ⓘ

No Rules

Antirequisites ⓘ

No Rules

Course Notes

Fee Statement ⓘ**Notes** ⓘ

Workflow Information

Workflow Path ⓘ

Committee approvals

Faculty/AFIW Path(s) for Workflow ⓘ

Faculty of Science

Dependencies

Dependent Courses and Programs/Plans

There are no dependencies

MEDSCI 300
Basic Principles of Medicine 1
Under Review | Fall 2026

Proposal Information

Workflow Status		
In Progress		
SUC Subcommittee, SUC Curricular Subcommittee		
Waiting for Approval Approval Delegate(s)		
Tim Weber-Kraljevski		
Mike Grivicic		
Diana Goncalves		
Kuali - Arts		
Kuali - Env		
Melanie Figueiredo		
Kuali - Math		
Kuali - Eng		
Kuali - Hlth		
Ashley Day		
Kuali - Science		

expand ▲

Effective Date & Career

Career ⓘ	Important! ⓘ	Quest Course ID
Undergraduate		
	Effective Term and Year ⓘ	Offering Number
	Fall 2026	

Proposal Details

Proposal Type ⓘ	Academic Unit Approval
New	01/20/2025

Rationale for New Course ⓘ

As per the Faculty of Science partnership with St. George's University (SGU), this is one of a series of courses (MEDSCI 300, 350, 400, 420, and 450) delivered in year three (MEDSCI 300 and 350) and year four (MEDSI 400, 420 and 450) of the BMSci program, which are also the year one and year two courses in the Doctor of Medicine (M.D.) program. MEDSCI 300, delivered in 17 weeks in 3A, is composed of several modules addressing the body's fundamental systems. All the courses in the series are designed and delivered by SGU faculty members and delivered on the SGU campus.

Consultations ⓘ

Consultations with St. George's University, Grenada have taken place (See H-Medical Sciences program proposal for consultations and supportive documentation).

Supporting Documentation

Course Information

Faculty ⓘ		Academic Unit ⓘ	
Faculty of Science		Dean of Science Office	
Subject Code ⓘ	Number ⓘ	Course Level	
MEDSCI	300	300	
Title ⓘ			
Basic Principles of Medicine 1			
Abbreviated Title ⓘ		Undergraduate Communication Requirement Identifier	
Medicine Basic Princ 1		No	
Description ⓘ			
This 17-week course is the first course of the Doctor of Medicine (MD) program of St. George's University School of Medicine, Grenada. It is part one of an organ-system based curriculum for the first academic year of the program, taught in three consecutive modules as follows: Foundation to Medicine (6 weeks), Musculoskeletal System (4 weeks), and Cardiovascular, Pulmonary, and Renal Systems (7 weeks).			
Units ⓘ		Exceptions to fees or academic progress units ⓘ	
2.50			
Components ⓘ		Primary Component	
Lecture		Lecture	

Grading Information

Standard Course Grading ⓘ

Yes

Cross-Listing Information

Is this course cross-listed? ⓘ

No

Repeatable Courses

Can this course be repeated for credit? ⓘ

No

Enrolment Rules

Consent to Add ⓘ

No consent required

Consent to Drop ⓘ

No consent required

Prerequisites ⓘ

- Enrolled in H-Medical Sciences

Corequisites ⓘ

No Rules

Antirequisites ⓘ

No Rules

Course Notes

Fee Statement ⓘ**Notes** ⓘ

Workflow Information

Workflow Path ⓘ

Committee approvals

Faculty/AFIW Path(s) for Workflow ⓘ

Faculty of Science

Dependencies

Dependent Courses and Programs/Plans

There are no dependencies

MEDSCI 350
Basic Principles of Medicine 2
Under Review | Fall 2026

Proposal Information

Workflow Status		
In Progress		
SUC Subcommittee, SUC Curricular Subcommittee		
Waiting for Approval Approval Delegate(s)		
Tim Weber-Kraljevski		
Mike Grivicic		
Diana Goncalves		
Kuali - Arts		
Kuali - Env		
Melanie Figueiredo		
Kuali - Math		
Kuali - Eng		
Kuali - Hlth		
Ashley Day		
Kuali - Science		

expand ▲

Effective Date & Career

Career ⓘ	Important! ⓘ	Quest Course ID
Undergraduate		
	Effective Term and Year ⓘ	Offering Number
	Fall 2026	

Proposal Details

Proposal Type ⓘ	Academic Unit Approval
New	01/20/2025

Rationale for New Course ⓘ

As per the Faculty of Science partnership with St. George's University (SGU), this is one of a series of courses (MEDSCI 300, 350, 400, 420, and 450) delivered in year three (MEDSCI 300 and 350) and year four (MEDSI 400, 420 and 450) of the BMSci program, which are also the year one and year two courses in the Doctor of Medicine (M.D.) program. MEDSCI 350, delivered in 18 weeks in 3B, is composed of several modules addressing the body's endocrinology and reproductive systems. All the courses in the series are designed and delivered by SGU faculty members and delivered on the SGU campus (see H- Medical Sciences program proposal for full background, rationale and associated supporting documents).

Consultations ⓘ

Consultations with St. George's University, Grenada have taken place (See H-Medical Sciences program proposal for consultations and supportive documentation)..

Supporting Documentation

Course Information

Faculty ⓘ		Academic Unit ⓘ	
Faculty of Science		Dean of Science Office	
Subject Code ⓘ	Number ⓘ	Course Level	
MEDSCI	350	300	
Title ⓘ			
Basic Principles of Medicine 2			
Abbreviated Title ⓘ		Undergraduate Communication Requirement Identifier	
Medicine Basic Princ 2		No	
Description ⓘ			
This 18-week course is the second course of the Doctor of Medicine (MD) program of St. George's University School of Medicine, Grenada. It is part two of an organ-system based curriculum for the first academic year of the program, taught in three consecutive modules as follows: Endocrine and Reproductive Systems (3 weeks), Digestive Systems and Metabolism (4.3 weeks), and Nervous System and Behavioural Science (10.7 weeks).			
Units ⓘ		Exceptions to fees or academic progress units ⓘ	
2.50			
Components ⓘ		Primary Component	
Lecture		Lecture	

