

**University of Waterloo  
BOARD OF GOVERNORS  
Tuesday 29 October 2019**

**Meeting**  
1:30 p.m.  
Needles Hall, Room 3407

**Note: directions/parking information for external members has been distributed.  
Please convey regrets to Emily Schroeder at 519-888-4567, ext. 32749 or [eschroeder@uwaterloo.ca](mailto:eschroeder@uwaterloo.ca).**

<b>Time</b>	<b><u>MEETING</u></b>	<b>Page</b>	<b>Action</b>
	<b>OPEN SESSION</b>		
1:30	1. Conflict of Interest	Oral	Declaration
	2. Remarks from the Chair	Oral	Information
	3. Agenda/Additional Agenda Items	Oral	Input
1:35	<b><u>Consent Agenda</u></b> <b>Motion:</b> To approve or receive for information by consent items 4-8 below.		
	4. Minutes of the 4 June 2019 Meeting	4	Decision
	5. Report of the President		
	a. Promotion to Professor		Information
	b. Sabbatical and Administrative Leaves/Administrative Appointments	11 12	Decision/Information
	c. Recognition and Commendation	23	Information
	6. Report of the Vice-President, Administration & Finance		
	a. Incidental Fee Changes	29	Decision/Information
	7. Reports from Committees		
	a. Building & Properties	30	Decision/Information
	b. Executive	35	Information
	c. Finance & Investment	36	Information
	d. Pension & Benefits	37	Information
	8. Report of the Vice-President, Academic & Provost		
	a. Undergraduate/Graduate Admissions Update	38	Information
	<b><u>Regular Agenda</u></b>		
1:40	9. Business Arising from the Minutes		Input

Time	OPEN SESSION	Page	Action
1:50	10. Report of the President a. Strategic Plan 2020-2025 b. President's Update	41 65	Decision Information
2:20	11. Report of the Vice-President, Academic & Provost a. Student Experience Update b. SMA Update	Oral Oral	Information Information
2:40	12. Report of the Vice-President, Advancement a. Campaign Planning Committee Final Report b. Campaign Recommendations	80 84	Information Information
2:55	13. Report of the Vice-President, Administration & Finance	111	Information
3:10	BREAK		
3:20	14. Reports from Committees a. Audit & Risk b. Pension & Benefits	114 115	Decision/Information Decision
3:40	15. Other Business		Input
	CONFIDENTIAL SESSION		
3:45	16. Conflict of Interest	Oral	Declaration
3:50	<b><u>Consent Agenda</u></b> <b>Motion:</b> To approve or receive for information by consent items 17-19 below.		
	17. Minutes of the 4 June 2019 Meeting	9	Decision
	18. Report of the President a. New Appointments with Tenure	118	Decision
	19. Reports from Committees a. Audit & Risk	123	Information
	<b><u>Regular Agenda</u></b>		
3:55	20. Business Arising from the Minutes		Input
4:00	21. Report of the President a. Donor List – FY19 Gifts and Pledges \$250,000+	124	Information

<b>Time</b>	<b>CONFIDENTIAL SESSION</b>	<b>Page</b>	<b>Action</b>
4:10	22. Reports from Committees a. Governance	126	Decision
4:20	23. Other Business		Input
	24. Next Meeting: Tuesday 4 February 2020 at 1:30 p.m.		
	<b><i>IN-CAMERA SESSION</i></b>		
4:25	25. Conflict of Interest	Oral	Declaration
4:30	26. Minutes of the 4 June 2019 Meeting	10	Decision
4:35	27. Business Arising from the Minutes		Input
4:40	28. Other Business		Input
4:45	29. Report from the Governance Committee a. President's Mid-Year Assessment	Oral	Input
5:00	30. Adjournment		

KJJ/ees  
22 October 2019

Karen Jack  
University Secretary  
Secretary to the Board of Governors

Members are reminded re: the President's Reception which will be held from 5:30-7:30 p.m. in Federation Hall.

**University of Waterloo**  
**BOARD OF GOVERNORS**  
**Minutes of the Tuesday 4 June 2019 Meeting**

**Present:** Nyla Ahmad, Upkar Arora, Mike Ashmore, Jagdeep Bachher, Kathy Bardswick, Peter Barr, Michael Beauchemin, Paul Fieguth, Cindy Forbes (chair), George Freeman, Murray Gamble, Martha George, Robert Gorbet, Feridun Hamdullahpur, Russell Hiscock, Karen Jack (secretary), Dave Jaworsky, William Pristanski, Neil Randall, Karen Redman, John Saabas, Max Salman, James Schlegel, Mark Seasons, Jeremy Steffler, Maya Venters, Berry Vrbancovic, Kate Windsor

**Guests:** Jean Andrey, Suman Armitage, Sandra Banks, Alison Boyd, Bruce Campbell, Jeff Casello, Amanda Cook, Ingrid Cowan, Charmaine Dean, Rob Esselment, Erin Gillespie, Mike Grivicic, Sarah Hadley, Dennis Huber, Ross Johnston, Andrea Kelman, Jennifer Kieffer, Derek Madge, Nick Manning, Kelly McManus, Norah McRae, Kenton Needham, Alice Raynard, Chris Read, Ian Rowlands, James Rush, Naima Samuel, Justin Szarabura, Emily Schroeder, Jackie Serviss, Daniela Sesar-Hencic, Joanne Shoveller, Siobhan Stables, Allan Starr, Kerry Stryker, Paul Stolee, Pearl Sullivan, Brandon Sweet, Mathew Thijssen, David Timms, David Tubbs, Seneca Velling, Stephen Watt, Jennifer Woodside

**Regrets:** Dominic Barton, Anne Bordeleau, Shannon Dea, Ava Hill, Sheryl Kennedy, Sabrina Khandakar, Linda Ogechi Iheme

\*\*joined by telephone

**OPEN SESSION**

**1. CONFLICT OF INTEREST**

Governors were asked to declare any conflicts they may have in relation to the items on the agenda; no conflicts were declared.

Governors were notified that conflict of interest declaration forms were distributed at places and completed forms will be collected at the break.

**2. REMARKS FROM THE CHAIR**

The chair welcomed the Board to the first meeting of the governance year.

**Governors' First Meeting**

A number of governors were attending their first meeting. The chair acknowledged them, and returning members, as follows:

- **Lieutenant Governor in Council Representatives:**  
Michael Ashmore  
Marisha Roman
- **Faculty Representatives:**  
Anne Bordeleau  
Shannon Dea  
George Freeman  
Neil Randall  
Mark Seasons
- **Undergraduate Student Representatives:**  
Michael Beauchemin  
Sabrina Khandakar

- **Graduate Student Representative:**  
Max Salman

#### **President's Golf Tournament**

The chair updated the Board on the 19<sup>th</sup> annual University of Waterloo President's Golf Tournament held on Monday 3 June at Westmount Golf and Country Club. All proceeds supported the "Warrior Excellence Fund" and the "Women's Sport Initiative Fund". These funds provide for University of Waterloo student athletes and teams to compete at major championship competitions and provide support for female student-athletes and coaches.

#### **Appeal Letter**

Members received their annual appeal letter.

#### **Key messages**

Members received a package from University Relations outlining top level messages, statistics and core talking points.

#### **Board Handbook**

Members received the annual handbook.

### **3. AGENDA/ADDITIONAL AGENDA ITEMS**

The Board heard a motion to approve the agenda as distributed.

Seasons and Bachher. Carried unanimously.

#### **Consent Agenda**

Following a reminder that an updated report was at members' places with respect to agenda item #5, the Board heard a motion to approve and/or receive for information by consent items 4-8 below.

Redman and Freeman.

### **4. MINUTES OF THE 2 APRIL 2019 MEETING**

The Board approved the minutes of the meeting as distributed.

### **5. REPORT OF THE PRESIDENT**

**Recognition and Commendation.** The Board received the report for information.

**Sabbatical and Administrative Leaves and Administrative Appointments.** The Board heard a motion to approve the sabbatical leaves and changes as presented in the report.

The remaining items in the report were received for information.

### **6. REPORT OF THE VICE-PRESIDENT, ADMINISTRATION & FINANCE**

**Incidental Fees.** The Board heard a motion to approve incidental fee changes as follows:

**Motion:** To approve the Federation of Students Fee as presented in the report.

**Motion:** To approve the Federation of Students Administered Fee as presented in the report.

**Motion:** To approve the Federation of Students Health Fee as presented in the report.

**Motion:** To approve the Federation of Students Dental Fee as presented in the report.

**Motion:** To approve the Federation of Students Grand River Transit U-Pass Fee as presented in the report.

**Motion:** To approve the Federation of Students Student Refugee Program Fee as presented in the report.

**Motion:** To approve the Federation of Students Legal Service Plan Fee as presented in the report.

**Motion:** To approve the Imprint Publications Fee as presented in the report.

**Motion:** To approve the Engineering Society Fee as presented in the report.

**Motion:** To approve the Math Society Fee as presented in the report.

**Motion:** To approve the Graduate Student Association (GSA) Fee as presented in the report.

**Motion:** To approve the Graduate Student Association (GSA) Administered Fee as presented in the report.

**Motion:** To approve the Graduate Student Association (GSA) Dental Fee as presented in the report.

**Motion:** To approve the Graduate Student Association (GSA) Grand River Transit U-Pass Fee as presented in the report.

## **7. REPORTS FROM COMMITTEES**

**Building & Properties.** The Board received the report for information.

**Executive.** The Board received the report for information.

**Finance & Investment.** The Board received the report for information.

**Governance.** The Board received the report for information.

**Pension & Benefits.** The Board received the report for information.

## **8. REPORTS FROM INSTITUTE FOR QUANTUM COMPUTING**

**Annual Report to the Ministry of Innovation, Science and Economic Development.** The Board heard a motion to approve the IQC annual report to ISED as presented in the report.

**Corporate Plan 2019-20.** The Board heard a motion to approve the IQC corporate plan as presented in the report.

In response to questions re: incidental fee approvals and why the bus pass has an administrative fee for undergraduate students but not graduate students, members heard: about the education efforts that have been undertaken to inform students about incidental fees and the provincial changes; that administrative fees for matters like the bus pass are decided by the Federation of Students (Feds) and the Graduate Student Association independent of the University; and, from Governor Beauchemin efforts being taken by the Feds in rebranding. At the chair's invitation, from Seneca Velling, Vice-President, Operations and Finance of the Feds: efforts being taken by the Feds in conjunction with administration to maintain service levels; the undertaking of a survey of students to identify needs and preferences; work being done with the government to understand goals and intentions.

The question was called and the motion carried unanimously.

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**Regular Agenda**

**9. BUSINESS ARISING FROM THE MINUTES**

Governor Schlegel provided members with an update on the implementation of recommendations from the Responsible Investment Working Group. Members heard: work continues with administration in implementing the recommendations; the Pension Investment Committee is being populated; more information will follow at the October meeting. In response to questions, members heard that reports will be provided to the Board on an ongoing basis; the committee will be happy to further engage the community as it undertakes its work.

Members were reminded that an extraordinary Board of Governors meeting will be held on 24 September 2019 to discuss the draft strategic plan.

**10. REPORT OF THE PRESIDENT**

**President's Update.** The president provided members with a summary of recent major achievements and initiatives including: offering kudos to Dr. Rodney Broderick on his work on the production of the first image of a black hole; recent engagement with two impressive examples of the entrepreneurial experience at Waterloo; recent reunion, alumni, and years of service celebrations; federal and provincial government relations activities; an update on the continuing work on the next strategic mandate agreement.

**Strategic Plan Update.** The president provided governors with an update on the continued development of the strategic plan and invited feedback and participation by governors in the conversation. Members heard: the key questions being asked; the values being identified through consultations; the bold ideas being generated. He invited governors to offer feedback, now or in the future on the developing plan: does it resonate, does it enable the University's goal of providing both the best and a meaningful education for the future, is it transformative and true to "Waterloo".

In discussion: the need for and value of data; encouragement to articulate connections between engagement and impact; a suggestion that explicit references to the arts and humanities, mental health care, and equity be included; a suggestion to embed international and globalization goals more clearly; what "we belong" means at Waterloo; connections that can be made with the strategic mandate agreement; engagement by all groups in developing the plan; ways the University envisions support of and building pathways regarding innovation between the academy and industry.

**11. REPORT OF THE VICE-PRESIDENT, ADVANCEMENT**

Joanne Shoveller provided an update on campaign planning. Members heard about: creating a philanthropic culture on campus for students and young alumni; the development of "story" communication pieces; paying attention to all supporters; the University's global volunteer network; the overall framework. In discussion: support by and encouragement from governors to engage them in this work; appreciation for the value in recognizing and encouraging support at all levels, including modest donations; ways to galvanize donors; a suggestion to identify opportunities to leverage co-op activities, including potential direct support by students.

**12. REPORT OF THE VICE-PRESIDENT, ACADEMIC & PROVOST**

**a. Executive Retreat Summary**

The provost informed members about the recent executive retreat and highlighted: discussions re: the strategic plan; target setting; learning paradigms; ways to enable activities and opportunities likely to be established in the final plan. Rush also advised re: past and current activities relating to the strategic mandate agreement with the province.

**b. Student Experience Review Follow-up**

Rush advised governors of the goals of the review, its scope, findings and next steps.

In discussion of a) and b): there seem to be good links between the metrics the province is considering with respect to the strategic mandate agreement and Waterloo's strengths; recommendations re: student experience review will follow.

**c. Policy 42 – Prevention of and Response to Sexual Violence, and Protocols and Procedures**

Amanda Cook, Director, Sexual Violence Prevention and Response provided an overview of the revised policy and procedures, and provided governors with a report on data relating to the student support activities and services provided by her office for 2018, the number of students assisted and the nature of the reports, accommodations offered, referrals made, and the growing list of initiatives being undertaken at Waterloo relating to this work.

In discussion: a request that future reports provide greater context, including, if possible, information on whether those who raise complaints complete their studies; some clarifications re: data provided; a description of some of the educational and proactive activities and initiatives underway; the benefits of understanding where complainants are in terms of their study, and whether there might be key times in a student's career where education re: this subject is most beneficial; clarification that the policy will be reviewed again in two years; an expression of thanks to Cook and the Policy 42 committee for its work in improving the policy and procedures.

The Board heard a motion to approve the changes to Policy 42 and its protocols and procedures as presented.

Hamdullahpur and Windsor. Carried unanimously.

**13. CONFLICT OF INTEREST DECLARATION FORM**

Governors were asked to complete the forms which were subsequently collected during the break.

**14. OTHER BUSINESS**

There was no other business.

The Board convened in confidential session.

10 September 2019

Karen Jack  
University Secretary



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**CONFIDENTIAL SESSION**

The confidential minutes have been removed.

***IN-CAMERA SESSION***

The in-camera minutes have been removed.

**University of Waterloo**  
**BOARD OF GOVERNORS**  
**Report of the President**  
**29 October 2019**

**FOR INFORMATION**

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**Promotion to Professor**

Policy 77 – Tenure and Promotion of Faculty Members, provides that “Promotion to the rank of Professor recognizes a high order of achievement in both scholarship and teaching by tenured Associate Professors, together with satisfactory performance in service. Although evidence of strong teaching performance is required, normally the greatest emphasis is placed on scholarship and achievement within an individual’s discipline. However, in exceptional cases, a tenured Associate Professor may be promoted on the basis of an outstanding teaching record accompanied by a continuing and long-standing record of satisfactory or better scholarship and service.

A continuous program of scholarship with positive peer review by nationally and internationally recognized scholars is essential for promotion to Professor. The candidate’s record is to be judged in comparison with the records of faculty members recently promoted at UW and other universities of comparable standing.

Promotion to Professor is not an assured step in the career of a faculty member, and some will not attain this rank.”

The 2018-19 promotion cycle carried out under Policy 77 resulted in the following individuals being promoted to professor, effective 1 July 2019.

ADAIR, Wendi – Psychology  
CUI, Bo – Electrical and Computer Engineering  
DEA, Shannon – Philosophy  
DOLMAGE, Jay – English Language and Literature  
FRAYNE, Bruce – School of Environment, Enterprise and Development  
GODFREY, Michael W. – Computer Science  
HALL, Peter – School of Public Health and Health Systems  
HIRSCHKOP, Ken – English Language and Literature  
INAL, Kaan – Mechanical and Mechatronics Engineering  
JHA, Ranjini – School of Accounting and Finance  
LEATHERDALE, Scott – School of Public Health and Health Systems  
LI, Pengfei – Statistics & Actuarial Science  
MACRAE, Merrin – Geography and Environmental Management  
OELBERMANN, Maren – School of Environment, Resources and Sustainability  
SCOTT, Steffanie – Geography and Environmental Management  
SHEPPARD, Lola – Architecture  
STRACK, Maria – Geography and Environmental Management  
TANG, Xiaowu (Shirley) – Chemistry  
TRIPUNITARA, Mahesh – Electrical and Computer Engineering  
WEBER, Mark – Conrad School of Entrepreneurship and Business  
ZHAO, Boxin – Chemical Engineering

**University of Waterloo  
BOARD OF GOVERNORS  
Report of the President  
October 29, 2019**

**FOR APPROVAL**

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**1. Sabbatical and Administrative Leaves**

The University of Waterloo Policy 3 – Sabbatical and Other Leaves for Faculty Members [excerpts below, full text available at: <http://uwaterloo.ca/secretariat-general-counsel/policies-procedures-guidelines/policy-3>] sets out the purpose of leaves for faculty members as well as the requirements/responsibilities of faculty who are granted such leave.

*The granting of a leave . . . depends on the University's assessment of the value of such leave to the institution as well as to the individual, and on whether teaching and other responsibilities of the applicant can be adequately provided for in her/his absence. A faculty member who is granted a sabbatical or other leave is expected to return to duties in the University for at least one year and upon return will be expected to submit a brief report to the Department Chair regarding scholarly activities while on leave.*

*The purpose of a sabbatical leave is to contribute to professional development, enabling members to keep abreast of emerging developments in their particular fields and enhancing their effectiveness as teachers, researchers and scholars. Such leaves also help to prevent the development of closed or parochial environments by making it possible for faculty members to travel to differing locales where special research equipment may be available or specific discipline advances have been accomplished. Sabbaticals provide an opportunity for intellectual growth and enrichment as well as for scholarly renewal and reassessment.*

*. . . the granting of sabbatical leave is contingent upon the faculty member's department being able to make the necessary arrangements to accommodate such an absence, and also upon the financial resources of the University in any given year. Should problems arise in any of the above, it may be necessary to postpone individual requests until such time as all the conditions can be satisfied.*

- **Sabbatical Leaves**

**Anderson, Britt**, Psychology, January 1, 2020 to June 30, 2020 at 85% salary

*My research focuses on human attention. My goal is to complete a new mathematical description of attention that unites the empirical results from my laboratory with a more precise, and formal computational description. The tangible goals are a book reporting this new formulation, new research proposals based on this model and new course development to introduce students to these methods.*

**Boake, Teresa**, Architecture, January 1, 2020 to December 31, 2020 at 100% salary

*I will be writing a book on Complex Steel Design for Birkhauser of Germany, architectural publishers.*

**Boger, Jennifer**, Systems Design Engineering, January 1, 2020 to June 30, 2020 at 100% salary

*I will further my research in the development of ambient systems for supporting the health, wellbeing and quality of life of older adults. In particular, I will focus on advancing ambient vitals monitoring, circadian rhythm tracking and prediction, and principles for ethical technology development through academic and industry collaborations in Canada, France, the UK and Australia.*

**Boychuk, Gerard**, Political Science, January 1, 2020 to June 30, 2020 at 100% salary

*I will complete initial research for a major SSHRC-funded (awarded 2019) project on the intersection of the politics of populism, prohibition and suffrage in the northern Great Plains states and prairie provinces in the period from 1910 to 1921 which will require considerable research travel within Canada and the United States.*

**Brown, Dan**, Computer Science, March 1, 2020 to August 31, 2020 at 93.3% salary

*I will work to revitalize my research career in computational creativity and music information retrieval with colleagues and students in Waterloo, the US and Europe, after several years in administrative roles.*

**Charles, Trevor**, Biology, January 1, 2020 to June 30, 2020 at 100% salary

*In addition to continuation of my currently funded research activities (bacterial production of bioplastics, bacterial degradation of glyphosate herbicide, symbiotic nitrogen fixation, and methanotroph genome engineering), I plan to spend some of the time in Singapore, working on research collaborations with Professor Sanjay Swarup and colleagues at National University of Singapore on agricultural and environmental microbiome analysis.*

**Correa, David**, Architecture, January 1, 2020 to June 30, 2020 at 100% salary

*I plan to compile research and teaching material developed during my probatory term into two journal publications and two exhibitions. I will also be finalizing research collaboration projects related to my doctoral thesis. Dissemination of my research into the active role of material performance in digital fabrication will support my application for tenure in July 2021. Time will also be spent preparing my tenure application package.*