Grading Information

Standard Course Grading ⓘ

Yes

Cross-Listing Information

Is this course cross-listed? ⓘ

No

Repeatable Courses

Can this course be repeated for credit? ⓘ

No

Enrolment Rules

Consent to Add ⓘ

No consent required

Consent to Drop ⓘ

No consent required

Prerequisites ⓘ

- Enrolled in H-Medical Sciences

Corequisites ⓘ

No Rules

Antirequisites ⓘ

No Rules

Course Notes

Fee Statement ⓘ**Notes** ⓘ

Workflow Information

Workflow Path ⓘ

Committee approvals

Faculty/AFIW Path(s) for Workflow ⓘ

Faculty of Science

Dependencies

Dependent Courses and Programs/Plans

There are no dependencies

MEDSCI 400
Principles of Clinical Medicine 1
Under Review | Fall 2026

Proposal Information

Workflow Status		
In Progress		
SUC Subcommittee, SUC Curricular Subcommittee		
Waiting for Approval Approval Delegate(s)		
Tim Weber-Kraljevski		
Mike Grivicic		
Diana Goncalves		
Kuali - Arts		
Kuali - Env		
Melanie Figueiredo		
Kuali - Math		
Kuali - Eng		
Kuali - Hlth		
Ashley Day		
Kuali - Science		

expand ▲

Effective Date & Career

Career ⓘ	Important! ⓘ	Quest Course ID
Undergraduate		
	Effective Term and Year ⓘ	Offering Number
	Fall 2026	

Proposal Details

Proposal Type ⓘ	Academic Unit Approval
New	
Rationale for New Course ⓘ	
As per the Faculty of Science partnership with St. George's University (SGU), this is one of a series of courses (MEDSCI 300, 350, 400, 420, and 450) delivered in year three (MEDSCI 300 and 350) and year four (MEDSI 400, 420 and 450) of the BMSci program, which are also the year one and year two courses in the Doctor of Medicine (M.D.) program. MEDSCI 400, delivered in the first 18 weeks of a 24-week 4A, is composed of several modules addressing the body's systems for clinical medicine. All the courses in the series are designed and delivered by SGU faculty members and delivered on the SGU campus (see H- Medical Sciences program proposal for full background, rationale and associated supporting documents).	
Consultations ⓘ	
Consultations with St. George's University, Grenada have taken place (See H-Medical Sciences program proposal for consultations and supportive documentation).	
Supporting Documentation	

Course Information

Faculty ⓘ	Academic Unit ⓘ	
Faculty of Science	Dean of Science Office	
Subject Code ⓘ	Number ⓘ	Course Level
MEDSCI	400	400
Title ⓘ		
Principles of Clinical Medicine 1		
Abbreviated Title ⓘ	Undergraduate Communication Requirement Identifier	
Clinical Medicine Princ 1	No	
Description ⓘ		
This 18-week course is the fourth course of the Doctor of Medicine (MD) program of St George's University School of Medicine, Grenada. It is a systems-based curriculum for the second academic year of the program, taught in four consecutive modules: Foundations to Clinical Medicine (4 weeks), Cardiovascular and Renal Systems (4 weeks), Respiratory and Hematopoietic Systems (4 weeks), and Digestive, Endocrine, and Reproductive Systems (6 weeks).		
Units ⓘ	Exceptions to fees or academic progress units ⓘ	
3.00		
Components ⓘ	Primary Component	
Lecture	Lecture	

Grading Information

Standard Course Grading ⓘ

Yes

Cross-Listing Information

Is this course cross-listed? ⓘ

No

Repeatable Courses

Can this course be repeated for credit? ⓘ

No

Enrolment Rules

Consent to Add ⓘ

No consent required

Consent to Drop ⓘ

No consent required

Prerequisites ⓘ

- Enrolled in H-Medical Sciences

Corequisites ⓘ

No Rules

Antirequisites ⓘ

No Rules

Course Notes

Fee Statement ⓘ**Notes** ⓘ

Workflow Information

Workflow Path ⓘ

Committee approvals

Faculty/AFIW Path(s) for Workflow ⓘ

Faculty of Science

Dependencies

Dependent Courses and Programs/Plans

There are no dependencies

MEDSCI 420
Basic Principles of Medicine 3
Under Review | Fall 2026

Proposal Information

Workflow Status

In Progress

SUC Subcommittee, SUC Curricular Subcommittee

Waiting for Approval | Approval Delegate(s)

Tim Weber-Kraljevski

Mike Grivicic

Diana Goncalves

Kuali - Arts

Kuali - Env

Melanie Figueiredo

Kuali - Math

Kuali - Eng

Kuali - Hlth

Ashley Day

Kuali - Science

expand ▲

Effective Date & Career

Career ⓘ	Important! ⓘ	Quest Course ID
Undergraduate	Effective Term and Year ⓘ Fall 2026	Offering Number

Proposal Details

Proposal Type ⓘ

New

Academic Unit Approval

01/20/2025

Rationale for New Course ⓘ

As per the Faculty of Science partnership with St. George's University (SGU), this is one of a series of courses (MEDSCI 300, 350, 400, 420, and 450) delivered in year three (MEDSCI 300 and 350) and year four (MEDSI 400, 420 and 450) of the BMSci program, which are also the year one and year two courses in the Doctor of Medicine (M.D.) program. MEDSCI 420, delivered in the last 6 weeks of a 24-week 4A, is composed of several modules addressing the ethics/professionalism, medical jurisprudence, immunology and microbiology and public health. All the courses in the series are designed and delivered by SGU faculty members and delivered on the SGU campus (see H- Medical Sciences program proposal for full background, rationale and associated supporting documents).

Consultations ⓘ

Consultations with St. George's University, Grenada have taken place (See H-Medical Sciences program proposal for consultations and supportive documentation).