**Coutu, Joan**, Fine Arts, January 1, 2020 to June 30, 2020 at 85% salary

*My research focuses on the relationship between identity, politics, and the built environment during two eras of the British Empire: 18<sup>th</sup> century country houses and landscape design in Britain at the beginning of the empire, and 19<sup>th</sup> and early 20<sup>th</sup> century town planning, park development, and institutional architecture in Canada as demonstrations of identity vis-à-vis imperial diaspora. I will 1) edit papers from a symposium I will be hosting in Manchester, UK entitled Houses of Politicians, 1688-1800, 2) mentor the construction of Politics and Country House Toolkit for heritage professionals, 3) organize part 2 of this project called Imperial Diaspora: Institutional Buildings in 19<sup>th</sup> and early 20<sup>th</sup> century Canada, and 4) write a book manuscript on tourism and the built environment in 1930s Ontario.*

**Dolphin, Alexis**, Anthropology, January 1, 2020 to June 30, 2020 at 100% salary

*My research focuses on understanding the biocultural nature of human health and environmental pollution in past and contemporary human populations. I will focus on: 1) publication of manuscripts, 2) set up of my CFI-JELF funded “Ancient and Contemporary Environmental Bioindicators Laboratory (ACEBioLab)”, and 3) plan for the next Barqa Landscape Project bioarchaeological field school season (Anth 37; Summer 2020).*

**Douglas, Peter**, Chemical Engineering, July 1, 2020 to June 30, 2022 at 100% salary

*I plan to work with my graduate students and industrial partners catching up on research on modelling, control and optimisation of CCS (Carbon Capture and Storage) systems. I am currently co-supervising two PhD and two MSc students.*

**Dow, Christine**, Geography and Environmental Management, January 1, 2020 to June 30, 2020 at 100% salary

*I will further my research into glacier and ice dynamics. I will be visiting existing collaborators in Australia and New Zealand to further Antarctic research into glaciers and ice shelves in the East*

*Antarctic and visiting researchers in Finland to initiate a new collaboration on modeling of paleo ice dynamics from the Fennoscandian ice sheet.*

**Eliasmith, Chris**, Philosophy and Systems Design Engineering, May 1, 2020 to April 30, 2021 at 85% salary

*As a Canada Research Chair in Theoretical Neuroscience, I lead the construction of the world's largest functional brain model. I developed novel theories of neural computation, and proposed new methods for large-scale brain modeling. During this leave, I will delve more deeply into new neuromorphic hardware platforms to leverage them in advancing new applications of neural computation.*

**Emerson, Joseph**, Applied Mathematics, January 1, 2020 to June 30, 2020 at 85% salary

*I will focus on developing an open source benchmarking suite for assessing the capabilities of the world's leading quantum computers for scalability. This should lead to widespread recognition of IQC and the University of Waterloo as the home of world leading expertise in the area of expert third-party assessment of quantum computing capabilities.*

**Gauthier, Mario**, Chemistry, January 1, 2020 to June 30, 2020 at 85% salary

*I will spend two months at Universidad Nacional Autónoma de México, to collaborate on the development of polymer-stabilized catalysts with applications in environmental decontamination. I will spend two months at two universities in China (Huazhong University of Science and Technology and Wuhan University of Science and Technology), to pursue ongoing collaborative research on dendrigraft polymer-based drug delivery systems and catalytic applications of metal-loaded dendrigraft polymers. I will spend the rest of the time at UW to complete the write-up of manuscripts.*

**Geobey, Sean**, Environment, Enterprise and Development, November 1, 2019 to April 30, 2020 at 100% salary

*My research will focus on modernization of collective action in three areas: 1) voting system development for participatory budgets, 2) multistakeholder design lab process theory and development, and 3) business transitions to social purpose and cooperative enterprise structures. This research will form the core of my tenure application package.*

**Goldthorpe, Irene**, Electrical and Computer Engineering, May 1, 2020 to April 30, 2021 at 85% salary

*I will push forth my research in materials for printable and flexible electronic devices. Specific projects will be 1) to achieve printable silicon, and 2) to move towards my goal of seamlessly integrating electronic functionality into textiles.*

**Gorecki, Tadeusz**, Chemistry, January 1, 2020 to December 31, 2020 at 100% salary

*I will be at the University of Ghent (UG, Belgium) working on the development of novel methods for the characterization of protein biopharmaceuticals at the protein level based on comprehensive two-dimensional liquid chromatography (LCxLC).*

**Gracie, Robert**, Civil and Environmental Engineering, January 1, 2020 to June 30, 2020 at 85% salary

*I will pursue research into the simulation of fracture processes involving coupled physics. I will spend three months at the Institute of Structural analysis at the Technical University of Graz, Austria, where I will continue collaborative research with Professor Dr. Fries, a well known expert in computational mechanics. This collaboration was initiated on my previous sabbatical during which I spent two months at TU Graz.*

**Hanning, Rhona**, Public Health and Health Systems, September 1, 2020 to August 31, 2021 at 100% salary and September 1, 2021 to December 31, 2021 at 100% salary

*Further to our CIHR-funded study, Refining a Scaling up Strategy for Bringing Local Healthy Food to School through Learning Circles in First Nations Communities, I propose to visit Haida Gwaii, Hazelton/Upper Skeena BC, Ministikwan SK and Black River MAN to share results, evaluate sustainability of community health initiatives in different contexts and collaboratively explore Indigenous models of sustainability.*

**Harris, Jennifer**, English Language and Literature, September 1, 2020 to August 31, 2021 at 85% salary  
*My planned research takes up understudied or unknown African American authors from the long nineteenth-century – some with ties to Black Canada – with the intent of understanding more about how authors and communities interacted with print culture and the uses they made of it. Notably, this scholarship both recuperates lost authors and works, and opens up new avenues of investigation.*

**Helleiner, Eric**, Political Science, January 1, 2020 to June 30, 2020 at 85% salary  
*I will be completing a book that analyzes the history of classical thought in the field of International Political Economy (IPE) from a global perspective. While classical intellectual history in IPE has focused heavily on Western thinkers, this book will be the first to provide a wider perspective that is inclusive of thinkers from other parts of the world.*

**Ho, Pin-Han**, Electrical and Computer Engineering, January 1, 2020 to June 30, 2020 at 100% salary  
*I will travel to work in Nantong University with my research partners, Professor Xiaojun Zhu and Professor Yancheng Ji. We will work on wireless coding techniques that enable bidirectional relaying of ad hoc network. By the way, I will work on a research project with Huawei Canada (currently in the final negotiation of the agreement) and Shanghai Huawei. The project is related to monitoring and failure localization in optical networks.*

**Houston, Andrew**, Communication Arts, January 1, 2020 to June 30, 2020 at 100% salary  
*I will direct two multi-disciplinary performances, contribute to a major interdisciplinary, multi-national research project and begin work on a book about site-specific performance practice entitled Animating Sites of Contestation.*

**Kennedy, Matthew**, Pure Mathematics, January 1, 2020 to December 31, 2020 at 85% salary  
*I plan to continue my research in operator algebras and noncommutative convexity. Although I will remain based in Waterloo, I plan to spend several months traveling to visit collaborators and attend conferences.*

**Khamesee, Behrad**, Mechanical and Mechatronics Engineering, May 1, 2020 to April 30, 2021 at 100% salary  
*I will focus on the development of Maglev Floor as a part of CFI funded infrastructure in E7 Robohub. I also intend to identify potential international collaborators and possibly visit some of them.*

**Koehler, Derek**, Psychology, January 1, 2020 to June 30, 2020 at 85% salary  
*I plan to pursue two extensions of my research on human decision making from lab-based research to real-world applications. The first concerns how the public perceives, and acts upon, perceived consensus among experts. The second involves participating in a large-scale collaboration aimed at enhancing use of behavioural insights in public and private organizations across Canada.*

**Kroeker, Greta**, History, January 1, 2020 to June 30, 2020 at 85% salary  
*I plan to work on my project on the history of sexual violence in Early Modern Europe.*

**Lam, Patrick**, Electrical and Computer Engineering, January 1, 2020 to June 30, 2020 at 85% salary

*I plan to explore collaborations with colleagues at the University of Athens to leverage their expertise in pointer analysis. This expertise aligns well with my past research in applying pointer analysis and will open the door to exploring new ideas in integrating test suites with static analysis to improve analysis accuracy and to find novel applications of pointer analysis.*

**Lank, Edward**, Computer Science, November 1, 2020 to April 30, 2021 at 85% salary

*My research area is Human-Computer Interaction. Aligned with my research program, I am the recipient of an INRIA International Research Chair, 2019 to 2023. I will visit INRIA Lille Nord Europe to continue work on my research chair to explore interaction in ubiquitous and augmented reality environments (e.g., internet of things, interconnected appliances, augmented and virtual realities, etc.)*

**Lee, Sonny**, Chemistry, January 1, 2020 to December 31, 2020 at 87.8% salary

*The molecular description of the metal cluster responsible for biological nitrogen fixation has advanced significantly in the last five years. I will spend my sabbatical leave developing new research directions that incorporate these recent biologically-derived insights to our synthetic clusters to achieve better models and improved understanding of the natural systems.*

**Leung, Debbie**, Combinatorics and Optimization, January 1, 2020 to June 30, 2020 at 85% salary

*I will be attending a workshop “The Quantum Wave in Computing”, at the Simon Institute at Berkeley with my collaborators Thomas Vidick and Andrea Coladangelo. The research will be on testing of quantum devices. This includes different models for testing, such as the single- and multi-device models, classical or limited quantum verifiers, and information-theoretic security versus computational assumptions.*

**MacDougall, Heather**, History, January 1, 2020 to June 30, 2020 at 100 % salary

*I will begin the research for an SSHRC Insight Grant entitled Reinventing the Rash: A Global History of Measles in the Vaccine Era. Working with a multinational team based at Université de Montreal, I will examine documents in archives in the US and Britain to provide the global north perspective.*

**Mahmoudzadeh, Houra**, Management Sciences, January 1, 2020 to June 30, 2020 at 100% salary

*I will work on my research in the field of large-scale adaptive and robust optimization methods with applications to radiation therapy treatment planning.*

**Marcoux, Laurent**, Pure Mathematics, January 1, 2020 to June 30, 2020 at 85% salary

*My research concerns an area of pure mathematics known as operator theory and operator algebras. I intend to study questions relating to the structure of algebras with the “total reduction property”, quasidiagonality of sets of Hilbert space operators, as well as the local structure of C\*-algebras.*

**Melek, William**, Mechanical and Mechatronics Engineering, January 1, 2020 to December 31, 2020 at 100% salary

*I will focus on expanding the RoboHub research team to more than 70 scientists and HQPs, and increasing the network of industry partners and research contracts in robotics. I will also work closely with the Canada 150 Research Chair and CERC in Humanoid robotics to generate new research opportunities and partnerships in areas of social robotics and human-machine interaction.*

**Mitchell, Clare**, Geography and Environmental Management, January 1, 2020 to June 30, 2020 at 85% salary

*My current research analyzes internal migration movements and the implications of these movements for rural settlements. I will be evaluating international research on one particular type of movement (counterurbanization) in preparation for writing a book, tentatively titled, “Counterurbanization in the 21<sup>st</sup> Century: International Trends”.*



**Neufeld, Josh**, Biology, January 1, 2020 to June 30, 2020 at 85% salary

*I will visit the Department of Microbial Ecology (DOME) at the University of Vienna to establish new collaborations, acquire expertise, and learn new techniques related to my lab's research program investigating nitrification in water treatment system biofilters.*

**Nguyen, Tu**, Accounting and Finance, January 1, 2020 to June 30, 2020 at 100% salary

*My research interests are corporate finance and corporate governance, such as mergers and acquisitions, board of directors, executive compensation, corporate leverage, and firm risk taking and innovation. I plan to complete my revision for a paper under the third-round review at a journal, and work on other projects in various stages.*

**O'Neill, Daniela**, Psychology, January 1, 2020 to June 30, 2020 at 85% salary

*My area of research is developmental psychology and children's language acquisition. I have five main goals planned: 1) application to CIHR for Canadian norming of the Language Use Inventory (LUI) French version, 2) attend a workshop at Alan Alda Center for Communicating Science, 3) strengthen existing connections with 15 plus LUI translation projects and forge new ones, 4) continue to expand community outreach work with schools, Kitchener Public Library and the City of Waterloo, and 5) new collaboration for UW Interdisciplinary Trailblazer fund.*

**Orend, Brian**, Philosophy, January 1, 2020 to June 30, 2020 at 100% salary

*I will prepare a book-length manuscript on Justice After War, long a field of my expertise.*

**Parker, Paul**, Environment, Enterprise and Development, January 1, 2020 to June 30, 2020, January 1, 2021 to June 30, 2021 and July 1, 2021 to November 30, 2021 at 100% salary

*My research will focus on developing a low carbon future through the design, promotion and performance evaluation of Zero Carbon and Net Zero Energy Buildings with Internet of Things (IoT) feedback systems, advancing renewable energy to reduce diesel consumption in remote communities, and the promotion of a culture of sustainability and low carbon lifestyles.*

**Parker, Thomas**, Economics, January 1, 2020 to June 30, 2020 at 85% salary

*My research is in econometric theory and its applications in economics. I plan to complete ongoing projects related to statistical inference for estimators that are used to examine the distribution of heterogeneous economic outcomes.*

**Plaisance, Kathryn**, Knowledge Integration, January 1, 2020 to June 30, 2020 at 85 % salary

*I will be working on two projects: 1) continuing my line of research on socially engaged philosophy of science (specifically, examining the ways philosophers can fruitfully engage other communities, such as scientists), and 2) launching a new project on the concept of a "collaborative mindset" (i.e. attitudes and emotional factors that facilitate collaboration).*

**Porreca, David**, Classical Studies, January 1, 2020 to December 31, 2020 at 94.7% salary

*I plan to catch up, complete, and submit for publication a number of book reviews (3) and articles (2) that have languished for lack of time. I also plan to bring together and contribute to an edited volume on magic circles in history, and to begin a new multi-volume book project: edit and publish Thomas of York's Sapiientiale.*

**Potapenko, Stanislav**, Civil and Environmental Engineering, January 1, 2020 to December 31, 2020 at 100% salary

*Functionally Graded Materials (FGMs) are becoming increasingly important for applications in aerospace, biomedical, construction and sports equipment fields. I will be developing a comprehensive*

*analytical and computational model, which would allow us to give an adequate prediction of the material behaviour of FGMs in the cases when the material microstructure is significant. I will be collaborating with researchers in Europe and Australia.*

**Ragde, Prabhakar**, Computer Science, January 1, 2020 to June 30, 2020 at 85 % salary  
*I will continue my research (and development of associated educational resources) in the area of programming languages, with focus on the use of type theory in proof assistants.*

**Reed, Bruce**, Biology, January 1, 2020 to December 31, 2020 at 87.8% salary  
*I am a Drosophila geneticist and my research program uses this model genetic system to better understand the regulation of gene expression. I am interested in several questions that are fundamental to cell biology, including how cells undergo programmed cell death during development, and how stem cells initiate the process of differentiation.*

**Robinson, Derek**, Geography and Environmental Management, July 1, 2020 to December 31, 2020 at 85% salary  
*I will focus on research in agricultural systems using drones and simulation in southern Ontario, with periods of visitation and collaboration with the Community Surface Dynamics Modelling Systems group at UC Boulder. The SSHRC Partnership Grant with Dr. Bednarski, of which I am a co-applicant, will also be launched with fieldwork and residence at a research site in England. Additional effort will be placed on NSERC-DG renewal among other proposals.*

**Rowlands, Ian**, Environment, Resources and Sustainability, January 1, 2020 to December 31, 2020 at 100% salary  
*I will focus upon two areas. First, I will continue to investigate a variety of social, economic, and political aspects of advanced energy technologies in a multi-level governance setting. And second, I will initiate new research to investigate the relationship among internationalization, higher education, networks, and sustainability, with specific reference to climate change issues.*

**Rozotto, David**, Spanish and Latin American Studies, January 1, 2020 to June 30, 2020 at 100% salary  
*I will be conducting research in Panamanian and Guatemalan libraries and archives as part of my next book-length publication on Central American Regionalist narratives; completing and publishing a special issue of the Canadian Journal of Hispanic Studies on Central America; finalizing the publication of a book translation; and compiling an anthology of, and a study on, post-conflict Central American short stories.*

**Saari, Rebecca**, Civil and Environmental Engineering, January 1, 2020 to June 30, 2020 at 100% salary  
*I will seek to make research contributions to quantify the air quality-related impacts of climate change and climate policy. Specifically, I will seek to assess uncertainty in the health impacts of climate change, assess the effect of climate policy design (across sectors including energy and transportation) on air quality co-benefits (including effects on environmental equity).*

**Safayeni, Frank**, Management Sciences, January 1, 2020 to June 30, 2020 at 100% salary  
*I am planning to work on two areas of research. One is related to modelling of actions in terms of its structural and dynamic properties. The second area is related to the psychology of proverbs.*

**Schmenk, Barbara**, Germanic and Slavic Studies, January 1, 2020 to June 30, 2020 at 85% salary  
*I will continue to work on my current research project on language education as a cultural practice, disseminate and discuss findings with colleagues in Germany and the US, and co-organize a conference and an edited volume on “Belief systems. Subjective views of language education then and now.”*

**Simpson-Porco, John**, Electrical and Computer Engineering, January 1, 2020 to June 30, 2020 at 100% salary

*Here at Waterloo, I will focus on ongoing research projects within my group in the areas of automatic control theory and power systems. Topics of current interest include feedback-based optimization techniques, predictive control, secondary control in microgrids, and disturbance rejection problems in power systems using inverter-based resources.*

**Singh, Simron**, Environment, Enterprise and Development, January 1, 2020 to December 31, 2020 at 100% salary

*I conduct socio-metabolic research on small islands and track material and energy flows through island systems. My research aims to inform science and policy on ways small islands can achieve resource and energy security, meet social and economic goals while building resilient infrastructures to endure climate change. This sabbatical will provide an opportunity to globally position “the metabolism of islands” program that I lead, and interact with leading researchers to stimulate new ideas and direction resulting in high impact publications and a large grant proposal.*

**Stark, Ken**, Kinesiology, May 1, 2020 to April 30, 2021 at 100% salary

*I will strengthen my national and international collaborations in the area of nutritional lipidomics. This would include meeting and working with international lipidomic research groups to establish standardized methods and work towards an international academic society to support the field. This would also include further development of the Canadian Lipidomic Network.*

**Stolee, Paul**, Public Health and Health Systems, May 1, 2021 to April 30, 2022 at 100% salary

*My research will involve working with stakeholders (patients, caregivers, health care providers and administrators, policy-makers, industry, and other community partners) to identify and co-design strategies that can address health system challenges for older adults, and barriers to innovation. I then aim to conduct real-world evaluations of the co-designed strategies to improve health system integration and effectiveness for older patients.*

**Sullivan, Pearl**, Mechanical and Mechatronics Engineering, January 1, 2020 to December 31, 2021 at 100% salary

*I will assess new advances in the field of fiber-reinforced composite materials and identify areas where my knowledge and experience could make contributions which could very likely lead to the establishment of a major R&D Lab for the university, referred to as the WATERLOO ALPHA.AI Lab at the Hong Kong Science Park.*

**Tingley, Jane**, Interaction Design and Business, January 1, 2020 to June 30, 2020 at 85% salary

*I am an artist and curator. My research includes creating art installations and creating exhibitions that explore and unpack contemporary digital culture/experience. I will work on my research creation project Foresta Inclusive, and exhibit my artwork anyWare in CodeX (OCADU galleries) and in the 2020 CAFKA biennial (Kitchener). The exhibition I co-curated with Nina Czegledly, Agents for Change\Facing the Anthropocene will open January 25<sup>th</sup> at THEMUSEUM (Kitchener).*

**Tunçel, Levent**, Combinatorics and Optimization, March 1, 2020 to August 31, 2020 at 85% salary

*I will focus on my research projects in mathematical optimization (theory and algorithms). My research program has significant interaction with combinatorics and computational complexity as well as various other fields in mathematical sciences. I intend to have Waterloo as my base.*

**Vogel, Daniel**, Computer Science, September 1, 2020 to August 31, 2021 at 96.1% salary

*I plan to visit University of Copenhagen, St. Andrews University, and the University of Lille to collaborate with top researchers in human-computer interaction. Specific projects include theory-driven*

*interaction techniques and filtering algorithms based on empirical models capturing human perception of jitter and latency.*

**Vrscay, Edward**, Applied Mathematics, July 1, 2020 to June 30, 2021 at 89.2% salary

*Continuation of my long-term research programme on fractal-based methods in analysis and applications, mathematical methods in imaging (e.g. novel representations of images and their applications in MRI and remote sensing) and a more recent venture (with a PhD student) into “digital histopathology”, in collaboration with H. Tizhoosh (KIMIA Lab, Systems Design Engineering, UW).*

**Wallace, Michael**, Statistics and Actuarial Science, January 1, 2020 to June 30, 2020 at 100% salary

*My biostatistical research includes a focus on precision medicine. I have an appointment as Visiting Professor at McGill University during this leave, which will afford ample opportunities to explore new collaborative and research opportunities.*

**Wang, Hongying**, Political Science, January 1, 2020 to June 30, 2020 at 85% salary

*I plan to work on a book manuscript under contract with Polity Press on Chinese political economy to be delivered in August 2020. I will also be writing two conference papers on China’s role in international political economy and global economic governance, which I hope to turn into academic journal articles later.*