Supporting Documentation

Course Information

Faculty ⓘ

Faculty of Science

Academic Unit ⓘ

Dean of Science Office

Subject Code ⓘ

MEDSCI

Number ⓘ

420

Course Level

400

Title ⓘ

Basic Principles of Medicine 3

Abbreviated Title ⓘ

Medicine Basic Princ 3

Undergraduate Communication Requirement Identifier

No

Description ⓘ

This 6-week course is the third course of the Doctor of Medicine (MD) program of St George's University School of Medicine, Grenada. The core aim of this course is to equip physicians with the knowledge and skills to understand fundamental principles inherent to a future understanding and diagnosis of microbial infections; the ability to devise and utilize strategies that improve the health of entire communities and populations and help reduce health inequities among population groups; and the capacity to uphold standards of ethics and professionalism expected across North America. The course is sub-structured into four thematic areas: ethics, professionalism, and medical jurisprudence; basics of immunology and microbiology; public health assessment tools; and culture and societal issues/physician-patient relations.

Units ⓘ

1.00

Exceptions to fees or academic progress units ⓘ

Components ⓘ

Lecture

Primary Component

Lecture

Grading Information

Standard Course Grading ⓘ

Yes

Cross-Listing Information

Is this course cross-listed? ⓘ

No

Repeatable Courses

Can this course be repeated for credit? ⓘ

No

Enrolment Rules

Consent to Add ⓘ

No consent required

Consent to Drop ⓘ

No consent required

Prerequisites ⓘ

- Enrolled in H-Medical Sciences

Corequisites ⓘ

No Rules

Antirequisites ⓘ

No Rules

Course Notes

Fee Statement ⓘ**Notes** ⓘ

Workflow Information

Workflow Path ⓘ

Committee approvals

Faculty/AFIW Path(s) for Workflow ⓘ

Faculty of Science

Dependencies

Dependent Courses and Programs/Plans

There are no dependencies

MEDSCI 450
Principles of Clinical Medicine 2
Under Review | Fall 2026

Proposal Information

Workflow Status

In Progress

SUC Subcommittee, SUC Curricular Subcommittee

Waiting for Approval | Approval Delegate(s)

Tim Weber-Kraljevski

Mike Grivicic

Diana Goncalves

Kuali - Arts

Kuali - Env

Melanie Figueiredo

Kuali - Math

Kuali - Eng

Kuali - Hlth

Ashley Day

Kuali - Science

expand ▲

Effective Date & Career

Career ⓘ	Important! ⓘ	Quest Course ID
Undergraduate		
	Effective Term and Year ⓘ	Offering Number
	Fall 2026	

Proposal Details

Proposal Type ⓘ

New

Academic Unit Approval

01/20/2025

Rationale for New Course ⓘ

As per the Faculty of Science partnership with St. George's University (SGU), this is one of a series of courses (MEDSCI 300, 350, 400, 420, and 450) delivered in year three (MEDSCI 300 and 350) and year four (MEDSI 400, 420 and 450) of the BMSci program, which are also the year one and year two courses in the Doctor of Medicine (M.D.) program. MEDSCI 450, delivered in 18 weeks in 4B, is composed of several modules that focus on the integration of multidisciplinary approaches to clinical scenarios that aid the students in preparation for their examinations and clinical years. All the courses in the series are designed and delivered by SGU faculty members and delivered on the SGU campus (see H- Medical Sciences program proposal for full background, rationale and associated supporting documents).

Consultations ⓘ

Consultations with St. George's University, Grenada have taken place (See H-Medical Sciences program proposal for consultations and supportive documentation).

Supporting Documentation

Course Information

Faculty ⓘ

Faculty of Science

Academic Unit ⓘ

Dean of Science Office

Subject Code ⓘ

MEDSCI

Number ⓘ

450

Course Level

400

Title ⓘ

Principles of Clinical Medicine 2

Abbreviated Title ⓘ

Clinical Medicine Princ 2

Undergraduate Communication Requirement Identifier

No

Description ⓘ

This 18-week course is the fifth of the Doctor of Medicine (MD) program at the St George's University School of Medicine, Grenada, in the second academic year of the program, taught in four consecutive modules. The first module completes the teaching of the basic science content allowing a smooth transition to the remaining modules that focus on the integration of multidisciplinary approaches to clinical scenarios that aid the students in preparation for their examinations and clinical years: Muscle, Nerve, and Infections (6 weeks), Cariology, Pulmonary, Renal, and Hematology (4 weeks), Gastroenterology, Obstetrics, Endocrine, and Reproductive (4 weeks), Dermatology, Neurology, Psychiatry, and Rheumatology (4weeks).

Units ⓘ

2.50

Exceptions to fees or academic progress units ⓘ

Components ⓘ

Primary Component

Lecture

Lecture

Grading Information

Standard Course Grading ⓘ

Yes

Cross-Listing Information

Is this course cross-listed? ⓘ

No

Repeatable Courses

Can this course be repeated for credit? ⓘ

No

Enrolment Rules

Consent to Add ⓘ

No consent required

Consent to Drop ⓘ

No consent required

Prerequisites ⓘ

- Enrolled in H-Medical Sciences

Corequisites ⓘ

No Rules

Antirequisites ⓘ

No Rules

Course Notes

Fee Statement ⓘ**Notes** ⓘ

Workflow Information

Workflow Path ⓘ

Committee approvals

Faculty/AFIW Path(s) for Workflow ⓘ

Faculty of Science

Dependencies

Dependent Courses and Programs/Plans

There are no dependencies

UG-SCI-Averages and Academic Standings

Science: Averages and Academic Standings

Under Review | Fall 2026

Proposal Information

Status Active	Workflow Status In Progress SUC Subcommittee, SUC Curricular Subcommittee Waiting for Approval Approval Delegate(s) Tim Weber-Kraljevski Mike Grivicic Diana Goncalves Kuali - Arts Kuali - Env Melanie Figueiredo Kuali - Math Kuali - Eng Kuali - Hlth Ashley Day Kuali - Science Changes - Regulation Details - Effective Term and Year - Description - participants - Admin Notes Show All	expand

Effective Date & Career

Career Undergraduate	IMPORTANT! Proposed Effective Term and Year Fall 2026 Existing Effective Term and Year Fall 2023

Proposal Details

Proposal Type Change
Rationale and Background A new Bachelor of Medical Sciences (BMSci) program will have it's own unique progression information, which is included on this page. In addition, a new Bachelor of Science and Financial Management (BScFM) program replaces the Bachelor of Biotechnology/Chartered Professional Accountancy for 2026, and will have the same academic standing information as all other Bachelor of Science programs (BSc). As such, this new program is also included on this page.
Supporting Documentation

General Regulation Information

Type of Regulation Faculty-specific	Faculty Faculty of Science
Regulation Grouping Regulations for Faculty of Science Students	
Regulation Page Name Science: Averages and Academic Standings	
Description Proposed academic standings (Bachelor of Science, Bachelor of Science and Financial Management, Bachelor of Medical Sciences, Doctor of Optometry, Doctor of Pharmacy), readmission following a failed standing, non-degree term	

Existing

Description

academic standings (Bachelor of Science, Doctor of Optometry, Doctor of Pharmacy), readmission following a failed standing, non-degree term

Regulation Details

Proposed

Regulation Details

This page presents academic standing information for the degrees of Bachelor of Science, Bachelor of Science and Financial Management, Bachelor of Medical Sciences, Doctor of Optometry, and Doctor of Pharmacy.

Academic Standings - Bachelor of Science & Bachelor of Science and Financial Management

The Bachelor of Science (BSc) and Bachelor of Science and Financial Management (BScFM) operate under a unit-weight system in which student progress is measured by units successfully completed rather than by years. See Determination of Level and Term of Study in this Calendar for details.

At the end of each term, the Faculty of Science determines the academic standing for students in the Faculty. Grading Systems and Processes defined in this Calendar are used to make these evaluations. Academic standings are viewable in Quest.

Excellent, Good, or Satisfactory Standing

Students who meet, or exceed, the minimum academic requirements for their plan, will be in Excellent, Good, or Satisfactory academic standing, depending on their plan and their cumulative term and overall averages.

Assuming all other requirements are met, most majors in Science use the standings as follows:

- Excellent: minimum cumulative overall average greater than or equal to 80%
- Good: minimum cumulative overall average greater than or equal to 70% and less than 80%
- Satisfactory: minimum cumulative overall average greater than or equal to 60% and less than 70%

Students should consult individual Science academic programs and plans for exceptions.

Conditional Standing

Students with average(s) 1.5% below the minimum requirements for their plan may be placed in Conditional academic standing and are normally given only one additional term in which to attain a Satisfactory or better academic standing.

Students with a Conditional academic standing are strongly advised to meet with their academic advisor for plan-specific advice and the Science Student Success Officer to determine their best course of action and to discuss strategies to overcome barriers to academic success.

Students are not able to graduate while in Conditional academic standing.

Standings Requiring a Change in Major

Unsatisfactory - Eligible for Honours Science

Students whose minimum cumulative overall, major, or special major average does not qualify for Conditional standing, will be moved into Honours Science. In a future term, depending on minimum cumulative overall, major, or special major average, students may be eligible to resume their original honours plan. Readmission to a co-operative program is not guaranteed and depends on availability of space and academic averages. Students with averages below the requirements for Honours Science could receive an Unsatisfactory - Eligible for General Science Only academic standing.

Unsatisfactory - Eligible for General Science Only

When students in an honours plan do not qualify for Conditional standing or movement into Honours Science, they may be moved to General Science, depending on their averages. Students are deemed to be successful in their subsequent term if both the minimum cumulative Science and overall averages are at least 55%. In a future term, depending on minimum cumulative Science and overall averages, students may be eligible to resume their original honours plan or can continue in General Science. Readmission to a co-operative program normally does not occur.

Must Change Academic Plan

Students must change their academic plan if they exceed a plan-specific failure limit or have average(s) below plan requirements. In instances where the failure limit is exceeded, the plan will be changed to one outside the academic unit/discipline. Instances where average(s) are below the conditional threshold for plan minimums will trigger a change from the student's plan to another plan within the same academic unit/discipline.

Decision Deferred

A standing decision will be deferred when there is insufficient information for a decision to be made. A decision deferral will occur in instances where the student has:

- two or more incomplete (INC) grades
- an IP, MM, and/or UR grade
- insufficient numeric grades in their first term
- insufficient courses completed in their first conditional readmission term

Revised INC, IP, MM, and/or UR grades may lead to an updated academic standing and average calculation.

Decision Not Applicable

A standing decision will not be made in certain circumstances, e.g. a term with a petition decision, when there are no numeric grades (WDs, CR/NCRs), or when there is no program benchmark to compare progress such as post-degree studies.

Failed Standing for Students in 1A or 1B

Failed

Students in 1A or 1B will normally receive a Failed academic standing from the Faculty of Science under the following conditions:

- after failing a minimum of 1.5 units in a single academic term;
- after failing to achieve a minimum overall cumulative average of 55% and a minimum cumulative Science average of 55%; or
- if the Associate Dean, Undergraduate Studies judges that a student is unlikely to profit from further study.

Students receiving this standing have three options:

1. Foundation Term: Student will be moved to General Science and must follow a structured term of courses as determined by the Science Student Success Officer. The course load will be UNIV101 and either two science courses, or one science and one mathematics course, excluding SCI or SCBUS courses. Students must obtain a minimum grade of 60% in each lecture and lab. General requirements, principles, and outcomes can be found in the Foundation Term page of this Calendar.
2. Science Non-degree Term: Students who wish to pursue studies in another faculty must enrol in a Science non-degree term in preparation for the transfer.
3. Readmission Term: Students can apply for readmission after an absence of two consecutive academic terms (eight months).

Required to Withdraw - May Not Continue in Faculty

Students will normally receive a Required to Withdraw - May Not Continue in Faculty academic standing in the following situations:

- not meeting the conditions for readmission;
- not meeting the average requirements for the Foundation Term.

Failed Standing for Students in 2A or Above

Failed

Students will normally receive a Failed academic standing from the Faculty of Science in the following situations:

- after failing a minimum of 1.5 units in a single academic term;
- after failing to achieve a minimum overall cumulative average of 55% and a minimum cumulative Science average of 55%; or
- if the Associate Dean, Undergraduate Studies judges that a student is unlikely to profit from further study.

Students receiving this standing have two options:

1. Students who receive their first Failed academic standing may normally apply for readmission after an absence of two consecutive terms (eight months).
2. Students who are already enrolled in courses for the following term, when they receive this standing, can either withdraw or be moved to a Science non-degree term and allowed to finish that term. However, students who continue in a Science non-degree term will not be eligible to apply for readmission into any Science degree program in the future.