**Warley, Linda**, English Language and Literature, January 1, 2020 to June 30, 2020 at 100% salary

*My research focuses on life writing, and in recent years, I have turned to autoethnography. I will be continuing research into my maternal family’s experience of being German refugees expelled from the Eastern zones during the final months of WWII. I will also be going to England to research my father’s working class life. This research on the English working class family will produce one scholarly paper and will contribute to a memoir I am writing.*

**Watt, Stephen**, Computer Science, September 1, 2020 to August 31, 2021 at 85% salary and September 1, 2021 to January 31, 2022 at 100% salary

*My research interests are in the full range of symbolic computation topics, to make doing math with computers as easy as using word processors. My present main interests are mathematical knowledge management, programming languages for mathematical computation, mathematical handwriting recognition for expression entry and collaboration, and exact and approximate algebraic algorithms. I plan to focus on subtopics within these areas.*

**Wolkowicz, Henry**, Combinatorics and Optimization, September 1, 2020 to August 31, 2021 at 85% salary

*Semidefinite Programming (SDP) relaxations have proven to provide strong bounds for many hard combinatorial problems. However, they do not scale well to large instances and it is extremely costly to include cutting planes such as nonnegativity constraints. I plan on looking at many specific applications of Deep Neural Network (DNN) relaxations for large scale problems where structure can be exploited in order to apply first order methods efficiently.*

**Zhou, Norman**, Mechanical and Mechatronics Engineering, January 1, 2020 to June 30, 2020 at 100% salary

*I will be working on research projects and proposals, supervising graduate students on laser and resistance spot welding of advanced high strength steel, laser microwelding for medical implants, and nanomaterials for water treatment. I will also travel to visit universities and research institutes in North America, Europe and Asia for research collaboration in advanced materials joining and processing.*

- **Due to an oversight, this sabbatical was not communicated to the Board at the appropriate time; approval by the Board is being sought retroactively.**

**McCarthy, Daniel**, Environment, Resources and Sustainability, July 1, 2019 to December 31, 2019 at 100% salary

*I have several interrelated projects that all fall under the category of Social Innovation for Reconciliation that I am pursuing: 1) the Turtle Island Initiative which is an Indigenous-led social innovation project; 2) reconciliation through education and research on Haida Gwaii, B.C. Canada; and 3) co-reclamation and reconciliation in the Oil Sands.*

- **Administrative Leaves**

**Watt, Stephen**, Computer Science, February 1, 2022 to May 31, 2022 at 100% salary

*My research interests are in the full range of symbolic computation topics, to make doing math with computers as easy as using word processors. My present main interests are mathematical knowledge management, programming languages for mathematical computation, mathematical handwriting recognition for expression entry and collaboration, and exact and approximate algebraic algorithms. I plan to focus on subtopics within these areas.*

- **Due to an oversight, this Administrative Leave was not communicated to the Board at the appropriate time; approval by the Board is being sought retroactively.**

**Barnett, James**, Accounting and Finance, September 1, 2018 to April 30, 2019 at 100% salary

*I will be developing and testing a peer coaching of teaching and learning process for the faculty at the School of Accounting and Finance. I will then be implementing this process within the School.*

- **Sabbatical Changes**

**Culham, Rick**, Mechanical and Mechatronics Engineering, January 1, 2019 to December 31, 2020 at 100% salary changed to January 1, 2019 to December 31, 2019 at 100% salary

**DiVidi, David**, Philosophy, September 1, 2018 to August 31, 2019 at 100% salary changed to September 1, 2018 to June 30, 2019 at 100% salary

- **Sabbatical Cancellations**

**Lank, Edward**, Computer Science, January 1, 2020 to June 30, 2020 at 85% salary

**Sullivan, Pearl**, Mechanical and Mechatronics Engineering, July 1, 2017 to June 30, 2019 at 100% salary

## FOR INFORMATION

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### 2. **Administrative Appointments**

**Boehringer, Michael**, appointment as Chair, Germanic and Slavic Studies, Faculty of Arts, January 1, 2020 to June 30, 2022

**Boutaba, Raouf**, appointment as Associate Dean, Innovation and Entrepreneurship, Faculty of Mathematics, July 1, 2019 to December 31, 2019

**Charbonneau, Benoit**, appointment as Associate Dean, Undergraduate Studies, Faculty of Mathematics, July 1, 2019 to June 30, 2022

**Culham, Richard**, appointment as Associate Dean, Administration, Faculty of Engineering, September 1, 2019 to December 31, 2019

**Idziak, Stefan**, appointment as Associate Dean, Co-operative and Experiential Education and Computing, Faculty of Science, September 1, 2019 to August 31, 2022

**Kelly, Richard**, re-appointment as Chair, Geography and Environmental Management, Faculty of Environment, January 1, 2020 to June 30, 2022

**Kolkiewicz, Adam**, appointment as Associate Dean, Graduate Studies, Faculty of Mathematics, July 1, 2019 to June 30, 2021

**Könemann, Jochen**, appointment as Chair, Combinatorics and Optimization, Faculty of Mathematics, July 1, 2020 to June 30, 2022

**Layton, Anita**, appointment as Associate Dean, Research and International, Faculty of Mathematics, July 1, 2019 to June 30, 2022

**Leoni, Monica**, re-appointment as Chair, Spanish and Latin American Studies, Faculty of Arts, July 1, 2019 to June 30, 2023

**Liebscher, Grit**, appointment as Acting Chair, Germanic and Slavic Studies, Faculty of Arts, September 1, 2019 to December 31, 2019

**Park, Robert**, appointment as Acting Chair, Anthropology, Faculty of Arts, July 1, 2019 to December 31, 2019

**Tupling, Russ**, appointment as Chair, Kinesiology, Faculty of Applied Health Sciences, July 1, 2020 to June 30, 2024

**Witt, Jonathan**, appointment as Associate Dean, International, Faculty of Science, January 1, 2020 to December 31, 2022

#### **Administrative Appointment Changes**

**Boehringer, Michael**, appointment as Chair, Germanic and Slavic Studies, Faculty of Arts, July 1, 2018 to June 30, 2022 changed to July 1, 2018 to August 31, 2019

**Douglas, Peter**, appointment as Associate Dean, Undergraduate Studies, Faculty of Engineering, July 1, 2018 to June 30, 2020 changed to July 1, 2018 to September 30, 2019

**Warley, Linda**, appointment as Associate Dean, Graduate Studies, Faculty of Arts, January 1, 2019 to June 30 2020, changed to January 1, 2019 to December 31, 2019

Feridun Hamdullahpur  
President and Vice-Chancellor

University of Waterloo  
**BOARD OF GOVERNORS**  
Report of the President  
29 October 2019

## FOR INFORMATION

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### Recognition and Commendation

Vice-President, Academic & Provost Jim Rush announced the award recipients of the **Outstanding Performance Fund** which rewards faculty members for outstanding contributions in teaching and scholarship. The recipients are:

#### *Applied Health Sciences*

**Jack Callaghan; David Hammond; John Hirdes; Heather Keller; Ellen MacEachen (Stothers); Katie Misener; and Zara Rafferty**

#### *Arts*

**Steven J. Balaban; Ramona Bobocel; Gary Bruce; Tara Collington; Martin Cooke; Tara Cooper; Shannon Dea; James Diamond; Michael Dixon; Christopher Eliasmith; Anna Esselment; Myra Fernandes; Francisco Gonzalez; Daniel Gorman; Randy Harris; Eric Helleiner; Shelley Hulan; Margaret Insley; George Lamont; Emmett Macfarlane; Patricia Marino; Andrew McMurry; Christine McWebb; Timothy Paci; Barbara Schmenk; Abigail Scholer; Anindya Sen; James Skidmore; Daniel Smilek; S. Lynne Taylor; Nancy Vanden Bosch; and Christina Vester**

#### *Engineering*

**Kankar Bhattacharya; Donald Burn; Clifford Butcher; Eric Croiset; Krzysztof Czarnecki; Samir Elhedhli; Ali Elkamel; Monica Emelko; Xianshe Feng; Bruce Hellinga; Jan Huissoon; Jane Hutton; Andrew Levitt; Shavin Malhotra; John McPhee; Kevin Musselman; Stephen Smith; Mark Smucker; Ehsan Toyserkani; Mihaela Luminita Vlasea; Derek Wright; Alfred Yu; and Weihua Zhuang**

#### *Environment*

**Richard Kelly; Luna Khirfan; Brendon Larson; Markus Moos; Stephen Murphy; Andrew Trant; and Michael Wood**

#### *Math*

**Christopher Batty; Daniel Brown; Steven Furino; Kevin Hare; Jesse Hoey; David Jao; Lila Kari; Achim Kempf; Jochen Koenemann; Lap Chi Lau; Anita Layton; Christiane Lemieux; Jimmy Lin; Xinzhi Liu; Wayne Oldford; Vern Paulsen; Stefan Steiner; David Tompkins; and Ruodu Wang**

#### *Science*

**Nandita Basu; Carey Bissonnette; Paul Craig; Jean Duhamel; Andrea Edginton; Heidi Engelhardt; Scott Hopkins; Patricia Hrynchak; Norbert Lutkenhaus; Roger Melko; Graham Murphy;**

**Cynthia Richard; Rebecca Rooney; Donna Strickland; Benjamin Thompson; and Christopher Yakymchu**

(adapted from the *Daily Bulletin*, 6 June 2019)

Waterloo staff have earned special honours from the **CASE Circle of Excellence Awards** and the **CCAIE Prix d'Excellence**. The Council for Advancement and Support of Education (CASE) is an international membership association serving educational institutions and professionals who work in alumni relations, communications, development, marketing and allied areas. The Canadian Council for the Advancement of Education (CCAIE) is the equivalent association for Canada. Both organizations host annual awards programs to recognize creative ideas that advance our institutions. This year, the University received the following honours:

- **Engineering Advancement's Waterloo Engineering 7 Building Official Opening and Campaign Closing** won gold in the CASE category of Special Events: Single-Day Events.
- **University Relations** won silver from CASE for the video Women in STEM: From a Remote Village in India to a PhD in Engineering.
- At CCAIE, **Pharmacy Advancement's #Pharmacy5in5 Campaign** with the Ontario College of Pharmacists (OCP) won gold for Best Use of Social Media.

(adapted from *the Daily Bulletin*, 25 June 2019)

A team of Global Business and Digital Arts students, **Sylvia Bogdanowicz, Amirah Mahomed, Cindy Le, Kristen Fajardo, and Laura Kraehling**, developed Virtuous Waste, an alternative to plastic packaging made of seaweed that they pitched before a panel of industry experts and social entrepreneurs on June 19 in Toronto at the **World Vision Social Innovation Challenge**. Their winning solution will receive \$25,000 in funding for implementation during a 12-month incubation period. Virtuous Waste was selected from over 60 different teams from across Canada who competed in the challenge.

(adapted from the *Daily Bulletin* 11 July 2019)

Health tech companies captured the most interest and money at Waterloo's largest startup pitch competition, the **Velocity Fund Finals**. Among the 10 companies vying for the top prize, four companies persuaded the judges that their ideas had the best chance at commercial success. Winners included:

- **Insula Medical**, which is developing a compact and ergonomic insulin delivery system
- **WatFly**, which is developing an urban electric flight solution
- **Emergency Response Africa**, an EMS technology company that provides care to victims at the scene of an emergency
- **VOYHS**, a company that gives trans people the resources to train their voice to boost their confidence and improve their lives

(adapted from the *Daily Bulletin*, 19 July 2019)

Five Waterloo students have won first place in the national student **Innovative Designs for Accessibility (IDeA)** competition held by Universities Canada. Mechanical engineering students **Jared Uramowski, Kristian VandeKemp, Evan McColl, Matthew Levy, and Jon Cameron** designed the Enhanced Mobility Wheelchair, which took first place in the Architectural/industrial design barriers category.  
(adapted from the *Daily Bulletin*, 26 July 2019)



The Physics of Information lab, led by Professor **Achim Kempf**, was awarded one of the **2018 Google Faculty Research Awards**. Kempf's lab focuses on the physics of information, a wide research field that ranges from general relativity and quantum theory to information theory and artificial intelligence (AI). The Kempf lab received the Google award for a project in quantum machine learning. Kempf's PhD student **Guillaume Verdon** and his Master's student **Evan Peters**, with help from undergraduate student **Michael Broughton** pioneered this project which sits at the interface of quantum theory and deep learning. The research focuses on how artificial intelligence-like algorithms on a quantum computer can be paired, or hybridized, with artificial intelligence on a classical computer. The team caught Google's attention with substantial papers, such as [A Universal Training Algorithm for Quantum Deep Learning](#) in 2018, which details how quantum dynamics can be used to optimize classical and quantum neural networks. Within less than a year, researchers predict that quantum computers will reach the critical size beyond which a classical computer can model. Within about two to three years, quantum computers could provide calculational spaces that possess  $10^{100}$  dimensions or more. This challenges researchers to now develop the first concrete applications for this upcoming quantum hardware. To meet this challenge, Kempf and his lab recently teamed up with the research groups of Professors David Gosset, Michele Mosca, Christine Muschik, and Alex Wong. The team, currently considering a further and larger collaboration with Google, is part of the highly developed ecosystem for quantum and computer science at the University of Waterloo. Collaborations like this one continue to further the University of Waterloo's position as the leading centre for cross-disciplinary quantum research.

(adapted from the *Applied Mathematics News*, 22 July 2019)

Four exceptionally talented students are making their way to Waterloo with a prestigious scholarship in tow. First-years **Evangeline Dryburgh** (mechatronic engineering – \$100,000), **Jason Amri** (computer science – \$80,000), **Shahed Saleh** (mechatronic engineering – \$100,000), and **Zeel Patel** (Physical Sciences [Astronomy/Physics] – \$80,000) are all winners of the **Schulich Leader Scholarships**, the largest STEM scholarship in Canada and valued at \$80,000 or \$100,000 for science, technology, engineering and mathematics (STEM) programs. The incoming Schulich Leaders distinguished themselves with high grades, leadership roles within their communities and participation in entrepreneurial ventures. Majoring in either mathematics, science or engineering, the four were selected from more than 1,400 nominees across Canada vying for one of only 50 scholarships.

(adapted from the *Daily Bulletin*, 21 August 2019)

The **Institute of Physics (IOP)** has named **Donna Strickland** one of four Honorary Fellows for her pioneering method of generating high-intensity, ultrashort optical pulses. The IOP is the professional body for physics in the UK and Ireland. The Honorary Fellowship is its highest accolade, reserved for individuals who make exceptional contributions to physics. The four honourees bring the total number to 62, a list that also includes Professor Stephen Hawking. Strickland visited the IOP in London in February. Earlier that same day, fellow honouree Al-Khalili interviewed Strickland on *The Life Scientific*, a popular science program he hosts on BBC Radio Four.

(adapted from the *Daily Bulletin*, 30 August 2019)

Eight University of Waterloo researchers have been named fellows of the Royal Society of Canada (RSC) and members of the Royal Society of Canada's College of New Scholars, Artists and Scientists. They are among 93 new fellows elected by their peers for outstanding scholarly, scientific, and artistic achievement and 46 new members of the College across Canada, announced on September 10.

Waterloo's new RSC fellows and members are:

*Fellows of the Royal Society of Canada*

**Raouf Boutaba** (Cheriton School of Computer Science) is an internationally acclaimed authority and leading researcher in the management of communication networks. He is particularly known for his pioneering contributions to automated management which directly led to the trend toward autonomic networking, and for his groundbreaking work on network virtualization and network softwarization expected to revolutionize the way communication networks are designed, operated, and managed.

**Phelim Boyle** (Statistics and Actuarial Science) is a professor emeritus at Waterloo and a professor of business and economics and Wilfrid Laurier University. He is an actuary whose seminal research work in finance and insurance has won international recognition. He uses mathematical models to solve problems at the interface of these fields. Boyle has made pioneering contributions to quantitative finance and his ideas have transformed how actuaries handle financial risk. His research has influenced financial practice by providing sophisticated tools for financial institutions to better manage their risks.

**Zhongwei Chen** (chemical engineering) is an outstanding researcher and global leader in advanced materials for next-generation battery and fuel cell technologies. His work has received over 20,000 citations and has led to the establishment of deep collaborative partnerships and several technology companies in Canada and around the world. Professor Chen is a Fellow of the Canadian Academy of Engineering and a 2016 recipient of the NSERC Steacie Memorial Fellowship.

**Michel Gingras** (physics and astronomy) has made internationally acclaimed contributions to the field of condensed matter physics, in particular in the area of magnetic materials subject to strongly competing or frustrated interactions, as well as condensed matter systems subject to frozen random disorder. Using analytical and numerical methods, he has explained a number of long-standing experimental paradoxes, provided an impetus for new experimental studies and motivated the synthesis of new magnetic compounds.

**Srinivasan Keshav** (Cheriton School of Computer Science) has an outstanding international reputation for his groundbreaking work in two distinct fields: computer networking and energy systems. He has made innovative contributions to network congestion control and simulation; wireless networking; and the application of computer networking principles to energy systems in the emerging area of energy informatics. Professor Keshav is a Fellow of both the Association for Computing Machinery and the Institute of Electrical and Electronics Engineers.

**Winfried Siemerling** (English language and literature) is internationally recognized for his pioneering work on Canadian and other North American literatures and cultures in comparative and transnational perspectives. Critically acclaimed for his incisive theorization of English, French, and black Canadian writing, Professor Siemerling has influentially repositioned Canadian cultural achievement within broader North American, hemispheric, and transatlantic contexts, breaking new ground with prize-winning works like *The New North American Studies* (2005) and *The Black Atlantic Reconsidered* (2015).

**Donna Strickland** (physics and astronomy) is a recipient of the Nobel Prize in Physics 2018 for co-inventing chirped pulse amplification (CPA), the method for creating high-intensity, ultrashort optical pulses. CPA revolutionized the field of high-intensity laser physics, leading to the most intense lasers ever. The work provided new information on the way light interacts with matter. It has applications from medicine to manufacturing.

*Members of the Royal Society of Canada's College of New Scholars, Artists and Scientists*

**Nandita Basu** (civil and environmental engineering) is internationally recognized for seminal contributions to ecohydrology and water sustainability in human-impacted environments. Her groundbreaking work on the long-term effects of fertilizer and intensive livestock production on water quality has led to new understanding of the role nutrient legacies play in preventing achievement of water quality goals, and has helped to identify management approaches to improve water quality in lakes and coastal zones.

**Juewen Liu** (chemistry) has gained a national and international reputation for his contributions in enzyme mimics, bioanalytical chemistry, and biointerface chemistry. His team discovered many new DNA sequences for detecting heavy metals and water quality monitoring. He has authored many highly cited papers and his leadership in the analytical and nanotechnology communities has been recognized by many awards.

The **American Society of Mechanical Engineers** (ASME) is an organization dedicated to helping the global engineering community develop solutions to benefit lives and livelihoods. This year, fourth year mechanical engineering student, **Kevin Qiu**, had the opportunity to present at the ASME 2019 International Design Engineering Technical Conferences & Computers and Information in Engineering Conference (IDETC/CIE) in Anaheim, California. Qiu also received a grant from the Sanford Fleming Foundation at the University of Waterloo which partially covered his travel costs. Qiu's presentation centred around the work he had accomplished at one of his co-op placements, involving gear design.

(adapted from the *Daily Bulletin*, 11 September 2019)

Multiple scientists and researchers within the Centre for Ocular Research and Education (CORE), have been named as part of **Expertscape's top 60 Expertise in Contact Lenses: Worldwide**. Topping the list at number one is the director of CORE, **Lyndon Jones**, PhD, DSc, FCOptom, FAAO. "I'm humbled to be recognized alongside so many peers from around the world who are constantly adding to the growing and fascinating body of knowledge surrounding various contact lens-related topics," Dr. Jones told *Optical Prism*. "They are close collaborators, incredibly talented professionals and personal friends in many cases. Day in and day out at CORE, I'm privileged to partner with the most dedicated and brilliant leaders in the field." Dr. Jones' research primarily focuses on the interaction of novel and existing contact lens materials with the ocular environment, dry eye, and the development of novel materials for ocular drug delivery. CORE also has three other team members and four former CORE staff members, who have moved onto other roles within the ophthalmic spectrum, ranked within the list. Within CORE at #23 is **Desmond Fonn**, distinguished professor emeritus and founding director; at #48 is **Doerte Luensmann**, senior clinical scientist; and at #58 is **Chau-Minh Phan**, postdoctoral fellow. In addition, Expertscape places the University of Waterloo as the number two institution on their list of top experts in contact lenses, after the University of New South Wales in Sydney, Australia. Two faculty members at the School of Optometry & Vision Science are also listed within the top 60: Professor **Luigina Sorbara** at #25 and Professor **Trefford Simpson** at #45.

(adapted from the *Daily Bulletin*, 12 September 2019)

**Donna Strickland**, Waterloo professor and Nobel laureate in physics, was honoured with the **Golden Plate Award from the Academy of Achievement**. **Frances Arnold**, Caltech professor and Nobel laureate in chemistry, nominated Strickland and gave her the award. The ceremony took place on September 14 in New York City. Strickland and Arnold were the only women among the 2018 Nobel Prize winners in science categories. The Academy of Achievement, officially known as the American Academy of

Achievement, was founded in 1961 and honours 25 people per year at the Banquet of the Golden Plate. The Academy is based in Washington, D.C.

(adapted from the *Daily Bulletin*, 24 September 2019)

A Waterloo School of Architecture professor's research has captured a top sustainable design award and will be showcased at Expo 2020 taking place in Dubai next year. **Elizabeth English** was awarded first place in the sustainable products category of the **Architecture MasterPrize Product Design Award** for her Buoyant Foundation Project of which she is the founder and director. Designed for flood-prone areas throughout the world, the retrofitted houses float without damage during flooding while remaining grounded under ordinary conditions. The earth-friendly approach works in synchrony with natural flood cycles, rather than trying to control the forces of nature. The awards recognize exceptional architectural product designers and manufacturers along with those achieving excellence in architectural projects and practice. English has been selected to have her research, entitled *Vulnerable in Vietnam*, featured at Expo 2020 Dubai's Global Best Practice Programme called, "Small Steps, Big Leaps, Solutions for Sustainable Impact." Twenty-five million people are expected to attend Expo 2020, which runs from October 2020 to April 2021.

(adapted from the Faculty of Engineering *News*, 1 October 2019)

From over 5,000 applicants, and among 88 finalists, **Chidi Umenwofor-Nweze** from Iqaluit, Nunavut, was selected as one of the 35 recipients from across Canada to become a **2019 Loran Scholar**, receiving Canada's largest and most comprehensive undergraduate merit-based award. She has chosen to pursue her undergraduate studies at the University of Waterloo this autumn. The Loran Scholars Foundation invests in Canada's greatest resource – our youth. To find these young people, the foundation administers the most thorough scholarship selection process in the country. As such, selection supersedes grades and is based on evidence of integrity, courage, compassion, grit, a high level of personal autonomy, and a dedication to creating positive change. "Being a Loran Scholar means striving to be a leader who improves myself, those around me, and the world through a lifelong cultivation of character and integrity as well as a dedication to selfless service," Chidi says. A McCall MacBain Loran Scholar, Chidi studied at The Mahindra United World College of India in Paud, India, where she was co-captain of her robotics team and assisted in a computer literacy program in a village near her school. She was a chorister and portrayed Alexander Hamilton in a student-led production of "Hamilton." Chidi has undertaken infrastructural projects, such as a bus shelter and pediatric unit, within the Government of Nunavut. On her decision to attend the University of Waterloo out of Loran's 25 partner universities, Chidi credits Waterloo's "holistic and hands-on approach to addressing problems." In pursuit of her Bachelor of Science with a concentration in Systems Design Engineering, she says "I am excited to study in an environment that will not only challenge me academically but challenge me to apply what I learn as an engineer with awareness and compassion towards the social and environmental systems that are affected or manipulated by my actions." Of the 661 past and present Loran Scholars, 39 have attended the University of Waterloo over the past three decades, including Mark Schaan (Loran Scholar '97) who became a Rhodes Scholar.

(adapted from the *Daily Bulletin*, 17 October 2019)

**University of Waterloo**  
**BOARD OF GOVERNORS**  
**Report of the Vice President, Administration & Finance**  
**29 October 2019**

**FOR APPROVAL**

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**Incidental Fee: Student Refugee Program (SRP) Fee**

It is recommended that the Student Refugee Program Fee assessed as a non-essential/optional fee for all full-time and part-time on-campus undergraduate students be increased from \$1.03 to \$4.95 per term effective Winter Term (January) 2020.

**Background:**

- the fee increase was approved at the September 15, 2019 Students' Council meeting in accordance with the Federation of Students/WUSA's by-laws and policies
- the original \$1.00 fee was approved by student referendum in 2008
- the program supports the University of Waterloo World University Service of Canada Student Refugee Program
- the fee covers student's academic and living expenses for up to two years
- currently, the fee is HST exempt

**FOR INFORMATION**

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**Tuition: Master of Data Science and Artificial Intelligence**

In 2019, the Faculty of Mathematics launched the new Master of Data Science and Artificial Intelligence program with the first admissions cycle occurring in Fall 2019. Unfortunately, the new tuition rates for this program were not included in the materials presented at the February 2019 Board of Governors' meeting.

The tuition rates cited during the admission process were assessed to each student in September.

**Domestic students (Canadian citizens and Permanent Residents):**

The 2019/2020 and 2020/2021 tuition is \$3,000 per course, for a total of \$27,000 for the entire program, assuming students take nine courses (as per the program's course requirements).

**International students:**

The 2019/2020 tuition is \$4,444 per course, for a total of ~\$40,000 for the entire program, assuming students take nine courses (as per the program's course requirements).

In addition, students participating in the co-op stream are required to pay the co-op fee in each work term.

Dennis Huber  
Vice President, Administration & Finance

**University of Waterloo**  
**Board of Governors**  
**BUILDING & PROPERTIES COMMITTEE**  
**Report to the Board of Governors**  
**29 October 2019**

This report is submitted following:

- Electronic ballots that were issued to members on items # 2 and 3 during the period between the committee's last two meetings (15 May and 2 October 2019);
- The committee's meeting of 2 October 2019 (items # 1, 4 and 5).

## **FOR APPROVAL**

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### **1. Waterloo North Hydro Easement**

**Motion:** That the Board of Governors approve the granting of an approximately 310 m<sup>2</sup> (0.08 acres) easement to Waterloo North Hydro for the installation of a third point of electrical supply to service the south campus.

**Background:**

The University has been working with Waterloo North Hydro to connect a third electrical service to the south campus in order to improve the University's infrastructure resilience in the event one of the two current supplies are disrupted.

The third supply would enter the south campus at its south-east corner next to University Avenue. The services would be installed below grade to minimize any visual impacts. The University would connect the new service through the existing tunnel system to the substation next to the Dana Porter Library.

Waterloo North Hydro would commence their work in the spring of 2020. The University has begun a detailed engineering review to determine the final routing of the cabling within the University's service tunnels as well as the extent of any upgrades required to the substation.

The draft terms of the easement were provided to the committee. A final survey of the easement will be completed post construction.

## **FOR INFORMATION**

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### **2. Aquatic Animal Lab Upgrade Project – Biology 1 Building**

On behalf of the Board, the committee approved the award of a stipulated price contract to RossClair Contractors Inc. for \$4,031,700 plus HST (\$4.169 million) and a revised budget of \$4,900,000 (increase of \$1.064 million).

**Background:**

At its 8 March 2019 meeting, the Building & Properties Committee approved a \$3.836 million project budget for the University of Waterloo Aquatic Animal Facility modernization, located in the Biology 1 building.

The University of Waterloo Aquatic Animal Facility supports the research of 15 faculty members, including three Tier 1 Canada Research Chairs and a University Research Chair. In recent years, many of these researchers have moved their research elsewhere due to water quality issues. The Canadian Council on Animal Care (CCAC) conduct periodic inspections of Waterloo's animal care facilities. The proposed renovations are in response to the deficiencies identified within the Aquatic Facility, noted by the CCAC during their past visits. The goal of this renovation is to create an aquatic animal research facility as state-of-the-art as the existing UW Central Animal Facility, capable of supporting the University of Waterloo's world-class research scientists, representing both the Department of Biology and the Water Institute.

This project was competitively bid on MERX and closed on 4 June 2019. Thirty-seven (37) companies, including general contractors, sub-contractors, suppliers and the Grand Valley and Toronto Construction Associations downloaded the bid opportunity. Four (4) companies submitted bids. RossClair was the lowest bidder. The other 3 bids were between 15% and 30% higher.

At its 15 May 2019 meeting, the committee agreed to consider the award of this tender electronically in June.

The project budget (\$000s) including net HST (3.41%) is:

	<u>Approved</u>	<u>Tendered</u>		
Fixtures, Equipment	\$401	\$346		
Construction	\$2,673	\$3,823		
	Subtotal	\$3,074	Subtotal	\$4,169
Design Contingency	\$300	\$0		
Consulting Fees	\$194	\$271		
Abatement Consulting	\$16	\$25		
Building Permit Fees	\$2	\$2		
Construction Contingency	\$250	\$433		
<b>TOTAL</b>	<b>\$3,836</b>	<b>\$4,900</b>		

The project will be funded through the Faculty of Science's operating funds. The work is scheduled to commence shortly after tender award with construction expected to be complete by spring 2020.

Following a detailed evaluation by Parkin Architects and Plant Operation Design and Construction Services, the committee approved the award as described above.

### **3. Hagey Hall Emergency Generator Replacement Project**

On behalf of the Board, the committee approved the award of a stipulated price contract to Sutherland-Schultz Ltd. for \$1,755,216.96 plus HST.

#### **Background:**

During its 15 May 2019 meeting the Building & Properties Committee approved the \$3.5 million project budget to replace the existing emergency power generators in Psychology, Anthropology, Sociology (PAS) and Hagey Hall (HH).

The existing generator in HH is a diesel unit from the late 1960s and is beyond its useful service life. This generator supports a number of buildings in the southwest area of campus including Minota Hagey Residence. The existing generator in PAS is of the same vintage and is similarly at the end of its service life. In the interim, a portable temporary generator has been provided to maintain life safety compliance.

Replacing the existing generators will be 500kW, exterior pad mounted diesel generators designed with additional capacity for future buildings. The preferred location for these generators is between PAS and HH where there is an existing service road (providing access for fueling the Animal Research Facility generator). Expanding this service bay will accommodate the new generators and the existing landscaped berm will provide visual screening. Enhanced visual and acoustic screening will be provided by a precast concrete enclosure to match the adjacent building materials.

Stantec Consulting were initially selected to undertake feasibility and concept design work with a separate contract to prepare design and construction documents.

This project was competitively bid on MERX. 29 entities, including general contractors, sub-contractors, suppliers and the Grand Valley Construction Association downloaded the bid opportunity. Six (6) proponents

submitted bids. The lowest submitted bid was within ~1% of the next lowest bid; the third lowest bid was 6.9% higher than low bid.

The project budget (\$000s) including net 3.41% HST is:

	<u>Approved</u>	<u>Tendered</u>
Construction	\$2,600,000	\$1,815,070
Consulting Fees	\$110,000	\$120,000
Construction Contingency	<u>\$790,000</u>	<u>\$604,930</u>
TOTAL	\$3,500,000	\$2,540,000

The project will be funded through the 2019/20 FRP grant from the Province. This work will be scheduled not later than Fall 2019. Construction is expected to be complete by Spring 2020.

#### **4. Science Centre for Innovation & Physics Building Renewal**

On behalf of the Board, the committee approved an additional \$1.8 million in consulting fees to develop construction documentation (“working drawings”) for the proposed Science Centre for Innovation & Physics Complex (SCI-PHYS).

##### **Background:**

The consulting fee budget (\$000s) including net 3.41% HST is:

Previously approved consulting fees (pre-design/schematic design/design development)	\$3,000
Proposed additional consulting fees (construction documentation)	<u>\$1,800</u>
TOTAL	\$4,800

The Faculty of Science is also seeking approval to present the current project vision to the President's Advisory Committee on Design (PACOD), ahead of advancing the project into the construction documents phase.

This new building is essentially an "L" shaped building located immediately south of Earth Science Chemistry (ESC) connecting eastward to the existing Physics Lab building. This project includes reconstruction of the Physics office wing.

Fundraising/advancement efforts are ongoing and will continue into 2020.

The fall federal election may create opportunities for subsequent stimulus funding if the project is developed to a status of being 'shovel ready'.

A \$45M CFI-IF grant application for a national Infrared Free-Electron Laser (IR-FEL) facility has been developed in partnership with the Canadian Light Source, TRIUMF and six other Canadian universities. The programmed space for the IR-FEL (5000 sq. ft. @ \$2500/sq. ft.) in the SCI-PHYS complex has been allocated as the 20% eligible CFI contribution; no other UW contribution would be required.

##### **Further Background:**

At its meeting of October 2017, the committee approved the appointment of ZAS Architects to develop schematic designs and proceed into initial design development for the Science Centre for Innovation (SCI) with the initial fees not to exceed \$2 million (\$690,000 in consulting fees were spent during this phase).

At its meeting of October 2018, the committee approved the relocation of the proposed SCI and the appointment of Hariri Pontarini in joint venture with ZAS Architects to develop schematic designs for this new location and proceed into initial design development for the planned refurbishment/enhancement/reconstruction of the Physics building, enabling the two projects to proceed as a fully integrated solution (SCI-PHYS) to meet the foreseeable needs of the Faculty of Science. Schematic design fees for ZAS



Architects(< \$2 million) and HPA Architects(< \$1 million) were funded through operating funds (\$2,560,000 in consulting fees were spent as of 10 September 2019).

The expectation is that this consulting and design work for SCI-PHYS will support the development of a detailed program, building design and budget ready for presentation to the committee following validation and approval of the funding/business case.

SCI is primarily dedicated to interdisciplinary research space focused on health technologies, drug discovery and delivery, microbial and bioinformatics research, ecohydrology, and a Science Innovation Hub which will include the Concept Science pre-incubation program (formerly Velocity Science), the Waterloo iGEM team, and the Science and Business program. The sophisticated instrumentation spaces will provide for an integrated high-throughput screening and analysis system, a national facility for infrared free-electron laser, environmental particle analysis laboratory, as well as biochemical and structural biology laboratories.

Over the past ten months, programming for the new PHYS wing was developed to accommodate office and administrative space for the Department of Physics & Astronomy, the Waterloo Centre for Astrophysics and the PI Quantum Intelligence Lab, as well as research and administration space for a new Centre for Photonics led by Prof. Donna Strickland, recipient of the 2018 Nobel Prize in Physics. One transformational element of the Centre for Photonics will be a high-intensity short-pulsed petawatt ( $10^{15}$  W) laser facility which will be relocated from INRS-Varenes upon the retirement of Prof. Jean- Claude Kieffer in two years. The Waterloo Centre for Astrophysics is a global centre of excellence led by the newly appointed Lazaridis Distinguished Chair in Astrophysics, Prof. Will Percival. Common campus amenities will include food services and one large active learning classroom/lecture hall.

The SCI-PHYS project design proposes a four-storey building, plus a roof top mechanical penthouse, and basement space dedicated to research laboratories that require radiation shielding and vibration mitigation, including the national facility for IR-FFI and the Centre for Photonics.

Construction management as a contract procurement method will be considered in addition to the current strategy to develop bid documents for a stipulated price contract.

## **5. Research + Technology Park Advisory Council**

On behalf of the Board, the committee approved the revised terms of reference for the Research + Technology Park Advisory Council.

### **Background:**

During the initial development of the R+T Park, the Building & Properties Committee (B&P) was actively engaged in the physical development of the Park as well as the development and approval of the contractual arrangements for the land leases.

Beginning in 2007, primarily in response to tenant concerns relating to the municipal signage by-law, an advisory council was formed with membership from UW and the major tenants (including two members of B&P with one acting as the advisory council chair).

Over time, the purpose of the Advisory Council has evolved from a focus on early development issues to improving the tenant experience. The last B&P member who served as Chair was Mike Stork in 2018.

Staff are recommending revising the name (David Johnston Research + Technology Park – University of Waterloo Strategic Advisory Council) and the terms of reference to focus on more strategic matters. The University of Board of Governors through the B&P retains ultimate responsibility to oversee UW's property. The Chair of the advisory council would be the R+T Park Manager. Tenants in the Park were consulted with and are supportive of the proposed changes.

The original terms of reference for the advisory council as well as the proposed changes were presented to the B&P for consideration.

## **6. General Oversight**

The committee reviewed and accepted for information:

- the capital financing commitments associated with capital projects, and advises that these commitments fall within the University of Waterloo's board-approved debt policy
- the work plan of the committee
- the terms of reference of the committee
- the maintenance program
- the self-assessment survey results of the committee; results were received and deemed satisfactory.

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Martha George  
Chair

**University of Waterloo  
Board of Governors  
EXECUTIVE COMMITTEE  
Report to the Board  
29 October 2019**

This report is submitted following the committee's deliberations during July/August 2019.

**FOR INFORMATION**

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On 2 August 2019, the following resolution was passed on behalf of the Board of Governors. The resolution was effective as of 2 August 2019.

**1. Financial Statements for Year Ended 30 April 2019**

That the Board Executive Committee approve the Financial Statements on behalf of the Board of Governors

Cindy Forbes  
Chair, Executive Committee

**University of Waterloo**  
**Board of Governors**  
**FINANCE & INVESTMENT COMMITTEE**  
**Report to the Board of Governors**  
**29 October 2019**

This report is submitted following the committee meeting of 3 October 2019, and is recommended for inclusion in the consent agenda.

## **FOR INFORMATION**

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### **1. Clean Sheet Exercise**

On 3 June 2019, members completed a proactive “clean sheet” exercise, which is a process that applies the lens of a classic rebuild of a portfolio (in this exercise, focusing solely on the endowment portfolio), as though the committee had only cash for deployment in the near term. As part of the exercise, the committee: reviewed return objectives and investment timeframe; considered the University’s risk tolerance for these assets; reviewed portfolio construction methodology, including the relative weights of allocation for each asset class/geographic region. Among the observations gleaned from this exercise:

- Portfolio assets are seen to generally tilt towards being invested with a “value” investment approach
- Greater weight in Canadian assets than is usually seen in comparable endowment portfolios
- Plan to retain an external consultant to complete an arms-length review of the endowment’s investments
- Future consideration should be given to how the committee might take on greater responsibilities to promote greater agility in decisions that are considered more tactical (e.g. hiring and firing investment managers)
- Direction to implement a cycle of regular review of this type, which would allow a future committee to reprise this exercise in its own time and context

### **2. Engagement of Investment Consultant for Endowment Asset Allocation Study**

As an action item arising from the June 2019 clean sheet exercise, Finance staff coordinated a Request for Proposal (RFP) for an endowment asset allocation study. The RFP was released by invitation to four investment consultant firms; two committee members (Russell Hiscock and John Liddy) participated in the RFP review and selection committee. Three firms submitted qualifying responses to the RFP, and the selection committee noted that all the firms were capable of delivering the desired service.

At the October 2019 meeting, members accepted the recommendation of the selection committee to approve selection of the firm Willis Towers Watson (WTW), with supportive references checks having been subsequently completed. The committee and Finance staff expect to work with WTW to facilitate the collection of relevant information as well as to decide on focus areas for the study, with work expected to continue into 2020.

### **3. General Oversight**

Review of Investment Recommendation for Registered Pension Plan (“RPP”). In July 2019 the committee received a recommendation via email to invest a portion of the cash that was held in the RPP (generated from the proceeds of the partial sale of Brookfield Infrastructure Partners units) in the Canadian equity mandate of Sionna Investment Managers, which is an approved Canadian equity manager for this portfolio. This recommendation was endorsed and forwarded to the September meeting of the Pension & Benefits Committee’s for final approval.

ESG Implementation. The committee received a progress update on the planned recommendation to the Board of Governors to become a signatory to the UN Principles of Responsible Investment. This recommendation will come as a separate item to the 29 October 2019 meeting of the Board of Governors.

Investment Fund Performance. The committee reviewed the performance of all major portfolios as at 30 June 2019, those being: registered pension plan, endowment fund, IQC trust fund, and payroll pension plan. Members observed that the challenging market conditions expected in the near term will be an opportunity to confirm the merits of some managers under those conditions.

**University of Waterloo**  
**PENSION & BENEFITS COMMITTEE**  
**Report to the Board of Governors**  
**29 October 2019**

This report is submitted following the committee's meetings of 14 June 2019, 20 September 2019 and 18 October 2019, for inclusion in the consent agenda.

## **FOR INFORMATION**

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### **1. Committee Activity Regarding Pension Plan Pension Funding/Design**

At the June and September 2019 meetings, the committee discussed the pension plan's overall funding and design in the context of earlier work that was completed by a working group of the committee and led by the plan's consultant Aon. These discussions included: general objective to improve funding of the plan, while returning to an equal sharing of current service costs between the university and plan members; a potential amendment to the design and funding of the plan to increase employee contributions while reducing the number of employee contribution levels from three to two, as well as maintaining the employer contributions; provision to index plan caps at a fraction of the annual change in the average industrial wage. Members informally consulted their respective constituencies over the summer months. At the October 2019 meeting Aon provided a draft presentation and proposed consultation pathway for the amendments under consideration; these consultations are tentatively anticipated for November 2019.

### **2. Investment of Cash Position in Registered Pension Plan**

The committee received a recommendation from the Finance & Investment Committee (F&I) at the committee's September 2019 meeting, and subsequently approved the allocation of \$43 million of the available cash to the Canadian equity mandate of Sionna Investment Managers. This recommendation brings the pension plan's allocation of investments into closer alignment with the benchmark portfolio of the plan's Statement of Investment Policies and Procedures (SIPP), as the plan was overweight in cash and relatively underweight in Canadian equities. Following approval, staff in Finance executed the purchase in September 2019.

### **3. General Oversight**

The committee receives regular reports from the consulting actuary on legislative and policy changes anticipated and in force that impact public sector pensions, as well as changes implemented by other public sector pension plans. The committee discusses implications for the pension plan and considers this information when making decisions on matters including plan design, funding and administration.

As part of the general oversight function exercised by the committee, the committee has devoted attention to following issues: funded status of pension plans, including funding ratios, special payments, reserves, investment risk, and impact of market shifts on these calculations; benefits utilization; comparison of the university's benefits plan provisions relative to standard plan provisions of the carrier Great-West Life; progress update on the establishment of a jointly-sponsored pension plan in the university sector; delisting of OHIP out-of-country hospital coverage effective 1 January 2020.