Required to Withdraw - May Not Continue in Faculty

Students will normally have a Required to Withdraw - May Not Continue in Faculty academic standing in the following situations:

- not meeting the conditions for readmission;
- after failing more than 5.0 cumulative units, regardless of the Science or overall averages;
- not meeting program/plan average requirements and/or failing 1.5 units or more, in any given term, following a previous Failed standing from the Faculty of Science.

Co-op Standing Rules

Students will be removed from their co-op program in the following situations:

- Two unemployed or failed work-term opportunities.
- Three missing or failed PD courses.
- Failure to successfully meet academic program requirements.
- Failure to successfully complete PD1 before the start of the second work term.
- Failure to successfully complete PD11 by the end of the second work term.

Readmission Following a Failed Standing

Students who have received a Failed academic standing must submit an Application for Undergraduate Readmission two months before the requested term of readmission.

Readmission Conditions

Students will be readmitted into General Science and must maintain a minimum cumulative average of 55% and a minimum cumulative Science average of 55%. This determination will be made based on a minimum of five lecture courses that must be taken within a maximum of two terms. Students must complete a minimum of two approved Science lecture courses, plus any related labs where applicable, each term. Successful completion of this term will result in clearing of failed and below-average course grades up to a maximum of 3.0 units. Cleared grades will be removed from averages but not removed from the student's academic record. When conditions are not met, students will receive a Required to Withdraw - May Not Continue in Faculty academic standing.

Science Non-Degree Term

Students are normally allowed to enrol in one Science non-degree term following a Failed or a Required to Withdraw - May Not Continue in Faculty academic standing. Students enrolled in such a term are ineligible to return to any Science degree program. Enrolment in a Science non-degree term is done in consultation with the appropriate academic advisor in the Science Undergraduate Office and an advisor from the faculty in which the student is anticipating admission.

Academic Standings - Bachelor of Medical Sciences

The factors considered for term-to-term progression, from 1A up to 2B, include the term average and minimum course grades. Accumulative overall averages are not considered. Progression from 2B to 3A considers minimum course grades, minimum averages across 2A and 2B, minimum Science average across 2A and 2B (excludes communications and learning strategies courses), and minimum grades on each component of a comprehensive exam.

Progression From 1A up to 2B

To progress term by term from 1A up to 2B, student must meet course and term minimums.

Satisfactory

A student receives this standing, and can progress to the next term if,

- the student obtains a minimum 60% in each course, and

- the student obtains a 77% term average.

May not Proceed

A student receives this standing if,

- one or more courses are below 60%; and/or
- the term average is below 77%.

Repeating Courses

If a student does not meet this minimum, they must retake that course before progression to the next term. Only the higher grade is used in average calculations when repeated. A student can normally repeat a failed course only once.

Progression From 2B to 3A

Students progress to the 3A term at St. George's University (SGU) if they obtain:

- a minimum 60% in each 2B course;
- a minimum cumulative average of 77% across all 2A and 2B courses;
- a minimum cumulative average of 73% across all 2A and 2B Science courses (excludes Communication and Learning Strategies courses); and
- a minimum 60% grade on each component of the comprehensive exam.

A standing of "Satisfactory" or "May not Proceed" will be assigned as appropriate.

Repeating courses

SGU will determine progression and may offer students who do not meet one or more of the above requirements an opportunity to take courses in the following term at SGU so that their grades can meet requirements.

Progression From 3A up to 4C

Progression through the five terms in Year 3 and Year 4 (Years 1 and 2 of the M.D. program at SGU):

- Progression from 3A to 3B requires: a minimum 59%.
- Progression from 3B to 4A requires: a minimum 61.5%.
- Progression from 4A to 4B requires: a minimum 63%.
- Progression from 4B to 4C requires: a minimum 63%.

A standing of "Satisfactory" or "May not Continue" will be assigned as appropriate.

Repeating Courses

Students are permitted to repeat these M.D. courses to achieve the average requirement needed to progress.

Progression From 4C to the Remaining Years of the M.D. Program

Students must complete the 4C term with a minimum 63% to be eligible to meet graduation requirements for the BMSci degree, and for continuation in the final two years of the M.D. program.

Academic Standings - Doctor of Optometry

The School of Optometry and Vision Science sets and administers its examinations in accordance with the rules and regulations set down by the University of Waterloo and the Faculty of Science. Decisions regarding course grades are those of the instructor. Students' academic standings are considered each term by the Optometry faculty and are made in accordance with the regulations listed below. All decisions on academic standing and grades are reported to the student through the Office of the Registrar.

The factors considered in academic standings in Optometry are the term average, the overall average, the number of failures, and the student standing (e.g., Satisfactory, Conditional).

Satisfactory

A student receives a Satisfactory standing if the student achieves minimum term and cumulative overall averages of 60%, with no failures.

A Satisfactory standing entitles the student to proceed to the next term.

Note

In the first two years of the program, a student with only one failure per term may proceed to the next term; however, any failed course must be cleared before proceeding into the next academic year. There are a couple of mechanisms for clearing a failed course as described on the Regulations for Doctor of Optometry page.

Conditional

A student receives a Conditional standing for,

- a minimum of two terms upon returning to the Optometry program after a Failed – Required to Withdraw standing.
- the remainder of the program after accumulating a total of four course failures in the Optometry program.
- the repeated term(s) after a May Not Proceed standing.
- the remainder of the program after any failed course in fourth year.

A Conditional standing requires that the student maintain a standard of performance during the conditional term(s). The student must clear the conditional term(s) by achieving minimum term and cumulative overall averages of 60% while having no failures or incomplete courses. Failure to achieve these conditions will lead to a Failed standing.

May Not Proceed

A student receives this standing if,

- the student achieves a minimum term average of 60% but has failed two courses in a term.
- the student, at the end of the third year, has not successfully completed all Optometry courses in the first three years.

A student will be required to leave the program until the next term the courses are offered. A student clearing failed courses under this rule must achieve a passing grade in the courses; otherwise the student will receive a Failed standing from Optometry. Only after the failed courses are cleared will the student be permitted to proceed to the next degree term.

Failed - Required to Withdraw

A student receives this standing and is required to withdraw if,

- the student fails to achieve either a minimum term or cumulative overall average of 60%.
- the student fails three or more courses in an academic term.
- the student, who is on conditional standing, fails to achieve a minimum term and/or cumulative overall average of 60%, fails one or more courses, or receives an incomplete (INC) grade.
- the student leaves the program without proper notification and fails to write examinations (a grade of DNW - did not write, is assigned for these courses).

A Failed - Required to Withdraw standing requires that the student's registration in the Optometry program be revoked. Readmission is not guaranteed. If granted, readmission cannot occur during the two academic terms following the Failed standing.

Failed – May Not Continue in Optometry Academic Plan

A student receives this standing if,

- the student has been readmitted and upon return has not achieved a minimum term and cumulative overall average of 60% and/or has failed one or more courses.
- the student has accumulated five course failures in the Optometry program.
- the student has failed the same course twice.
- the student is deemed by the Examinations Committee of the Faculty of Science to be unlikely to benefit from further participation in the Optometry program.

A Failed – May Not Continue in Optometry Academic Plan standing requires that the student's registration in Optometry be revoked. Readmission into the Optometry program is not possible.

A student receiving this standing may, however, be considered for admission to another program in the Faculty of Science.

Recommended for Doctor of Optometry Degree

A student qualifies for this decision if the student has successfully completed all requirements of the Optometry program.

Recommended for Doctor of Optometry Degree entitles the student to graduate with the Doctor of Optometry (OD) degree.

Academic Standings - Doctor of Pharmacy

The School of Pharmacy sets and administers its examinations in accordance with the rules and regulations set by the Faculty of Science and the University of Waterloo. Student academic standings are considered each term by the School of Pharmacy and are made in accordance with the regulations listed as follows:

- The factors considered in academic standing in Pharmacy are the term average and the number of failed courses.
- A number of courses will be graded on a credit/no credit (CR/NCR) basis.

Satisfactory

Requires that a student achieves a minimum term average of 60% with no failed courses. This entitles a student to proceed to the next term.

May Not Proceed

Results if a student achieves a minimum term average of 60% but fails a maximum of two term courses. The failed courses must be cleared (passed) before the student is permitted to proceed to the next academic term.

Notes

A student with only one failure per term may be permitted to proceed to the next term; however, any failed course must be cleared. The student must make arrangements with the course instructor as to the mechanism for clearing the failed course.

1. In the event that the failed course is a prerequisite for a course in the following academic term, and it is not cleared before the start of the term, the student must obtain the appropriate approvals by completing a Course Override Form. This form should be accompanied by a statement of the arrangements made with the instructor to clear the failed course. If the instructor of the subsequent course does not approve the course override, the student will be required to clear the failed course before proceeding to the next academic term. Due to the limited scheduling of Pharmacy courses, this will typically result in the student falling behind and extending the time required for program completion.
2. In the event that the next term is a co-op work term, the student will be permitted to begin the co-op work term. Depending on individual circumstances, the School of Pharmacy may contact the student's employer, who may elect to terminate the student's employment. For work terms that continue to completion, the student will be required to submit the appropriate evaluations and the work-term report.

Failed - Required to Withdraw

Results if a student fails to achieve the minimum term average of 60%, the student fails three or more courses in a term, or the student leaves the program without proper notification and fails to write the final examinations. This standing will also result if the student fails three attempts at the Final Year Objective Structured Clinical Examination milestone (OSCEm) as described under Pharmacy's Graduation Requirements.

Failed - May Not Continue in Pharmacy Plan

Results if a student has accumulated five failures in the degree requirements of the Pharmacy program (i.e., failures in courses and/or co-op work terms). This status will also result if a grade of less than the passing grade is obtained for a repeat course or approved alternative. Readmission into the Pharmacy program is not possible; however, a student receiving this standing may be considered for admission to another program in the Faculty of Science.

Existing

Regulation Details

This page presents academic standing information for the degrees of Bachelor of Science, Doctor of Optometry, and Doctor of Pharmacy.

Academic Standings - Bachelor of Science

The Bachelor of Science operates under a unit-weight system in which student progress is measured by units successfully completed rather than by years. See Determination of Level and Term of Study in this Calendar for details.

At the end of each term, the Faculty of Science determines the academic standing for students in the Faculty. Grading Systems and Processes defined in this Calendar are used to make these evaluations. Academic standings are viewable in Quest.

Excellent, Good, or Satisfactory Standing

Students who meet, or exceed, the minimum academic requirements for their plan, will be in Excellent, Good, or Satisfactory academic standing, depending on their plan and their cumulative term and overall averages.

Assuming all other requirements are met, most majors in Science use the standings as follows:

- Excellent: minimum cumulative overall average greater than or equal to 80%
- Good: minimum cumulative overall average greater than or equal to 70% and less than 80%
- Satisfactory: minimum cumulative overall average greater than or equal to 60% and less than 70%

Students should consult individual Science academic programs and plans for exceptions.

Conditional Standing

Students with average(s) 1.5% below the minimum requirements for their plan may be placed in Conditional academic standing and are normally given only one additional term in which to attain a Satisfactory or better academic standing.

Students with a Conditional academic standing are strongly advised to meet with their academic advisor for plan-specific advice and the Science student success officer to determine their best course of action and to discuss strategies to overcome barriers to academic success.

Students are not able to graduate while in Conditional academic standing.

Standings Requiring a Change in Major

Unsatisfactory - Eligible for Honours Science

Students whose minimum cumulative overall, major, or special major average does not qualify for Conditional standing, will be moved into Honours Science. In a future term, depending on minimum cumulative overall, major, or special major average, students may be eligible to resume their original honours plan. Readmission to a co-operative program is not guaranteed and depends on availability of space and academic averages. Students with averages below the requirements for Honours Science could receive an Unsatisfactory - Eligible for General Science Only academic standing.

Unsatisfactory - Eligible for General Science Only

When students in an honours plan do not qualify for Conditional standing or movement into Honours Science, they may be moved to General Science, depending on their averages. Students are deemed to be successful in their subsequent term if both the minimum cumulative Science and overall averages are at least 55%. In a future term, depending on minimum cumulative Science and overall averages, students may be eligible to resume their original honours plan or can continue in General Science. Readmission to a co-operative program normally does not occur.