Holistic Benefits Review: The committee continued its work to review the benefits offered to employees, and over this period considered cost estimates of potential new benefits offerings as well as finalizing the content and implementation of the benefits survey, which was opened to all employees and retirees from 11-28 October 2019. The work of this group is expected to continue into 2020.

/mg

Peter Barr  
Chair

## UNDERGRAD ADMISSIONS 2019 BY THE NUMBERS

applications received ↓

55,500

offers made ↑

29,170

confirmed Jun 1

7,548

currently enrolled  
(as of 25 Sep 2019)

6,880

Nov 1 TARGET ↑  
(up 205 from 2018)

6,813

Nov 1 ANTICIPATED

6,727

5,644 Cdn fees  
1,083 Int'l fees

6 domestic recruiters  
4 int'l recruiters  
12 marketing, events  
& comms specialists

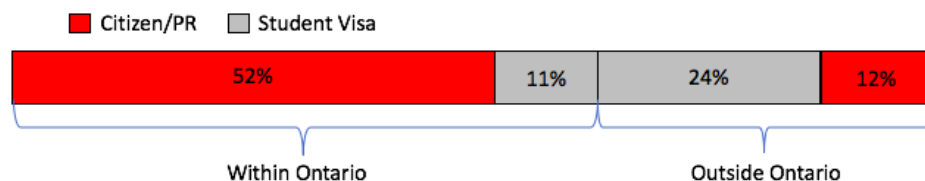
500+ OUF volunteers  
1,000+ school visits

25 admissions officers  
15 admissions  
assistants

+ Faculty & College  
recruiters and  
admissions teams

## How was the Fall 2019 undergrad recruitment/admissions cycle?

- Waterloo has one of the highest published minimum entry averages in the system (80%) and can be very proud of the integrity of our admissions process
- total applicants and applications are up slightly across the system (applicants up 2% for Ontario Secondary School students (SS) and 1% for non-Ontario SS—out of province and international)
- Waterloo's applications from Ontario SS students are down compared with last year; the rest of the U7 group\* is up
- Waterloo's applications from non-Ontario SS students (out of province and international) are down more than others in the U7 group compared with last year (Guelph is also down, but to a lesser extent)



- the addition of an Engineering fee-based applicant assessment and rigorous anti-fraud efforts likely meant the loss of some (unwanted) applications
- some high-demand programs saw very high admissions cut-offs (95%+), yet several programs admitted at the minimum of 80% — for both co-op and regular programs, representing a risk to sustainable high-quality enrollment
- BASE and ELAS programs continue to provide important bridges to full-time studies for some international students needing English language support

\*U7 group=Ontario's research-intensive universities (Guelph, McMaster, Ottawa, Queen's, Toronto, Waterloo, Western)

## How diverse is Waterloo's international undergraduate intake?



- interest in Waterloo from India has led to record numbers of applications. In particular, interest in the Faculty of Arts has grown and Arts now accounts for over 40% of new first-years from India
- international recruitment continues to pursue markets with potential for growth including Bangladesh, the Middle East, USA, UK, and Indonesia
- steady progress in pursuing diversity; 24% of new international students came from outside our top 3 source countries, compared to 20% in F2018
- continued success with our education agent network contributes to diversity, particularly with recruitment from South Asia and the Middle East
- despite growth in international student numbers, Waterloo is outpaced in international student growth by our key competitors, including UBC, McGill and UofT

## Continuous improvement

- recruitment inquiry automations for responsiveness and efficiency
- data exchange improvements continue; automation of high-volume activities

## Graduate Admissions Data – Fall 2019

### Introduction

To provide Governors with an impression of the demand for the University's graduate programs, the following data are provided for the fall 2019 admission cycle.

The University classifies its programs into three categories: Professional Master's programs, Research Master's programs and PhD programs. Professional programs tend to be course-based (i.e. not requiring a thesis or major research paper) and require fewer supervisory resources. The University also differentiates its incoming class based on immigration status – international or domestic – to be well-prepared to estimate the budgetary implications of the composition of graduate student enrollment.

These data are presented here for each Faculty and for the University for the Fall 2019 admissions cycle; this year's data are compared to the average of the previous three years to account for normal year-over-year fluctuations.

### Summary

The graduate intake as of October 16 is presented in the Table below. As of October 16<sup>th</sup>, and compared to the previous three years' data, graduate student registrations have:

- grown for **domestic** professional Master's students, research Master's students, and PhD students by 17%, 3% and 8% respectively;
- grown for **international** professional Master's and PhD students by 29% and 13% respectively;
- declined for **international** research Master's students by 14%;
- grown in total at the Master's level by 10%;
- grown in total at the PhD level by 10%.

At the PhD level, these data, in conjunction with continuing students, are expected to meet or exceed the domestic targets (i.e. funded spaces) established in the University's Strategic Mandate Agreement (SMA2). Despite the growth in domestic Master's intake, a shortfall is expected for total domestic enrollment compared to the negotiated spaces in SMA2.

	Professional Masters					
	Domestic		International		Total	
Faculty	# of Registered (as of Oct. 16)	% Change (3Y Comparison)	# of Registered (as of Oct. 16)	% Change (3Y Comparison)	# of Registered (as of Oct. 16)	% Change (3Y Comparison)
Applied Health Sciences	205	14%	0	-100%	205	12%
Arts	104	1%	17	0%	121	1%
Engineering	177	22%	264	35%	441	29%
Environment	55	6%	15	55%	70	14%
Mathematics	132	40%	65	17%	197	32%
Science	-	-	-	-	-	-
University	673	17%	361	29%	1034	21%
	Research Masters					
	Domestic		International		Total	
Faculty	# of Registered (as of Oct. 16)	% Change (3Y Comparison)	# of Registered (as of Oct. 16)	% Change (3Y Comparison)	# of Registered (as of Oct. 16)	% Change (3Y Comparison)
Applied Health Sciences	63	-8%	5	-29%	68	-1%
Arts	150	16%	21	-16%	171	11%
Engineering	98	10%	55	-11%	153	2%
Environment	59	1%	25	-16%	84	-5%
Mathematics	67	-3%	82	-9%	149	-6%
Science	62	-10%	51	-20%	113	-15%
University	499	3%	239	-14%	738	-3%
Total Masters	1172	11%	600	8%	1772	10%
	Ph.D.					
	Domestic		International		Total	
Faculty	# of Registered (as of Oct. 16)	% Change (3Y Comparison)	# of Registered (as of Oct. 16)	% Change (3Y Comparison)	# of Registered (as of Oct. 16)	% Change (3Y Comparison)
Applied Health Sciences	26	24%	10	88%	36	71%
Arts	49	21%	8	118%	57	30%
Engineering	18	-19%	59	-9%	77	-11%
Environment	28	5%	9	-7%	37	2%
Mathematics	20	-8%	35	13%	55	4%
Science	17	21%	29	53%	46	39%
University	158	8%	150	13%	308	10%





**To:** Members of the Board of Governors

**From:** Feridun Hamdullahpur, president and vice-chancellor

**Date:** Tuesday 22 October 2019

**Subject:** **Strategic Plan 2020-2025 – Final Version for Approval**

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Thank you for taking time to reflect on the University's Strategic Plan 2020-2025. Together with the planning team, I have reviewed the feedback we received from members of the Senate and Board of Governors.

This new draft balances recent feedback with the perspectives shared through our extensive consultation and development process. One of the noteworthy changes include further articulation of the external, global context in which our plan will be delivered as well as our unique position at the intersection of the plan's three themes. There is also an amendment to the "learning pathways" commitment with added references to teaching throughout the plan. We also acknowledge Waterloo's commitment to fundamental, curiosity-based research as well as our research strengths in the human dimensions of global challenges. We included both academic and research endeavours in our commitment to work at the interface of health, technology and society.

Other changes include Waterloo's responsibility to improve society, promote sustainability and address climate change. Our commitment to learning about the rich history and culture of Indigenous people and our commitment to all TRC recommendations is now explicit. We have also explicitly demonstrated our commitment to mental health and the importance of athletics, the arts, community engagement, and student leadership.

Thank you again for your enthusiastic engagement with this important, ambitious Strategic Plan which was endorsed by the Senate at its meeting on 21 October 2019.

UNIVERSITY OF WATERLOO  
STRATEGIC PLAN / 2020-2025

# CONNECTING IMAGINATION WITH IMPACT

DRAFT FOR APPROVAL

UNIVERSITY OF  
**WATERLOO**



# **WATERLOO IS BUILT FOR CHANGE**

## **A new Waterloo plan for an era of rapid change.**

It's tempting to call on the courage of our founders to introduce Waterloo's new strategic plan but my mind keeps turning to our first-year students.

They come here on the promise of a bright future. They live and learn with strangers for a time. Very quickly, they move beyond lecture halls into workplaces, relationships, laboratories, incubators and the field.

They choose to study at an institution that is fundamentally different from many universities in the world. They embrace a learning community deeply connected to the dynamism and disruptions of the real world.

We are launching this strategic plan at a time of rapid societal, technological and environmental change. Universities are being called to improve society and drive prosperity in a responsible way by challenging traditional models of education.

### **BUILT FOR CHANGE**

The good news is Waterloo was built for change. Our willingness to take risks and embrace new approaches distinguished us from the beginning when we established our renowned co-operative education program and allowed entrepreneurial researchers to own their intellectual property.

Waterloo's co-operative education program has also created a vast network of employers that inspires learning and research while connecting Waterloo people to the immediate and long-term needs of industry and communities around the world. We believe Waterloo's unique approach to solving important problems – one that combines boundary-pushing research, experiential education and entrepreneurship – is how we contribute to society.

As much as our foundation is rock solid, we are not standing still.

#### THEMES FOR IMPACT

This strategic plan builds on our foundation in three intersecting themes for impact, all with local and global impact:

- **Developing talent for a complex future**
- **Advancing research for global impact**
- **Strengthening sustainable and diverse communities**

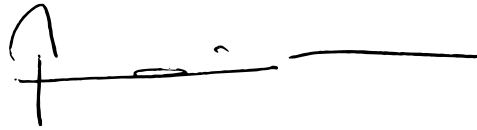
We are committed to transforming how we teach and learn. We are committed to supporting fundamental research as well as collaboration across research disciplines. We will empower future-ready talent who will realize their fullest potential through richer student experiences that only Waterloo can provide. It is at the intersections of these three theme areas that Waterloo is uniquely positioned to produce talent and knowledge to drive societal, environmental and economic well-being.

We will leverage our global employer network to power international and interdisciplinary innovations as our brightest minds build relationships with policy-makers, community members and business people from around the world. We know the most urgent issues of our time, from climate change to automation and an aging population, call us to work across disciplines.

#### CONNECTING TALENT AND KNOWLEDGE TO THE REAL WORLD

Consider again the courage of our first-year students. Early on in their studies we call on them to adapt to the uncertainties of the real world.

It's time for all of us to embrace their courage and leverage the advantages of our Waterloo culture to build the 21st-century model of a university: a place where talent and knowledge impact the complex, changing realities of our society, climate and the economy.



FERIDUN HAMDULLAHPUR

PRESIDENT AND VICE-CHANCELLOR

# SIGNATURE COMMITMENTS

BY 2025, THE UNIVERSITY OF WATERLOO WILL:

- Build on our global leadership in co-operative education to provide every undergraduate and graduate student with expanded options in experiential learning.
- Empower students to leverage diverse learning experiences by creating more flexible learning pathways.
- Be a global powerhouse for commercializing research, developing new enterprises and supporting business growth.
- Leverage Waterloo's vast employer network and academic strengths to deliver a dynamic framework of learning-integrated work for professionals seeking to thrive and lead.
- Align our research strengths deliberately with important global challenges.
- Lead globally and nationally at the interface of society, health and technology.
- Create a sustainable, supportive environment for living, learning, working and discovery that is worthy of our students and University community.

# OUR VISION

## Waterloo: Connecting imagination with impact for a better world.

In this strategic plan, we are building on our unconventional foundation by reimagining three broad themes for impact that will position Waterloo to develop talent for a complex future, advance research for global impact and strengthen Waterloo's sustainable and diverse communities.

These three themes share a vision for a better world that includes the broadest spectrum of innovation – from imagination to impact.

Scholars and students who want to solve the world's deepest mysteries will find a home here. Researchers and entrepreneurs seeking solutions to climate change and other complex health, social or environmental problems will pursue their passions here.

Some will thrive by following their dreams and building partnerships with industry, government or the community. While disciplinary strengths are essential, we believe many new discoveries, innovations and solutions will follow a path that cuts across traditional disciplines. All of our endeavours will grow in an inclusive community for students, faculty, staff and alumni within and beyond the borders of our campuses.

We embrace the reality of students who are both poet and marketer, engineer and activist, scientist and entrepreneur, mathematician and artist. Some in our diverse community may pursue passions in philosophy and computer science, while others blend history and health.

Waterloo will innovate for a better world by inspiring imagination and enabling our people to realize their boldest dreams.

# OUR MISSION

The University of Waterloo's mission is to advance learning and knowledge through teaching, research, and scholarship, nationally and internationally, in an environment of free expression and inquiry.

*(The University of Waterloo Act)*

The University of Waterloo is a signatory to the Magna Charta Universitatum which upholds four fundamental principles: moral and intellectual independence of teaching and research; the inseparable nature of teaching and research; freedom in research and teaching; and the affirmation of the vital need for different cultures to know and influence each other in the constant pursuit of universal knowledge.

# OUR VALUES

At Waterloo, we will navigate this age of complexity guided by our nimble culture and our shared connection to the human values of curiosity, courage, engagement and belonging.

## WE ARE CURIOUS.

Curiosity drives the important work of fundamental research. It transforms teaching and learning and creates new connections on our campus and around the world. The same spirit of inquiry that inspires researchers to investigate the wonder of our world motivates professors to take risks in their teaching and learning practice. Curiosity drives students to build their own ventures or pursue new disciplines, while faculty and staff seek new challenges to support the University's mission and propel it forward.

## WE ARE COURAGEOUS.

Waterloo's founders made the courageous decision to step outside centuries of university tradition by integrating co-operative education with academic excellence. Our innovative culture is also rooted in the unorthodox decision to grant researchers ownership of intellectual property. A culture of tenacity and risk-taking, which has transformed this region into a technology hub for innovation, will drive Waterloo forward with integrity and purpose as we seek solutions to important problems on our campus and in the world.

## WE ARE ENGAGED.

In the 1950s, the University of Waterloo's founders took note of the global space race. They examined Canada's growing postwar economy. They listened to the needs of leaders in Waterloo region and created a unique university. Connecting with our community and being engaged nationally and globally is part of Waterloo's foundation. As we grapple with complex sustainability issues and environmental, geopolitical and technological changes in our society, we will continue Waterloo's tradition of looking outward for the betterment of humanity, with our willingness to engage in the most pressing challenges in our own community.



#### **WE ALL BELONG.**

We value each other as individuals. In our pursuit of excellence, we create conditions for everyone to flourish. We know that academic rigour and genuine care and concern can co-exist. The University of Waterloo celebrates campus members and our alumni while striving to proactively find, prevent and remove barriers so everyone can achieve their full potential. Diverse voices and perspectives enrich our teaching and research. Waterloo honours the complexity that distinct cultures and multiple identities and views bring to the vital work of teaching and research in our society. Achieving a positive learning experience requires a proactive community that demonstrates genuine care, concern and respect for all members and the world in which we live.

# IMPACT THEMES

At Waterloo, we believe that society advances when universities are connected to the community, industry and policy-makers who shape our country and the world.

Learners want relevant, authentic experiences that will prepare them for a complex future. Employers want talent that can adapt to and lead change. Rapid technological, environmental and societal changes call us to work in new ways – across disciplines, borders and sectors – to find solutions to complex challenges of the future. All of this must happen within a diverse environment so everyone can participate to their full potential for optimal solutions.

When we reflect on Waterloo's past we can be confident that we have understood risk, embraced change and delivered results. But now is the time for renewal. New forces of change – economic restructuring, an aging society, political instability and rapid advances in technology – call us to reimagine our role as an architect of Canada's future.

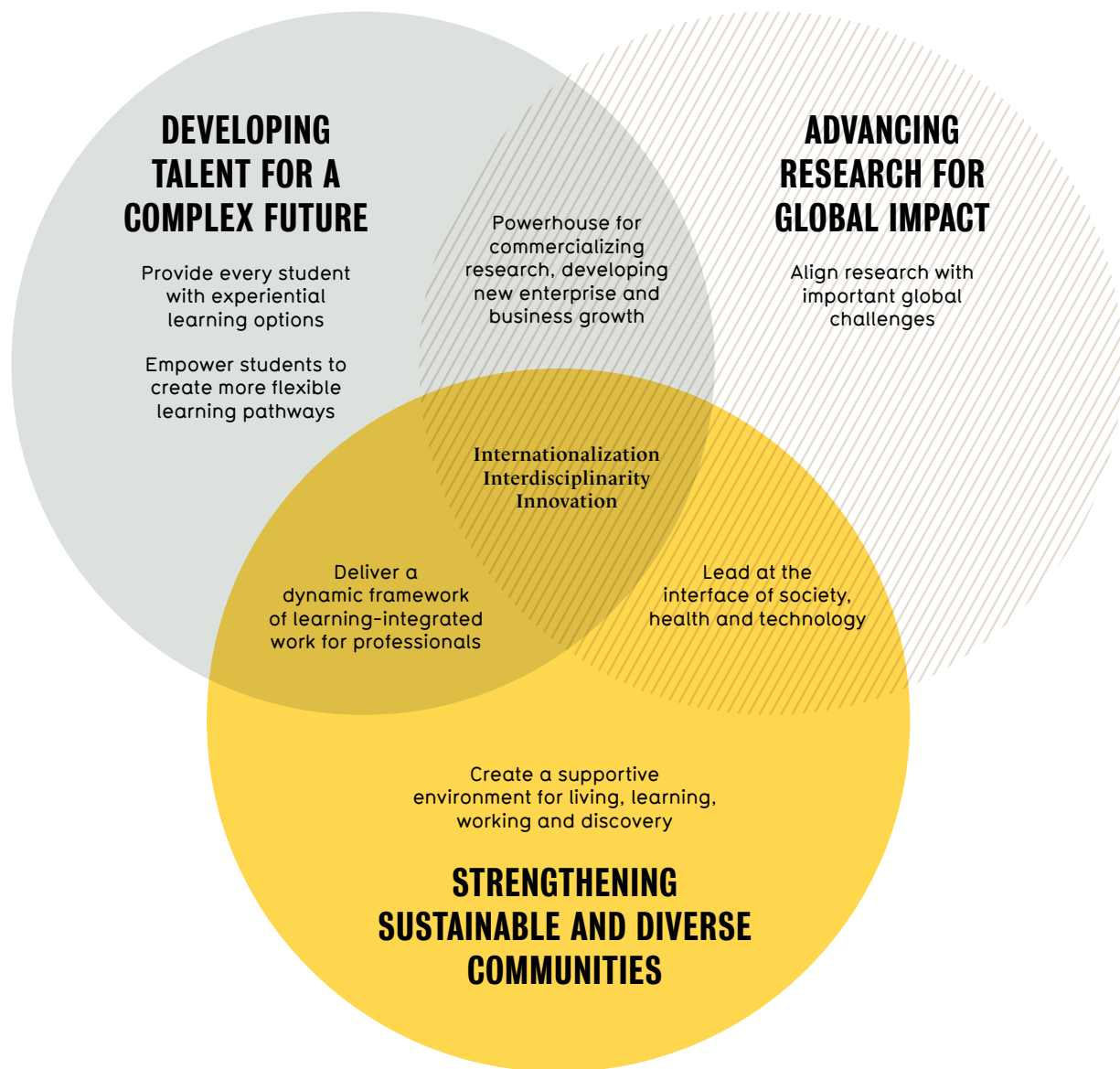
Our vast employer network, grown through our co-operative education program, will continue to give our students an advantage as they push their talent beyond conventional boundaries. Waterloo's tradition of experiential learning challenges our diverse professors to think beyond the classroom. It inspires our researchers and enriches our globally renowned entrepreneurial ecosystem.

Waterloo will build on our foundation to mobilize change at the intersection of three theme areas, all with local and global impact:

- **Developing talent for a complex future**
- **Advancing research for global impact**
- **Strengthening sustainable and diverse communities**

Our focus on internationalization and interdisciplinarity will enrich new thinking in these three theme areas. Attracting talent from around the world creates a dynamic teaching environment that catalyzes learning with cultural awareness. Students will learn in a variety of disciplines and become more attuned to our complex world, while researchers will break down barriers between disciplines to identify and solve complex problems. Diversity will support transformation as we meet the challenges of our future.

Internationalization will bring diverse talent from around the world to our campus while giving students and researchers more opportunities to build relationships globally. Innovation underpinned by internationalization and interdisciplinarity will help Waterloo take an even more prominent role on the world stage.



# DEVELOPING TALENT FOR A COMPLEX FUTURE

Learners will have to apply knowledge in contexts we cannot even imagine today.

Waterloo is preparing people to lead in a future that promises great opportunity and waves of disruption. The talent we develop at Waterloo will continue to have an impact in our region and around the world.