Must Change Academic Plan

Students must change their academic plan if they exceed a plan-specific failure limit or have average(s) below plan requirements. In instances where the failure limit is exceeded, the plan will be changed to one outside the academic unit/discipline. Instances where average(s) are below the conditional threshold for plan minimums will trigger a change from the student's plan to another plan within the same academic unit/discipline.

Decision Deferred

A standing decision will be deferred when there is insufficient information for a decision to be made. A decision deferral will occur in instances where the student has:

- two or more incomplete (INC) grades
- an IP, MM, and/or UR grade
- insufficient numeric grades in their first term
- insufficient courses completed in their first conditional readmission term

Revised INC, IP, MM, and/or UR grades may lead to an updated academic standing and average calculation.

Decision Not Applicable

A standing decision will not be made in certain circumstances, e.g. a term with a petition decision, when there are no numeric grades (WDs, CR/NCRs), or when there is no program benchmark to compare progress such as post-degree studies.

Failed Standing for Students in 1A or 1B

Failed

Students in 1A or 1B will normally receive a Failed academic standing from the Faculty of Science under the following conditions:

- after failing a minimum of 1.5 units in a single academic term;
- after failing to achieve a minimum overall cumulative average of 55% and a minimum cumulative Science average of 55%; or
- if the associate dean, undergraduate studies judges that a student is unlikely to profit from further study.

Students receiving this standing have three options:

1. Foundation Term: Student will be moved to General Science and must follow a structured term of courses as determined by the Science student success officer. The course load will be UNIV101 and either two science courses, or one science and one mathematics course, excluding SCI or SCBUS courses. Students must obtain a minimum grade of 60% in each lecture and lab. General requirements, principles, and outcomes can be found in the Foundation Term page of this Calendar.
2. Science Non-degree Term: Students who wish to pursue studies in another faculty must enrol in a Science non-degree term in preparation for the transfer.
3. Readmission Term: Students can apply for readmission after an absence of two consecutive academic terms (eight months).

Required to Withdraw - May Not Continue in Faculty

Students will normally receive a Required to Withdraw - May Not Continue in Faculty academic standing in the following situations:

- not meeting the conditions for readmission;
- not meeting the average requirements for the Foundation Term.

Failed Standing for Students in 2A or Above

Failed

Students will normally receive a Failed academic standing from the Faculty of Science in the following situations:

- after failing a minimum of 1.5 units in a single academic term;
- after failing to achieve a minimum overall cumulative average of 55% and a minimum cumulative Science average of 55%; or
- if the associate dean, undergraduate studies judges that a student is unlikely to profit from further study.

Students receiving this standing have two options:

1. Students who receive their first Failed academic standing may normally apply for readmission after an absence of two consecutive terms (eight months).
2. Students who are already enrolled in courses for the following term, when they receive this standing, can either withdraw or be moved to a Science non-degree term and allowed to finish that term. However, students who continue in a Science non-degree term will not be eligible to apply for readmission into any Science degree program in the future.

Required to Withdraw - May Not Continue in Faculty

Students will normally have a Required to Withdraw - May Not Continue in Faculty academic standing in the following situations:

- not meeting the conditions for readmission;
- after failing more than 5.0 cumulative units, regardless of the Science or overall averages;
- not meeting program/plan average requirements and/or failing 1.5 units or more, in any given term, following a previous Failed standing from the Faculty of Science.

Co-op Standing Rules

Students will be removed from their co-op program in the following situations:

- Two unemployed or failed work-term opportunities.
- Three missing or failed PD courses.
- Failure to successfully meet academic program requirements.
- Failure to successfully complete PD1 before the start of the second work term.
- Failure to successfully complete PD11 by the end of the second work term.

Readmission Following a Failed Standing

Students who have received a Failed academic standing must submit an Application for Undergraduate Readmission two months before the requested term of readmission.

Readmission Conditions

Students will be readmitted into General Science and must maintain a minimum cumulative average of 55% and a minimum cumulative Science average of 55%. This determination will be made based on a minimum of five lecture courses that must be taken within a maximum of two terms. Students must complete a minimum of two approved Science lecture courses, plus any related labs where applicable, each term. Successful completion of this term will result in clearing of failed and below-average course grades up to a maximum of 3.0 units. Cleared grades will be removed from averages but not removed from the student's academic record. When conditions are not met, students will receive a Required to Withdraw - May Not Continue in Faculty academic standing.

Science Non-Degree Term

Students are normally allowed to enrol in one Science non-degree term following a Failed or a Required to Withdraw - May Not Continue in Faculty academic standing. Students enrolled in such a term are ineligible to return to any Science degree program. Enrolment in a Science non-degree term is done in consultation with the appropriate academic advisor in the Science Undergraduate Office and an advisor from the faculty in which the student is anticipating admission.

Academic Standings - Doctor of Optometry

The School of Optometry and Vision Science sets and administers its examinations in accordance with the rules and regulations set down by the University of Waterloo and the Faculty of Science. Decisions regarding course grades are those of the instructor. Students' academic standings are considered each term by the Optometry faculty and are made in accordance with the regulations listed below. All decisions on academic standing and grades are reported to the student through the Office of the Registrar.

The factors considered in academic standings in Optometry are the term average, the overall average, the number of failures, and the student standing (e.g., Satisfactory, Conditional).

Satisfactory

A student receives a Satisfactory standing if the student achieves minimum term and cumulative overall averages of 60%, with no failures.

A Satisfactory standing entitles the student to proceed to the next term.

Note

In the first two years of the program, a student with only one failure per term may proceed to the next term; however, any failed course must be cleared before proceeding into the next academic year. There are a couple of mechanisms for clearing a failed course as described on the Regulations for Doctor of Optometry page.

Conditional

A student receives a Conditional standing for,

- a minimum of two terms upon returning to the Optometry program after a Failed – Required to Withdraw standing.
- the remainder of the program after accumulating a total of four course failures in the Optometry program.
- the repeated term(s) after a May Not Proceed standing.
- the remainder of the program after any failed course in fourth year.

A Conditional standing requires that the student maintain a standard of performance during the conditional term(s). The student must clear the conditional term(s) by achieving minimum term and cumulative overall averages of 60% while having no failures or incomplete courses. Failure to achieve these conditions will lead to a Failed standing.