Our vision for the future places learners at the centre of everything we do. Waterloo will foster an integrated learning environment that is powered by curiosity, informed by research and transformative in practice.

Students must be prepared for an age of rapid technological, environmental and economic shifts. Our graduates will have to apply knowledge in contexts that we cannot even imagine today. No industry or career pathway will be immune to the changes. Canada and the world will need creative minds who can navigate diverse identities and leverage new knowledge to create sustainable, prosperous communities.

Teaching and learning at Waterloo will be interdisciplinary and international. Students will be empowered by supportive connections within and outside our University community. Today, Waterloo is a global leader in work-integrated learning. By 2025, Waterloo will also be a premier provider of learning-integrated work to support professionals and others who need to reskill and reimagine their careers.

We will build on our global leadership in co-operative education with a commitment to provide every undergraduate and graduate student with expanded options in experiential learning by 2025. We are also committed to empowering students to create more flexible learning pathways aligned with the future of work and learning.

We know first-hand how extra-curricular experiences such as community engagement, student leadership, athletics and the arts enrich learning. Waterloo will embrace bold new approaches in and out of the classroom in a caring environment that empowers future leaders with durable skills that include critical thinking, cultural competence and resilience.

Developing talent for a complex future:

## GOALS AND OBJECTIVES

### GOAL

Educate global citizens for the future of work and learning to thrive in an age of rapid change by putting learners at the centre of everything we do.

### OBJECTIVES

- › Increase flexible curricula that stimulate reflective, deep learning and develop competencies to address global challenges and opportunities.
- › Promote quality and innovation in teaching and learning and support infrastructure, policy and practice that remove systemic barriers.
- › Find new ways to work together and remove barriers to collaboration, interdisciplinarity and the integration of knowledge.
- › Continue to advance an agile, technology-enabled learning ecosystem that supports high-quality, open content and digital learning options.
- › Further enhance the “Business at Waterloo” programming model to inspire people to lead in a rapidly changing economy.

### GOAL

Continue to lead the world in co-operative education and support the workforce of the future through fully integrated academic and experiential learning opportunities.

### OBJECTIVES

- › Leverage Waterloo’s employer, industry, government and alumni networks to enhance our connection to the community, Canada and the world.
- › Continue to demonstrate global prominence in the development, recruitment and retention of future-ready talent, with a focus on building a diverse workforce.
- › Increase interdisciplinary opportunities for co-op students to gain locally and globally relevant research experience.

#### GOAL

Establish a unique Waterloo approach to support learning at various stages of individuals' professional lives.

#### OBJECTIVES

- › Establish a lifelong learning centre that will enable and encourage our alumni and other professionals to reskill in a society that increasingly requires continuous learning.
- › Leverage and optimize government, industry and community partnerships and engage alumni in lifelong learning relationships.

#### GOAL

Enhance graduate and post-doctoral studies by emphasizing the unique attributes of the University of Waterloo and our talented and diverse graduate student community.

#### OBJECTIVES

- › Grow work-integrated learning opportunities in graduate studies.
- › Increase the availability and depth of partnerships with external agencies to advance applied research and learning opportunities for graduate students, post-doctoral scholars and faculty.
- › Foster an interdisciplinary environment for graduate students and post-doctoral scholars to increase the impact of their work.
- › Strengthen academic, personal and professional supports for our graduate student community.
- › Stimulate opportunities for interdisciplinary research by developing more flexible graduate programs.

# ADVANCING RESEARCH FOR GLOBAL IMPACT

Waterloo's research environment is uniquely energized by co-operative education and entrepreneurship.

As a comprehensive, research-intensive university, Waterloo researchers embrace all forms of scholarship from curiosity-based inquiry to reflective scholarship and applied research. Waterloo's strong research culture is accelerated by our vibrant and dynamic fundamental research foundation.

## **WATERLOO WILL:**

- **accelerate opportunities to lead in new and emerging research areas while building on our curiosity-based and fundamental, discipline-specific strengths.**

Our commitment to solving important problems in an integrated way – one that encompasses disciplinary and interdisciplinary research, experiential learning and all forms of entrepreneurship – is our defining approach to improving society.

Our research community has a unique perspective on real-world problems that is shaped by fundamental research excellence and the deep industry and community partnerships of our renowned co-operative education program.

By 2025, we are committed to aligning our research strengths deliberately with important global challenges:

- **Quantum science, nanotechnology, connectivity and telecommunications**
- **Water, energy and climate: sustainability, security, infrastructure**
- **Information technology and its impact, including intelligent systems, human-machine interfaces, cybersecurity, privacy and data science**
- **Robotics and advanced manufacturing**
- **Health technologies**

Addressing global challenges requires us to consider the key pillars that support this plan and their context: interdisciplinarity, internationalization and innovation. Importantly, the plan recognizes that success requires us to:

- **understand and enhance human experiences and address the human dimensions of global challenges and examine ways to translate knowledge for governance and policy.**

This will require the talents of leading Waterloo researchers in disciplines ranging from the humanities, social sciences, environmental studies, applied health sciences, the arts, science, engineering and mathematics, from fundamental research to policy development.

By 2025, Waterloo is also committed to being a global powerhouse for commercializing research, developing new enterprises and supporting business growth.

Technology is a critical tool for solving some of the world's problems, but so too are the policy changes and critical interventions that come from reflective scholarship. By 2025, Waterloo will lead nationally and globally at the interface of society, health and technology. By leveraging its research strengths in technology and the social, economic, biological and environmental determinants of health, Waterloo will lead in securing healthy futures for local and global communities.



Advancing research for global impact:

## GOALS AND OBJECTIVES

### GOAL

Waterloo will use its disciplinary and interdisciplinary strengths to solve increasingly complex, real-world problems.

### OBJECTIVES

- › Lead nationally and globally at the interface of society, health and technology by establishing an interdisciplinary institute that builds on Waterloo's academic and research strengths in technology as well as the determinants of health.
- › Create tomorrow's research leaders by attracting and retaining outstanding, diverse research faculty, graduate students and post-doctoral scholars from around the world.
- › Explore opportunities to create cross-Faculty, interdisciplinary research teams that use disciplinary strengths to address problems of societal importance.
- › Prioritize Waterloo's international partnerships to maximize impact for the global good.

### GOAL

Achieve greater research impact by leveraging Waterloo's partnerships.

### OBJECTIVES

- › Strengthen and increase formal partnerships with strategic research partner institutions.
- › Increase private-sector partnerships to develop and deploy new technologies that enhance the competitiveness and innovation of Canadian business.
- › Increase partnerships with the public and not for-profit sectors to catalyze important policy development.

#### GOAL

Propel Waterloo's global leadership in innovation, entrepreneurship and social impact.

#### OBJECTIVES

- › Create interdisciplinary teams to engage with important sectors of Canada's economy to solve problems of common interest to the sector.
- › Increase infrastructure that supports commercialization and policy application of transformational research.
- › Establish a fund to provide commercialization internships for students, protect intellectual property and launch startup ventures.
- › Leverage alumni, research and industry networks to expand entrepreneurial opportunities for members of the Waterloo community.
- › Foster an engaged, nimble and open environment that stimulates entrepreneurial pursuits.

# **STRENGTHENING SUSTAINABLE AND DIVERSE COMMUNITIES**

Waterloo will make an impact on its campuses and around the world by fostering inclusivity, a sense of belonging and a culture of involvement.

Our community is a beacon for some of the brightest minds in the world, but it is also more.

Our community has young people who are the first in their families to attend university. There are individuals from racialized groups whose voices have been marginalized.

Indigenous people live and work here. There are diverse individuals of many genders and sexual identities. There are international scholars who have left family behind to pursue their passions. Our community includes people with various abilities and distinct mental health experiences that result in different experiences of our campuses.

We all belong here.

The University is committed to living our shared responsibilities by building communities that imbue every aspect of our institution's mission with genuine care and concern for our students, faculty, staff, alumni and the world in which we live. As a leading institution mobilizing knowledge and research related to the United Nations Sustainable Development Goals, Waterloo is committed to sustainability within and beyond our campus borders.

We include those who live and work on our campuses and in our alumni communities in Waterloo region and around the world. We particularly recognize Indigenous students, faculty, staff and alumni. We are committed to learning about the rich history and culture of Indigenous people of this land and an institutional response to the Truth and Reconciliation Commission's calls for action.

#### OUR RESPONSIBILITY TO STUDENTS

We hold a particular responsibility to our students that is reflected in our teaching mission and commitment to build diverse communities. We know that opportunities for enrichment outside the classroom in extra-curricular activities such as athletics, the arts, student government and our community are vital to student growth. We are committed to a comprehensive approach to mental health and wellness. We strive to create a responsive environment for living, learning and discovery that is worthy of our diverse student community.

The innovative spirit that has distinguished Waterloo globally must now be used to advance communities that are equitable, accessible and sustainable. We recognize not everyone has had the same opportunities due to systemic, societal issues and we are committed to identifying and removing barriers so that everyone can flourish, regardless of background or identity.

We also recognize that accelerating climate change will magnify existing societal issues, with marginalized communities being among the most affected. Our students, employees, partners and stakeholders around the world will be looking to Waterloo for leadership as we model transformative changes for a sustainable future.

Strengthening sustainable and diverse communities:

## GOALS AND OBJECTIVES

### GOAL

Be a people-centered institution committed to genuine care, concern, respect, inclusivity and well-being for all.

### OBJECTIVES

- › Working in partnership with all stakeholders, mobilize the commitments from the Okanagan Charter and Healthy Workplace statement to embed and promote sustainability and foster personal development and supportive environments for mental health and resilience, physical health, social inclusion, belonging and spiritual well-being in campus culture.
- › Nurture relationships between faculty and students to promote academic curiosity and risk-taking in a safe and supportive community of learners.
- › Create a supportive environment for international students that also celebrates their contributions to our diverse community.

### GOAL

Foster a connected and supportive community that inspires students, faculty, staff and alumni to achieve their personal, academic and professional goals while feeling valued.

### OBJECTIVES

- › Intentionally develop programming to inspire collaboration for shared research, teaching, learning and community building opportunities among our students, faculty, staff and alumni.
- › Develop a culture of involvement that fosters inclusivity and a sense of belonging.
- › Sustain a meaningful relationship with alumni around the world that includes peer support, social connection and learning over their lifetime.
- › Ensure co-op students experience continued connection to the University during their work terms.
- › Broaden our understanding and engagement of communities on our campuses and with our alumni, external partners, regional, national and international communities.

#### GOAL

Promote and support Indigenous initiatives and a culture of equity, diversity and inclusivity for all.

#### OBJECTIVES

- › Embrace and act upon the Truth and Reconciliation Commission's recommendations and calls to action and build stronger relationships with our local Indigenous community.
- › Improve the representation, participation and engagement of equity-seeking groups within our community.
- › Advance programs, policies and processes that foster equity, diversity and inclusivity.

#### GOAL

Continue to leverage our resources to engage, develop and build our capacity and infrastructure to create a sustainable and effective institution.

#### OBJECTIVES

- › Become a societal role model of sustainability in policy, process and practice through full implementation of the University's Environmental Sustainability Strategy and meaningful action to address climate change in our operations.
- › Leverage our entrepreneurial spirit and model organizational efficiency and sustainability in all domains of our service.
- › Ensure all campus community members understand their role in and contribute to a positive student experience.

# CONCLUSION

This is our plan to embrace the forces of change in our world.

It is a plan that will enable our institution to continue to foster dynamic talent ready to flourish in new economies. It will allow us to challenge the status quo. It will enable us to support our community and students who are worthy of the absolute best experiences and outcomes.

We will embrace our heritage of bold ambition and risk-taking. We will continue to take action that crosses disciplines, sectors and national borders as we build a new model of a 21st-century university.

A strategic plan is a catalyst for change and renewal. Our community has come together to imagine a Waterloo for 2025 and beyond. Today, we will challenge ourselves to bring the ideas in this plan to life, monitor our progress and be accountable to one another.

Building on the dreams, scholarship, and diversity of people at Waterloo, we will unlock knowledge and innovation to shape the future of our nation and the world. This is our plan to connect imagination with impact for a better world.





# **PRESIDENT’S UPDATE TO THE BOARD OF GOVERNORS**

## **OCTOBER 29, 2019**

Dear Governors,

I am pleased to provide you with a summary of major achievements, initiatives and updates since our last meeting in June including an update to the strategic planning process underway. I will be happy to discuss any items in further detail.

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### **Achievements/Congratulations/Notable Events**

- Sandra Banks was reappointed as the Vice-President, University Relations for her second five-year term.
- Dr. Diana Parry was reappointed on July 1, 2019 as the Associate Vice-President Human Rights, Equity & Inclusion.
- Dr. Susan Tighe was reappointed on July 1, 2019 as the Associate Vice-President Integrated Planning & Budgeting.
- Professor Avery Broderick (Department of Physics & Astronomy) won the Breakthrough Prize in Physics as part of The Event Horizon Telescope Team
- Dr. Lyndon Jones, Director of the Centre for Ocular Research and Education (CORE), has been named the top-rated expert in Contact Lens in the world
- University of Waterloo’s Chancellor, His Excellency Dominic Barton, was selected as the Canadian Ambassador to China by the Trudeau government.
- Field House Opening - The new 65,000 square feet facility is now open for students. Priorities for the new space include increased open recreation, intramurals, club/varsity training, and community engagement.
- On October 4<sup>th</sup>, University of Waterloo launched the Waterloo Centre for Astrophysics to centralize the university’s expertise in Astrophysics and attract/host researchers and students from across the world.
- The first of a three year Fall Reading Week Project (Oct. 12-20<sup>th</sup>) provided a break to the fall on-campus course schedule. There were no classes, seminars, exams, tests, labs, assignment deadlines, tutorials or co-op scheduled interviews.

## **Academic/Provost Portfolio Update**

### **Waterloo Budget Model (WBM)**

The streamlined budget model was implemented in early 2019. This has brought clarity in revenues and expenses university-wide. This has been very important for planning but also as we move towards SMA3 planning. The model uses current year revenue allocation with current year enrollment data allows for better planning for all units. The model has been designed to ensure risk can be mitigated through a robust university fund. Every effort is being made to ensure adequate short and long term funding will be available for the strategic resource fund. The strategic resource fund is very important as it provides funding so that activities in each of the areas of the strategic plan can be adequately resourced.

### **Strategic Enrolment Management**

- In fall 2019, first-year application volumes were down by 2.9% for domestic students and were unchanged for international students.
- Year-one enrolment tracking as of August 21<sup>st</sup> indicates that Waterloo will be just above its overall intake target (100.4%). Canadian fee-paying students are estimated to land at 102%, and international students at 93% of intake target.
- Total fulltime undergraduate and graduate enrolment in fall 2019 is expected to increase by 2.1% over fall 2018. Total full-time undergraduate domestic and international enrolment is expected to be 1.2% and 4.9% higher in fall 2018 respectively.
- The latest data shows the graduation rate (six years after entry) increasing from 78.5% to 79.8%, which is above both U6 and U15 peer universities.
- As part of the Strategic Mandate Agreement (SMA3) process, the Ministry has identified a set of 10 performance indicators that will be tied to government grant funding. Several of these indicators are related to student outcomes and other aspects of enrolment management. Bilateral discussions will occur with MTCU regarding these indicators in October.
- The results of three recently completed institution-wide surveys are currently being analyzed to inform SEM-related decisions as well as progress on strategic plan indicators: the Canadian University Survey Consortium (CUSC) Survey of first-year student satisfaction; the 2019 National College Health Assessment (NCHA) Survey; and the Canadian Graduate and Professional Student Survey (CGPSS).

### **Strategic Plan**

The development of the 2020-2025 strategic plan has reached its final stage. University leadership and governance bodies are finalizing key outcomes and preparing for the plan's approval. The Senate provided input on September 16 and a special Board of Governor's discussion session was held on September 24. Following these meetings, the plan was updated and suggestions addressed. Unanimous endorsement of the strategic plan was received at the Senate Long Range Planning Committee on October 10<sup>th</sup>. On October 21, the Senate strongly supported the adoption of the plan and recommended it to the Board for approval. Parallel to this, senior university leadership has initiated preliminary discussions on the key desired outcomes in the plan, initial implementation steps and the development of a comprehensive accountability framework. Once the plan is approved, it will be widely communicated to internal and external stakeholders. The Accountability Framework will be presented to the Board in February 2020.



## **Searches**

### **Dean of Engineering**

- In the process of reviewing community input. The position has been advertised, and applicant files will be reviewed in November.

### **Dean of Environment**

- In the process of reviewing community input.

### **Dean of Mathematics**

- Position has been advertised and applicant files are being reviewed.

### **Dean of Science**

- Ballots to faculty and staff with regular appointments went out on October 8<sup>th</sup>, with polls open for 8 calendar days.

## **Cooperative and Experiential Education – Dr. Norah McRae, Associate Provost**

- Awarded the World Association of Co-operative and Work-integrated Learning Research Grant for partnership with WatCACE to investigate the value of an AI-driven resume critiquing tool.
- An Employee Career Advisor has obtained train-the-trainer status in Compassion Fatigue, which we anticipate will be an extremely useful vehicle for ushering in rich discussions and programming to support staff wellness.
- Supported lifelong learning steering committee with review of internal/external PD offerings aligned with Future Ready Talent Framework (FRTF).
- Exploring commercialization of WatPD courses; in discussions with multiple institutions.
- Supporting over 7700 students in PD courses.
- As of September 16<sup>th</sup>, 2019 the employment rate for fall 2019 was at 97.7%, ahead of the same point in fall 2018 when the employment rate was at 97.4%.
- Fall 2019 has seen a 2.8% increase in total students employed, with 6,817 employed compared to 6,628 employed at the same point in fall 2018. The fall 2019 term has seen 196 additional students scheduled out year-over-year.
- Co-op Student Experience Review Project is well underway with actions taken on attainment of student feedback via surveys and a newly created student experience advisory group.

## **Human Resources – Marilyn Thompson, Associate Provost**

- The Employee Engagement survey has been completed and results are being rolled out across campus.

## **Students – Chris Read, Associate Provost**

- Student Choice Initiative - Starting in the Fall of 2019, the Student Choice Initiative gave students the opportunity to opt-out of paying optional and voluntary fees for non-essential services. Guided by the Ministry's SCI framework, the University worked closely with WUSA and GSA to determine which fees were deemed essential or non-essential. Of the students that were 'Fees Arranged' by August 20<sup>th</sup>, approximately one third of students made a choice on the Student Optional Fees page.
- Beginning in late August, we welcomed our new Fall 2019 students, highlights of the programs include:
  - Faculty 101 days – The numbers for these days continue to increase year by year. In 2019, 2,014 students and 1,878 parents participated.
  - First year orientation – over 6,000 participated.

- Graduate orientation - over 650 participated in this one-day campus wide program, which is supplemented by faculty and departmental onboarding.
- International student supports – we are the only institution that picks up students from the airport. Over 400 students (337 UG, 87 G) used this service.
- The Presidents International Welcome – approx.1,300 students and family members attended.
- Wellness Poster Campaign – 78 ‘banner’ posters are now up across all faculties and interdisciplinary spaces promoting student testimonials that speak to the value of physical activity and the impact on their wellbeing.

### **Academic Affairs – Dr. David DeVidi, Associate Vice-President**

- A committee headed by David DeVidi, Cathy Newell Kelly and Susan Tighe has been launched to make strategic recommendations about upgrading and renovation of teaching and learning spaces (with an eye to implementation in the new Strategic Plan). The goal is to enable instructors to employ appropriate pedagogical strategies and give the objectives of their courses while taking other constraints duly into account.
- A new Master’s Program in Advanced Pharmacy Practice has been approved by the Quality Council and (verbally) by the Ministry, and two additional Math graduate programs also received Ministry approval; Master of Mathematics in Data Science (MMath), Master of Data Science and Artificial Intelligence (MDSAI).

### **Human Rights, Equity & Inclusion – Dr. Diana Parry, Associate Vice-President**

- Education and raising awareness is a key priority for HREI. To advance this work, HREI developed a new catalogue of training and workshops, which are available to all students, staff and faculty. We added multiple new areas of training to address gaps in knowledge and expressed need (Equity 101, Indigenous culture trainings, anti-racism, and de-escalation) and developed an online catalogue and registration system. There has been a large response to the trainings and most fall offerings are at maximum capacity with wait lists, which speaks to the need for these trainings on campus.
- In conjunction with the President’s Office and Community Relations, HREI launched the Canadian Get Free tour with the UN Women alongside our work with HeForShe and the IMPACT 10x10x10 framework. The event started with a student rally and transitioned into a President’s panel wherein high-profile speakers (campus and community based) discussed social justice issues pertaining to youth engagement, pay equity and sexual violence through the lens of male ally-ship.

### **Registrar – Cathy Newell Kelly, University Registrar**

- Attendance at Ontario University Fair (OUF) over 3 days was 120,300 guests (up about 2,000 from 2018)
  - Waterloo scanned 17,438 passports to collect prospective student contact info (up just slightly from last year).
  - 12,539 of these contacts were new to our database.
  - Interesting to note that only 8,116 of these were potential 2020 admits; another 3,648 for Fall 2021, 627 for F2022, and 148 for F2023!
  - Our presentation in an auditorium-style room is gaining in popularity (last year we presented to 5,753 participants which was a 46% increase over the previous year; this year we had 6,066 audience members).
  - Over 550 Waterloo volunteers make this happen over 3 days (including faculty, Associate Deans, staff).
- The Student Service Centre (The Centre) launched an online ChatBot (in partnership with IST) enabling students to ask questions in their own words and elicit responses;

intend to roll out to whole campus so students might have one (online) place to go for answers to their administrative questions.

### **Committee on Student Mental Health (CoSMH) – Dr. John Hirdes,**

The Committee on Student Mental Health (CoSMH) voted to confirm the completion of six more recommendations. As of September 2019, 39% of all recommendations are complete, and 33% are in progress. Over the course of the fall term, the committee will finish work on the top 10 priority ranked recommendations. It will also undertake a review and reprioritization of the remaining recommendations.

Recently completed work includes:

- Recommendation # 5, creation of a working group to assess examinations and assessments (contingent on a best practices document to be drafted this term);
- Recommendation # 7, embedding universal instructional design into course delivery;
- Recommendation # 19, communications to incoming and existing students regarding mental health resources;
- Recommendation # 22, training strategies and access to mental health resources;
- Recommendation # 27, reviewing Counselling Services staffing practices, embedded counsellors, and implementing a ratio of 1 counsellor to 1000 students; and
- Recommendation # 32, continually developing a stepped-care approach and complex care team.

Progress updates can be tracked on the [CoSMH website](#).

## **Velocity Update**

### **Organizational Update (summary):**

Velocity has developed significantly over the last decade. The set of activities that the Velocity brand represents (student just dipping their toes all the way to \$MM seed-funded companies) is too wide for a singular brand leading to stakeholder confusion. This challenges will only get larger as we simultaneously increase our impact across a broader swath campus population (undergrads & grad students, etc), startups and external stakeholders (investors, government, etc).

Velocity is setting up for the next decade of impact with a new leadership structure (Executive Director, 2 operating Directors) and increased “what do we do for who” clarity with two brands (**Concept** serving aspiring campus/student entrepreneurs, **Velocity** incubating startups).

Velocity remains one department that houses 2 teams, one focusing on driving startup ambition/momentum/growth under the Velocity banner, and another that focuses on supporting exploration and nurturing students’ entrepreneurial aspirations under the Concept banner.

These changes will allow us to serve the students/campus population best while also furthering the impact of our startup activities.

To students, Concept is approachable, nurturing, and supports exploration and dabbling in entrepreneurship. To startups and investors, Velocity incubator is focused and world-class in its support of high-caliber/performance commercial startups. As an institution, we can leverage the

distinction when and if needed (for example, student recruitment vs. corporate engagement), or when easier, refer to Velocity, the organization that contains both student and startup support.



### **Concept (Campus entrepreneurship support)**

- Developed a network of 14 Campus Coaches, who are all entrepreneurs in the community and are dedicating a few hours per week to meet/support students in their entrepreneurial journey.
- Now offers microfunding to students looking for an initial small amount of money that will allow them to evolve their idea to the next step (\$150 - \$500). This funding is available to any student pursuing a business idea.
- Velocity Science has evolved to be renamed to Concept Science - which is a program that will be offering specialized business coaching to students working on a science-based project.
- Launched “Capsone Startup Stream” for student teams working on a capstone project/course that they wish to explore.

### **Velocity (Startup Incubation)**

- We continue to invest in and expand technical product development capabilities, recently securing our Biosafety Lab Level 2 license to better support biotech and pharma companies. We are the only University incubator in Canada to have this type of support for startups.
- Velocity Alumni are scaling, as evidenced by larger investment rounds designed to support and further large scale: AvidBots raised >\$23M, Applyboard raised \$55M, Embark Trucks raised \$70M
- 8 Velocity companies have all recently (within the last 6 months) secured >\$1M investment each, continuing to build momentum for the next wave of scaling companies
- 4 more pre-seed (\$50K each) investments made from Velocity Investment Fund, at flagship pitch competition, hosted in Toronto to a sold-out audience. Investment Fund is oversubscribed with \$1.2M US raised of original \$0.9M US target.

## **Research & International Portfolio Update**

### **Waterloo Researchers named Royal Society of Canada fellows and members**

Nine University of Waterloo researchers have been named fellows of the Royal Society of Canada (RSC) and members of the Royal Society of Canada’s College of New Scholars, Artists and Scientists. They are among 93 new fellows elected by their peers for outstanding scholarly, scientific, and artistic achievement and 46 new members of the College across Canada announced today. Waterloo’s new Fellows of the Royal Society of Canada include;

- Raouf Boutaba, Cheriton School of Computer Science
- Phelim Boyle, Statistics and Actuarial Science
- Zhongwei Chen, Chemical Engineering
- Michel Gingras, Physics and Astronomy
- Srinivasan Keshav, Cheriton School of Computer Science
- Winfried Siemerling, English Language and Literature

- Donna Strickland, Physics and Astronomy

Waterloo's new Members of the Royal Society of Canada's College of New Scholars, Artists and Scientists;

- Nandita Basu, Civil and Environmental Engineering, jointly appointed to Earth and Environmental Sciences
- Juewen Liu, Chemistry

### **Ontario government awards \$2 million for early career researchers and infrastructure**

Fifteen University of Waterloo researchers will receive \$2 million from the provincial government to advance Ontario's knowledge-based economy. This announcement included 11 Early Researcher Awards (ERA) and four Ontario Research Fund-Research Infrastructure (ORF-RI) awards and span all six Faculties.

### **Canadian Academy of Engineering Inductees**

Two Waterloo Engineering faculty members and an alumnus were inducted into the Canadian Academy of Engineering (CAE):

- Pearl Sullivan, Dean of Engineering, Mechanical and Mechatronics Engineering
- Peter Huck, Civil and Environmental Engineering
- Tom Lee (PhD '96, Engineering)

Additionally, Donna Strickland, Physics and Astronomy, was awarded a CAE Honorary Fellowship and will receive the honour later this year.

### **Major Awards**

#### **Health Canada**

**David Hammond**, School of Public Health and Health Systems, was awarded \$ 1,129,588 over four years for his research on vaping use among youth aged 16 to 19 years. The research will build on the existing International Tobacco Control (ITC) Youth Tobacco and Vaping Survey in order to enhance knowledge on youth vaping, dependence and cessation.

#### **Employment and Social Development Canada – Investment Readiness Program**

**Sean Geobey**, School of Environment, Enterprise and Development, was awarded \$499,179 over two years for a project aiming to identify systemic barriers to SME-to-SPO (small and medium enterprises to social purpose organizations) conversion through the co-creation and validation of a system map, design and test social innovation and social finance interventions enabling SPO conversions, and identify opportunities for social finance intermediaries to support conversions.

#### **Social Sciences and Humanities Research Council (SSHRC) Grants**

**Steven Bednarski**, History and St. Jerome's University, was awarded \$2,500,000 to establish the first permanent humanities lab dedicated to digitizing environmental history and understanding human impacts on the natural world and vice versa. The project *Environments of Change: Digitizing Nature, History, and Human Experience in Late Medieval Sussex*, includes over 30 researchers from Arts, Science, Environment, the Games Institute and the Stratford School of Interaction Design and Business.



## **Celebratory Waterloo-Rochester Photonics Symposium**

In July, Waterloo hosted the first Celebratory Waterloo-Rochester Photonics Symposium in honour of Donna Strickland, Nobel laureate. The Symposium was a joint effort between Waterloo and the University of Rochester and brought together researchers from both universities in a unique format to allow discussion and launched with a keynote lecture by Donna Strickland on her current research.

## **GEDI Space Now Open**

The newly formed Global Entrepreneurship and Disruptive Innovation (GEDI) office officially opened its doors with a newly renovated space in EC5 on September 4<sup>th</sup>. GEDI has already secured two founding partners: Cisco Systems and Rogers Communications and is drafting an MOU with BlackBerry as its 3<sup>rd</sup> founding partner. Founding partners will occupy suites in the new space alongside researchers, co-ops and select start-ups to create a vibrant ecosystem of large business, academia and entrepreneurs with shared interests. While each partners' engagement is unique, the one thing they have in common is their desire for a university-wide partnership with multiple touchpoints – a value proposition that only GEDI can deliver on behalf of Waterloo.

## **NRC Collaboration Centre**

On June 17, the National Research Council (NRC) and the University of Waterloo jointly launched the NRC / Waterloo Collaboration on Artificial Intelligence, Internet of Things, and Cybersecurity. The collaboration builds on strengths in these areas at Waterloo and NRC and will serve as an innovation hub for research that will have broad application. Housed on the Waterloo campus, the collaboration comprises a number of collaborative research projects, each with a Waterloo Principal Investigator and an NRC Principal Investigator. The projects involve graduate students and post-doctoral fellows and in some instances industrial partners. Seed funding is being jointly provided by the University and NRC to initiate the projects, and the Waterloo and NRC PIs will seek ongoing external funding in support of their projects. Five projects have been initiated with an additional two projects beginning this term.

## **University Relations Portfolio Update**

### **Campus Wayfinding**

During the early Fall, the project went through a value-engineering process to reduce its cost and ensure it matched the resources available. Design and fabrication has begun on the first signs (building signs) with the first installations slated to occur in November. The project will take place over three fiscal years, with the first phase being completed by the end of April, 2020. Funding is being provided from a variety of campus partners including, the Provost's Office, University Relations, Housing and Parking Services.

### **Government Relations**

In advance of the federal election we had:

- Extended invitations to all regional candidates to tour the University, hosted all but four in Waterloo, Kitchener Centre, Kitchener South-Hespeler, Kitchener -Conestoga, Cambridge and Perth-Wellington
- Supported logistics for Elizabeth May announcement on data and privacy at the University
- Provincially, we saw new leaders at MTCU: Minister Ross Romano and DM Laurie LeBlanc
- Visit to campus from Premier and Minister of Training Colleges and Universities on August 9<sup>th</sup>

## **Federal Developments**

- New federal IP Tools announced by Minister Bains at the University of Waterloo
- Simon Kennedy appointed Deputy Minister at ISED following John Knubley's retirement
- Invitations extended to all regional candidates to tour the University, hosted all but four in Waterloo, Kitchener Centre, Kitchener South-Hespeler, Kitchener -Conestoga, Cambridge and Perth-Wellington
- Elizabeth May announcement on data and privacy at the University

## **Provincial Developments**

- New appointments at MTCU in June
  - Minister Ross Romano
  - Deputy Minister Laurie LeBlanc
- Visit to campus from Premier and Minister of Training Colleges and Universities on August 9<sup>th</sup>
- Strategic Mandate Agreement 3
  - Bilateral discussions with Ministry held in mid-October
- Expert Panel on IP and commercialization
  - Expert panel hosted consultations across the province
  - Expert panel report expected in December
- Minister of Health and Deputy Premier Christine Elliott participated in a discussion on HealthTech at Waterloo Innovation Summit

## **Waterloo Innovation Summit**

The Summit returned to Waterloo on October 1, after being held in Toronto, Vancouver, and the UK. More than 200 attendees were engaged in a dynamic program that featured 25 leaders, researchers, alumni and startups from Waterloo on panels on data, medical devices, diagnostics, and policy implications. Attendees experienced a Velocity pitch competition of four early stage health tech companies. Ontario Minister of Health, Christine Elliott spoke to the Summit before a conversation with Faculty of Applied Health Sciences, Lili Liu.

## **Executive Communications**

Over the course of this reporting period, I undertook twenty-three speaking engagements that included on-campus events such as Convocation and the grand opening of the CIF Field House, and off-campus engagements in Zurich, the United Kingdom and Taiwan.

Some examples of on campus events include:

- congratulated the Faculty of Environment on its 50<sup>th</sup> anniversary at a special gala event;
- celebrated the accomplishments of nearly 6,500 new University of Waterloo graduates during 12 Convocation ceremonies;
- spoke with thousands of new students during Orientation, including at the International Student Orientation, Warrior Welcome for undergraduate students, and met with new graduate students at the Grad House;
- welcomed guests from UN Women and a crowd of hundreds for the HeForShe Get Free Tour rally and President's Lecture, as the University was the first stop on the Canada-wide tour to raise awareness for gender equity;
- addressed a crowd of eager students, faculty, staff and community members to celebrate the grand opening of the new CIF Field House;
- met with more than 1,500 first year students in five different lectures to speak with them and answer any questions the students had; and
- delivered celebratory remarks at the launch of the Waterloo Centre for Astrophysics.

Some examples of off campus events include:

- participated in the Rockefeller Foundation's Bellagio conference in Italy as an invited guest with other global leaders in higher education to discuss the future of education;
- met with alumni and entrepreneurs in the San Francisco area, including a tour of Embark Trucks autonomous transport truck;
- took part in a high profile panel discussion at the Future Talent Summit in London, United Kingdom with other leaders from industry and higher education;
- received an honorary doctorate from the University of Strathclyde in Glasgow, Scotland, and delivered a special address to graduating class;
- traveled to Zurich, Switzerland to attend the Times Higher Education World Academic Summit and took part in three panel discussions at the invitation of THE;
- Visited with several institutions and research centres in Taiwan at the invitation of the Taipei Economic & Cultural Office to explore strengthening ties in the area.

We also had several thought leadership articles and op-eds published over the course of the reporting period. This includes eight blog posts, one LinkedIn article detailing the strength of a new partnership with Microsoft on artificial intelligence, and two op-eds, one in the Waterloo Region Record entitled "Waterloo graduates are ready for the new world of work" and the second in the Hill Times titled "Canada should focus on game-changing technologies that can improve health care".

### **Media Relations**

The University of Waterloo appeared in approximately 16,200 news stories between May 2 and September 27, 2019. Selected news coverage includes:

- Op-ed by President Hamdullahpur on how Engineers and Mathematicians are changing the face of medicine (Hill Times)
- UWaterloo Hackathon attracts best and brightest, University named Canada's MIT (Boston Globe)
- UWaterloo empowers Indonesia to be more climate resilient through co-op and education (WIRED)
- Velocity Fund Finals Take on Toronto (Bloomberg BNN)
- What multilingual nuns can tell us about dementia (BBC, Int'l Business Times, MSN.com, CBC, Atlanta Journal-Constitution)
- Youth vaping now more than ever (Canadian Business Journal, Canadian Press, CBC, CTV National News, Times Colonist)
- New tool makes web browsing easier for the visually impaired (New York Post, Irish Sun, Boston Globe, Mashable)
- Vital signs can now be taken with radar (CTV National News, Financial Post, Times of India)

### **Community events and partnerships**

The President's Community Breakfast will be held on November 22, 2019 at Vidyard. The breakfast will share highlights from the University's new strategic plan, as well as release the University of Waterloo 2019 Economic Impact report.

A community lecture series will kick off in January 2020 with a focus on current affairs.

## **Advancement/Alumni Relations Portfolio Update**

### **Campaign Planning and Execution**

In June 2019, we established an Internal Campaign Cabinet comprised of the senior leadership of the University: the President, Provost, all Deans and all Vice-Presidents. The primary focus of this group thus far has been to identify and articulate proprietary key themes for an authentic and robust comprehensive Campaign - a campaign designed to fully support the new Strategic Plan.

A joint meeting of the Internal Campaign Cabinet and the Campaign Planning Committee took place on October 7 and five foundational Campaign themes were agreed to in principle. These themes will serve as the foundation for case materials and donor testing during the soft launch phase in 2020 and beyond.

Key activities currently underway:

- Ongoing recruitment of prominent volunteer campaign leadership to guide and support the campaign;
- Collection and curation of compelling stories and key transformative big ideas;
- Development and refinement of the campaign execution plan against our timelines.

The Board's support of the campaign is critical and Joanne Shoveller will provide a Campaign update to the Board of Governors on October 29.

Advancement is actively identifying and engaging **campaign volunteer leaders**. We have identified 85+ high-quality prospective volunteers from our pipeline of top alumni, donors and community friends.

### **Fundraising**

#### **Donor pipeline: I200/C100/X300 lists**

The Individual Donor List (I200) stands at **200+ individuals/family relationships** who have the potential for giving in the next 1-3 years. The Corporate (C100) pipeline stands at **100 major corporations and foundations** – both at 100% of our initial targets. The **X300** will form the foundation for a future campaign pipeline, which currently sits at **135+** constituents.

In collaboration with the Faculty Advancement teams, we have created a pan-university, top prospect pipeline of prospects/donors in the \$100,000 to \$10M+ range. As of October 2019, the pipeline has **80+ prospects** in the qualification, cultivation, or solicitation/verbal commitment stage. This pipeline gives us an excellent snapshot of our status in addition to our work with the I200, C100 and X300 lists of prospects.

## President and Vice-President Engagement

While the majority of our energy and time has been spent on campaign preparations and strategy, I was engaged in the following advancement activity from May 1, 2019 – October 1, 2019.

Activity Category	Total
Prospect/donor calls (individuals, foundations, corporations, and other organizations with Advancement as a focal point)	6
Private dinners or receptions at the President's home	n/a
Campus visits by companies (with major Presidential involvement)	n/a
Advancement/alumni events and other activities (including vision roundtables, VIP gatherings)	7
<b>Total activities from May 1, 2019 – October 1, 2019</b>	<b>14</b>

Over the past two fiscal years (2017/18 and 2018/19), the President participated in 250 donor calls, major events and other VIP gatherings on behalf of Advancement. This critical mass in activity has significantly aided in our ongoing efforts to engage alumni across the globe and attract new donors to the University. In 2019/20, the President's activity will be focused on soliciting and securing gifts at the \$1M+ and \$10M+ level in advance of the campaign.

The Vice-President's call activity will be focused on developing strategies to engage high-capacity donors, approach campaign volunteer leadership and steward our most important campus relationships. Since May 1, 2019 the Vice-President has been involved in 50+ donor calls, events, VIP gatherings and other meetings related to campaign preparations.

## Alumni Relations Update

Included in this section are the highlights from three focus areas of Alumni Relations: volunteer engagement, student-alumni bridge, and alumni outreach.

### Volunteer engagement

Focus of volunteer engagement has been on further developing the Global Alumni Volunteer Network (GAVN) by recruiting, onboarding and training alumni volunteers for the Waterloo Region, Vancouver, San Francisco and Bay Area and New York chapters, as well as providing ongoing relationship management with the new Hong Kong and Toronto chapters. Alumni Council continues with once a term meetings.

#### Waterloo Region Alumni Chapter – NEW

- Recruited and trained volunteer chapter leadership team
- Supporting strategic discussion and annual planning with leadership team
- Announced chapter at Alumni Black & Gold Day (September 28)

#### Toronto Alumni Chapter - NEW

- Providing relationship management support and training for volunteer leadership team
- Aligned chapter leadership team with Velocity in partnership event to showcase entrepreneurship in the Toronto market
- Supporting planning and development of chapter upcoming events

#### Hong Kong Alumni Chapter - NEW

- Providing relationship management support and training for chapter leadership team
- Planning for large-scale innovation event in November
- Created Hong Kong chapter e-newsletter

#### San Francisco and Bay Area Alumni Chapter –TRANSITION

- Recruited and trained volunteer chapter leadership team

#### Singapore Alumni Chapter - TRANSITION

- Focusing on new leadership advisor recruitment to support November 2019 alumni event
- Supporting development of alumni event involving the Canadian High Commissioner to showcase IQC's Quantum Exhibit hosted by National University of Singapore

#### Vancouver Alumni Chapter - TRANSITION

- Recruited and trained volunteer chapter leadership team
- Alumni Council
- Recruited and trained three new members

### **Student-Alumni Bridge**

#### **Convocation – June 11-15, 2019**

Welcomed 6,500 new members to the Alumni Club. Enhanced engagement with graduating students fosters exposure to alumni social media channels that are crucial to maintaining a connection beyond graduation.

- Established new traction for #UWaterlooGrad with a focus on “Instagram-able” vignettes and new reception activations resulting in our #UWaterlooGrad hashtag trending on Twitter in Canada for two days.
- Grew @UWaterlootalumni Instagram account by 95% (1,943 to 3,781) by hosting the “Give Thanks Giveaway” with affinity partner BMO as the contest sponsor.
- Alumni Gold Medals were awarded to an undergraduate in each faculty, and are now created entirely on campus. This environmentally friendly, 3D-printed process is created in the Multi-Scale Additive Manufacturing Laboratory. [Watch video.](#)

#### **Family Welcome/Orientation Week – August/September 2019**

- Hosted Networking as a Graduate Student alumni panel discussion.
- Graduate Student Supervision Survey –13% response rate to graduate student survey which provided Graduate Studies and Post-Doctoral Affairs some key findings on how Waterloo supervises graduate students.
- The new Waterloo Region Alumni Chapter hosted a booth at Waterloo Fest to introduce new students to UpTown Waterloo.

#### **Partnership with student group at Alumni Black and Gold Day – September 28, 2019**

- \$1300 was raised for MATES (Mentor Assistance Through Education and Support) through the Fun Run, our event partner and a Campus Wellness program.
- 176 students (42%) ran in the Fun Run (86 were on the MATES “Chilly Dog” team), 100 students volunteered (30 were MATES students).

#### **Get Ready for: Life After Graduation – September 2019**

- Third year of the partnership with Housing and Residences brings two new Alumni in Residence – Esteban Veintimilla (BMath '18) and Cherisse Mike (BA '17). Program is now open to all 150 upper-year students living in residence.