May Not Proceed

A student receives this standing if,

- the student achieves a minimum term average of 60% but has failed two courses in a term.
- the student, at the end of the third year, has not successfully completed all Optometry courses in the first three years.

A student will be required to leave the program until the next term the courses are offered. A student clearing failed courses under this rule must achieve a passing grade in the courses; otherwise the student will receive a Failed standing from Optometry. Only after the failed courses are cleared will the student be permitted to proceed to the next degree term.

Failed - Required to Withdraw

A student receives this standing and is required to withdraw if,

- the student fails to achieve either a minimum term or cumulative overall average of 60%.
- the student fails three or more courses in an academic term.

- the student, who is on conditional standing, fails to achieve a minimum term and/or cumulative overall average of 60%, fails one or more courses, or receives an incomplete (INC) grade.
- the student leaves the program without proper notification and fails to write examinations (a grade of DNW - did not write, is assigned for these courses).

A Failed - Required to Withdraw standing requires that the student's registration in the Optometry program be revoked. Readmission is not guaranteed. If granted, readmission cannot occur during the two academic terms following the Failed standing.

Failed – May Not Continue in Optometry Academic Plan

A student receives this standing if,

- the student has been readmitted and upon return has not achieved a minimum term and cumulative overall average of 60% and/or has failed one or more courses.
- the student has accumulated five course failures in the Optometry program.
- the student has failed the same course twice.
- the student is deemed by the Examinations Committee of the Faculty of Science to be unlikely to benefit from further participation in the Optometry program.

A Failed – May Not Continue in Optometry Academic Plan standing requires that the student's registration in Optometry be revoked. Readmission into the Optometry program is not possible.

A student receiving this standing may, however, be considered for admission to another program in the Faculty of Science.

Recommended for Doctor of Optometry Degree

A student qualifies for this decision if the student has successfully completed all requirements of the Optometry program.

Recommended for Doctor of Optometry Degree entitles the student to graduate with the Doctor of Optometry (OD) degree.

Academic Standings - Doctor of Pharmacy

The School of Pharmacy sets and administers its examinations in accordance with the rules and regulations set by the Faculty of Science and the University of Waterloo. Student academic standings are considered each term by the School of Pharmacy and are made in accordance with the regulations listed as follows:

- The factors considered in academic standing in Pharmacy are the term average and the number of failed courses.
- A number of courses will be graded on a credit/no credit (CR/NCR) basis.

Satisfactory

Requires that a student achieves a minimum term average of 60% with no failed courses. This entitles a student to proceed to the next term.

May Not Proceed

Results if a student achieves a minimum term average of 60% but fails a maximum of two term courses. The failed courses must be cleared (passed) before the student is permitted to proceed to the next academic term.

Notes

A student with only one failure per term may be permitted to proceed to the next term; however, any failed course must be cleared. The student must make arrangements with the course instructor as to the mechanism for clearing the failed course.

1. In the event that the failed course is a prerequisite for a course in the following academic term, and it is not cleared before the start of the term, the student must obtain the appropriate approvals by completing a Course Override Form. This form should be accompanied by a statement of the arrangements made with the instructor to clear the failed course. If the instructor of the subsequent course does not approve the course override, the student will be required to clear the failed course before proceeding to the next academic term. Due to the limited scheduling of Pharmacy courses, this will typically result in the student falling behind and extending the time required for program completion.
2. In the event that the next term is a co-op work term, the student will be permitted to begin the co-op work term. Depending on individual circumstances, the School of Pharmacy may contact the student's employer, who may elect to terminate the student's employment. For work terms that continue to completion, the student will be required to submit the appropriate evaluations and the work-term report.

Failed - Required to Withdraw

Results if a student fails to achieve the minimum term average of 60%, the student fails three or more courses in a term, or the student leaves the program without proper notification and fails to write the final examinations. This standing will also result if the student fails three attempts at the Final Year Objective Structured Clinical Examination milestone (OSCEm) as described under Pharmacy's Graduation Requirements.

Failed - May Not Continue in Pharmacy Plan

Results if a student has accumulated five failures in the degree requirements of the Pharmacy program (i.e., failures in courses and/or co-op work terms). This status will also result if a grade of less than the passing grade is obtained for a repeat course or approved alternative. Readmission into the Pharmacy program is not possible; however, a student receiving this standing may be considered for admission to another program in the Faculty of Science.

Workflow Information

Workflow Path	Faculty/AFIW Path(s) for Workflow	Senate Workflow
Committee approvals	Faculty of Science	--

Expedited Approval Pathway for New Program Proposal from the Faculty of Science

Process Stage	Date	Document Version	Go/No Go Requirements
1. SUC	Draft Proposal April 1 SUC April 8	Introduce the program in preparation for the e-vote. Confirm comfort of SUC with revised process for this item – Dave to speak to expedited process and Laura to the proposal. Will need to identify which components are missing and will come later (reviewers report, program response, financial viability report).	SUC must be on board with the expedited approval pathway for this to move forward.
2. Site Visit	April 24/25		
3. External Reviewers Report	May 9th		Presuming the external assessor report is positive and the recommendations are easily addressed, and no further Financial Viability investigation is required after addressing any recommendations, the proposal may move forward in the process.
4. Program Response to report	May 12-16	Changes from external reviewer report are made to the proposal by Science with a cover memo highlighting the addition of missing pieces/changes for SUC.	Steps 1-4 must be completed and the report updated with items missing from step 1.
5. SUC Sub-committee	Secretariat to move meeting from May 13 to May 20th	Circulation of revised doc May 19 (May 19-25 for review in addition to the proposal preview at SUC April 8th) Changes May 21-22 or more time for review e-vote May 23-26	SUC Subcommittee must recommend this to move forward to SUC during the e-vote.
6. SUC Review and e-vote	May 27-30	Secretariat to conduct e-vote with final proposal and memo to highlight changes from April 8th doc – stating it's been reviewed and recommended by the subcommittee	SUC must recommend this to move forward to Senate during the e-vote
7. SEC	May 26	Placeholder with final proposal at SUC – Laura and Dave can speak to the expedited approach and proposal	SEC must be comfortable adding this to the Senate agenda prospective of SUC approval on May 30th
8. Senate Package Distribution	June 2	Full Document with approval from SUC	
9. Senate	June 9	Final Approval	