## **Outreach**

Reunion was split into two separate events Alumni Weekend and Alumni Black and Gold Day.

### **Alumni Weekend - NEW - June 1, 2019**

Alumni Weekend now hosts reunion-style activities to deepen relationships with alumni primarily through faculty class reunions.

- Faculty of Environment celebrated their 50th anniversary - 50% of attendees were alumni and 24% of attendees made a financial donation.
- Faculties of Mathematics and Engineering sold out most activities bringing together alumni from 5-55 year anniversaries.
- President's Anniversary Lunch – This sold-out, pan-university event celebrated 25, 50 and 55-year anniversaries at Fed Hall. The President and three students celebrated alumni in creating the innovative institution they enjoy today.

### **Alumni Black and Gold Day - NEW - September 28, 2019**

- The inaugural Alumni Black & Gold Day is a broad-based, alumni engagement activity to build a sense of Waterloo community. All the day's events are located on the north end of campus in an effort to concentrate campus activity and create buzz.
- Modern Athlete panel discussion: sponsored by our affinity partner Manulife, this new event incorporated an educational component into the day. Panelists discussed advances in health technology, how they affect sport and the development of athletes. Panel featured: Gary Abbott (BASc '10), Solutions Architect, D2L; Andrew Hopf (MSc '09), Warriors Athletics Varsity Strength & Conditioning Coach; Tristan Lehari (BASc '11), Co-founder and CEO of TritonWear; Sarah Remedios (BSc '18), former Women's OUA Bronze medal volleyball athlete
- Warrior Picnic: new event fundraising in support of a student group -- Engineering's Concrete Toboggan team, featuring food, beer tent, live music and family activities.

Memo to: University of Waterloo Board of Governors  
From: Joanne Shoveller, Vice President, Advancement  
Mike Stork, Chair, Campaign Planning Committee  
Re.: Campaign Planning Committee Final Report  
Date: October 29, 2019

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The Campaign Planning Committee recommends to the University of Waterloo that it undertake an ambitious fundraising campaign to support the new Strategic Plan – *Connecting Imagination with Impact* – with a soft launch beginning January 2020.

After extensive exploration, examination, discussion, and consultation over the past two years, this report is intended to finalize and acknowledge the work of the Campaign Planning Committee as the University leadership and the new Campaign volunteer leadership undertake the next phase of campaign strategy and execution.

**Critical importance of a pan-University vision, collaboration and interdisciplinarity**

Sophisticated and generous philanthropists demand a comprehensive approach and full confidence in a University-wide vision of transformation. To that end, we have worked diligently and strategically with the faculties and University leadership to develop and facilitate “Beyond Possible” thinking and commitment, with bold, interdisciplinary and well-articulated goals designed to inspire donors to be part of Waterloo’s success.

The creation of the Internal Campaign Cabinet has ensured that the direction of the Campaign has been set by the academic and administrative leadership of Waterloo; this direction is closely aligned with the strategic direction of the University, and with the goals and aspirations of the academy. We have pursued a highly collaborative approach with extensive and deliberate consultation. Our Campaign narrative is focused on articulating and delivering extraordinary outcomes and projects, as well as solutions to the most complex global challenges. Working collaboratively with University leadership, we are creating a Campaign vision that is bold, future-focused and founded solidly on Waterloo’s proven history of breakthroughs and success.



## **Key Areas of Focus of the Campaign Planning Process**

- 1) **Strategic Plan and Case for Support Alignment:** The Strategic Plan development has been tremendously collaborative and widely consultative, providing an exciting and clear strategic vision for the University of Waterloo. The parallel process of Campaign planning in 2018 and 2019 provided the University with a unique opportunity to align the strategic direction and fundraising priorities tightly. As a result, the vision, aspirations and ambitious projects and initiatives identified by the University in *Connecting Imagination with Impact* are foundational to the campaign goals, themes and priorities.
- 2) **Campaign Planning Committee Engagement and Advice:** On October 31, 2017, the Board Chair, several senior volunteers and donors, University leadership and Advancement Directors held a half-day strategy meeting at which we agreed to plan for an ambitious Campaign alongside the strategic planning process. As a result, the Campaign Planning Committee was formed. Alongside the University Advancement leadership team, the nine-member volunteer committee has worked diligently to follow a quarterly milestone road map and engage in active debate, dialogue, research, consultations and strategic advice sessions. Each member has made exceptional contributions to the process and to our progress.

In addition to the regular quarterly meetings, a two-day workshop in October 2018 invited all Deans, Advancement Directors, the Provost, Vice President Research, Associate Provost Students, Director of Athletics and Recreation, and Velocity Director to present their Campaign ideas and funding priorities. In two other working sessions, the Associate Vice President Interdisciplinary, Associate Vice President Strategic Initiatives, plus six Institute Directors were invited to present their visions and plans. Finally, a two-hour joint session on October 7, 2019 with the Internal Campaign Cabinet – comprising the President, Provost, all Deans, all Vice Presidents – completed the formal responsibilities of the Campaign Planning Committee, with agreement in principle on the Case for Support and Campaign recommendations. It was inspiring to see the work of these two leadership groups come together to pave the way for the soft launch phase in January 2020.

- 3) **Advancement Structure and Resources:** Advancement has fine-tuned its operation to be Campaign-ready, with a new Advancement Framework that aligns Faculty and Central Advancement operations. The team has expanded its robust prospect pipeline with addition of new high net worth donors, companies and foundations; built an ambitious plan for broad alumni engagement with the design and implementation of a Global Alumni Volunteer Network and Alumni Communications Strategy; undertaken an external donor stewardship review with

ambitious recommendations; engaged in a full plan of resource optimization including team restructuring; undertaken an environmental scan of trends in giving and campaign execution; and enhanced its gift processing and data management structures.

- 4) **Volunteer Leadership:** We are in active recruitment for the Campaign Cabinet and associated volunteer structures with several confidential discussions underway. Confirmation of the Campaign Cabinet is a high priority for University, Board and volunteer leadership as we approach the 2020 soft launch.

### **Next Steps for Successful Campaign Execution**

With the guidance and input of the Campaign Planning Committee and a scan of campaigns across the continent, the University has drafted an execution plan that supports, defines and clearly communicates all elements of the Campaign with the expectation that the plan will be finalized in early 2020. Alongside the finalization of the Campaign Execution Plan, we will:

- Recruit high-profile Campaign volunteer leadership and establish a vibrant and robust volunteer structure
- Establish an internal administrative Campaign Execution Committee to oversee the successful Campaign implementation across the University within the Advancement Framework
- Continue to grow our fundraising capacity while strengthening our infrastructure (i.e. systems, reporting, research, stewardship, communications)
- Continue to grow a robust pipeline of potential donors for the Campaign.

During the “soft launch” phase beginning January 2020, we will meet with 100+ lead and prospective donors to test the feasibility of our case for support, refine our messaging and project “pitch”, determine what resonates most powerfully with donors, CEOs, and foundations, and align our Campaign priorities with donor goals and aspirations, and solicit lead gifts for the Campaign.

The next decade presents an incredible opportunity for the University of Waterloo to declare its excellence, its unique value proposition and its importance in addressing complex global challenges. This Campaign will create a sense of urgency, timeliness, community (internal and external), pride and global impact.

# University of Waterloo Campaign Plan - Timeline

## Campaign Planning (2017 – 2019)

- Campaign Planning Committee
- Internal Campaign Cabinet
- Build robust pipeline
- Execution plan, Execution Committee
- Advancement Framework transition
- Funding priorities with academic leadership
- Case for Support to support Strategic Plan
- Working goal
- Board endorsement

## Quiet Phase (2021 – 2023)

- Early leadership giving
- Execution plan firm
- Volunteer Cabinet in place

## Public Fundraising (2024 – 2027)

- Campus wide fundraising, full team effort
- Volunteer engagement
- Regional/industry focus
- Several opportunities to adjust

**2017-2019**

**2020**

**2021-2023**

**2024**

**2024-2027**

**2027-2028**

## Soft Launch/Feasibility Testing

- Test with HNW, CEOs, Foundations
- Continue to refine Case for Support
- Confirm pipeline potential
- Volunteer structure
- Complete resource assessment
- Build campaign budget

## Public Launch (2024)

- 50-60% of goal raised
- Leadership ready
- Well resourced
- Excellent Case for Support
- Robust communications plan
- Launch event/series of events

## Closing (2027 – 2028)

- Donor recognition
- Celebration
- Final campaign report

**Post Campaign:  
What's next?  
A look to 2030?**

## Assumptions:

1. Ongoing fundraising throughout
2. Ability to adjust to economic fluctuations
3. Leadership transitions
4. Ongoing focus on maximizing resources

# COMPREHENSIVE CAMPAIGN RECOMMENDATIONS

Board of Governors

October 29, 2019



UNIVERSITY OF  
**WATERLOO**

# Comprehensive Campaign Requirements



**VISION**



**RELATIONSHIPS**



**EXECUTION**

# VISION

## Case for Support: Waterloo's Truth

# Linkages and Connections

**President's  
Vision Document**



**2020-2025  
Strategic Plan**



**Waterloo  
Campaign  
Framework**

Released in early 2018;  
updated in 2019  
Role: Expresses the President's  
Vision in his own language  
*to anchor* the following  
documents

Informed by PVD, internal thought  
papers, community consultations & BoG  
Role: Creates confidence and clarity of  
future direction for external audiences;  
directs and inspires internal stakeholders  
*to deliver on commitments*

Interprets President's vision and  
key elements of Strategic Plan  
Role: Designed to inspire external  
audiences (HNW and alumni) *to  
support* Waterloo in areas that  
match their interests. Must be  
concise and compelling

**21<sup>st</sup> Century University  
3 I's  
Differentiators**

**Connecting Imagination with Impact**  
Leading in an era of rapid environmental, societal and technical change  
3 strategic themes + 7 signature commitments + 5 campaign focus areas





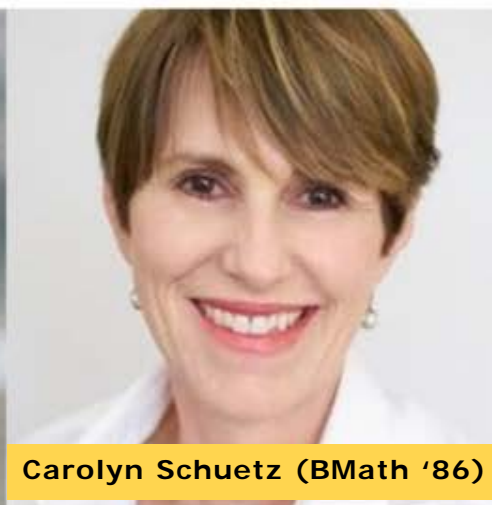
Mike Stork (Chair)



Jagdeep Bachher (PhD '00)



Peter Lowe (BSc '88)



Carolyn Schuetz (BMath '86)



David Yach (BMath '83)



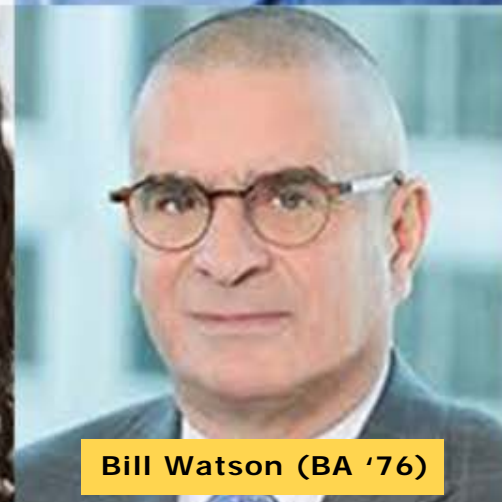
Cheri Chevalier (BA '96)



Thorsten Heins



Franca Gucciardi (BA '94)



Bill Watson (BA '76)

# CAMPAIGN PLANNING COMMITTEE



# Creating our Comprehensive Campaign Framework

- Vital feedback, iteration and refinement process
- What did we hear?

Waterloo – past,  
present, future

State the problem; close  
with the outcome

Why this? Why now?  
Why us?

Personalize as much as  
possible

Be action oriented

Think beyond “commercialization”  
and “technology”

Keep students central (explicitly)

Avoid cliché language, but be  
cautious about introducing  
confusing language

Don’t lose the human element;  
improve the human condition

Be bold and ambitious... But don’t  
forget to include some detail


Our people are pragmatists and doers – creators, explorers and boundary-pushing changemakers

# THE WORLD URGENTLY NEEDS MORE PEOPLE LIKE THEM...

- Problem-solvers for complex times
- Future-shapers who will put humans and the natural world firmly at the centre of all inquiry
- Connectors who can create, connect and apply new knowledge in ways we can't even imagine yet

We need

Problem-solvers for  
complex times and a  
diverse pool of future-  
ready talent



# We commit to Attract and cultivate the best minds at the intersection of humanity, nature and technology

## **Desired outcomes**

A vibrant learning culture of research, scholarship & innovation. Learning grounded in interdisciplinary insights. Enhance Canada's talent pool with adaptable problem solvers.

## **Sample funding priorities**


- Arts Global Engagement Seminar
- Engineering Graduate Scholarships
- Mathematics faculty funding
- Undergraduate Scholarships





We need to

Stay ahead of the knowledge curve, constantly learning and upgrading in an era of hyper change



# We commit to Create the new learning paradigm

## **Desired outcomes**

A dynamic learning environment that's more personalized and keeps our people at the forefront of rapidly shifting job markets and societal needs

## **Sample funding priorities**

- Experiential Education programs in Faculties and CEE
- SAF Global Engagement, Partnerships and Responsibility
- Science Rapid Discovery Teaching and Research Fund





We need to

Fast track the development  
and scaling of social and  
business innovations

A background image showing a group of five students in a workshop or lab setting. They are gathered around a table, focused on a project that involves various electronic components, wires, and tools. One student is using a soldering iron. The students are wearing casual clothing, and some have 'Waterloo' on their shirts. The environment is bright and appears to be a modern educational facility.

# We commit to Build Canada's innovation, commercialization and entrepreneurship powerhouse

## **Desired outcomes**

Be a global hub for entrepreneurs and innovation-driven ventures. Scale Canadian businesses and social ventures for global impact. Define jobs of the future.

## **Sample funding priorities**


- SCI-Phys Complex
- Faculty-based student entrepreneurship
- Growth of Velocity and Concept
- Faculty research commercialization





We need

# Sustainable solutions to climate change



# We commit to Transition to a sustainable world

## **Desired outcomes**

Practical solutions in the shift to sustainability

## **Sample funding priorities**


- Environment Future Cities Initiative
- Privacy, Security, and Data initiatives
- Centres and institutes such as Water, IC3, Sustainable Energy





We need to

Address barriers and pressures  
that impact population health  
and quality of care



# We commit to Shape next generation solutions integrating health, society and technology

## **Desired outcomes**

Improve access, preventative solutions, quality of life and health outcomes for communities regionally, nationally and around the world

## **Sample funding priorities**

- AHS Global Health
- Waterloo Eye Institute
- Future of Pharmacy Fund
- Math Medicine Research and Innovation

# RELATIONSHIPS

# Significant Pipeline Growth Required

- Gifts under \$5 million grew from \$12.7 to \$18.3 to \$24.4 million in last 3 years
- Now need to inspire multiple annual gifts \$5 - \$100+ million
- Urgency of campaign-related active call culture and volunteer networks will bring new prospective donors and encourage sideliners to engage
- Current pipeline = \$600 million+; Target pipeline by 2024 = \$2 billion+
- HNW alumni net worth = \$31 - \$48 billion
- Case for support is well-suited to HNW donor interests



# Comprehensive Campaign Leadership

- President
- Vice-President Advancement
- Chancellor, Board of Governors
- Campaign Chair and Cabinet
- Internal Campaign Cabinet; Vice-Presidents, Deans
- Execution Committee: Advancement Directors, Associate Vice-Presidents, Directors, Associate Directors
- Honorary Co-Chairs
- Changemakers

# EXECUTION

## 2020 AND BEYOND



# SOFT LAUNCH AND FEASIBILITY TESTING 2020

- ✓ Meet with 100+ HNW, CEOs, Foundations: Is this case resonating?
- ✓ Do we have the pipeline potential we think? Do we have the volunteers in place?
- ✓ Resource assessment – are we maximizing our current resources? What additional resources do we need, how will we fund?
- ✓ Donor stewardship assessment completed, recommendations being implemented

# SOFT LAUNCH AND FEASIBILITY TESTING 2020

## ✓ Campaign readiness

- ✓ Every fundraiser skilled to raise \$1m+ gifts
- ✓ Turnkey projects ready to pitch
- ✓ Pipeline and funding priorities well aligned
- ✓ Raising money at increasing levels annually
- ✓ Well-prepared to respond to or create transformational big ideas

# Comprehensive Campaign Execution Plan

- ✓ Overview, Purpose, Goals
- ✓ Academic and Program Funding Initiatives
- ✓ Timeline, Core Strategies and Key Objectives
- ✓ Volunteer Leadership
- ✓ Principal Gifts/Transformational Gifts
- ✓ Organizational Structure, Budget and Resource Plan
- ✓ Outreach/Cultivation Initiatives
- ✓ Counting and Reporting Standards, Policies and Protocols
- ✓ Campaign Branding and Communication Strategy
- ✓ Donor Relations and Stewardship

# Continuous Adjustments

- Finding right goal that is both ambitious and attainable
- Timeline will accommodate fluctuating economy and political uncertainty
- Leverage advantages of new Advancement Framework
- Accurate forecasting of the potential donor base and its capacity
- Marathon not a sprint – volunteer leadership and engagement

A young woman with dark hair and glasses is smiling at the camera. She is wearing a blue t-shirt and a red apron with a logo. She is sitting at a table, holding a pen in her right hand. In the background, other people are blurred, suggesting a classroom or workshop setting.

# THANK YOU QUESTIONS?

# UNIVERSITY OF **WATERLOO**



THANK YOU

**University of Waterloo**  
**BOARD OF GOVERNORS**  
**Report of the Vice President, Administration & Finance**  
**29 October 2019**

**Update on Becoming a Signatory to the UN Principles for Responsible Investment (UNPRI)**

**Executive Summary:**

The University plans to become a UNPRI signatory in the first calendar quarter of 2020 for both the University and the Pension funds.

Management will provide an annual report on its Responsible Investment work to relevant Board Committees. In addition, a formal review of the University's continuing status as a UNPRI signatory will be conducted every three years.

This update has been shared with and is supported by the Finance & Investment Committee and the Pension & Benefits Committee.

**Background:**

At its June 2018 meeting, the Board endorsed the recommendations of the Responsible Investment Working Group. The recommendations included that staff develop a plan for the University to become a signatory in good standing to the UNPRI.

**About UNPRI:**

Responsible Investment is an approach to managing assets that encourages investors to include Environmental, Social and Governance (ESG) factors in their decisions about what to invest in and the role they play as owners and creditors. The UNPRI is a leading proponent of Responsible Investment. The UNPRI organization works to understand the investment implications of ESG factors and to support its signatories in incorporating these factors into their investment and ownership decisions.

The six principles included in the UNPRI are:

- We will incorporate ESG issues into investment analysis and decision-making processes.
- We will be active owners and incorporate ESG issues into our ownership policies and practices.
- We will seek appropriate disclosure on ESG issues by the entities in which we invest.
- We will promote acceptance and implementation of the Principles within the investment industry.
- We will work together to enhance our effectiveness in implementing the Principles.
- We will each report on our activities and progress towards implementing the Principles.

UNPRI signatories are required to submit a comprehensive annual report by March 31 each year to the UNPRI organization in line with its reporting framework. This reporting includes information on the reporting entity's investments and on its Responsible Investment activities and actions. After assessing the annual report, UN PRI publishes a public transparency report on its website for each UNPRI signatory.

**Action Plan:**

During the course of the University's analysis and development of an action plan, feedback was collected from a stakeholder group including representation from the Board, the Responsible Investment Working Group and University administration.

The UNPRI reporting framework currently includes 12 modules and over 650 questions. The UNPRI and its reporting framework are expected to evolve over time. Based on the investment assets that the University and the Pension currently hold, each fund will have between 200 – 300 questions to report on. Based on a UNPRI signing in early 2020, the University's and the Pension's first UNPRI reports will be due by March 31, 2021 and will include reporting for fiscal year/calendar year 2020. A signatory's first UNPRI reports are voluntary. The University has reviewed the UNPRI, the UNPRI reporting framework and questions and collected feedback from several Canadian signatories to the UNPRI. The University has determined that we will be in a position to submit complete and detailed UNPRI reports for this voluntary reporting period.

The University will be among a leading group in Canada by committing to UNPRI. There are currently 45 Canadian asset owners who have signed the UNPRI. These Canadian signatories include several universities; some of these universities have signed with respect to one of the university's investment mandates (i.e. the endowment). University of Waterloo, consistent with the Board approved recommendations of the Responsible Investment Working Group, will commit to the UN PRI with respect to all of its investment activities.

The University has determined initial actions required in the areas of governance, operational processes, and reporting to continue on its Responsible Investment journey.

Governance actions include:

- Reviewing and documenting the reasoning for the asset mix decisions for each investment mandate
- Establishing policies for evaluating the Responsible Investment practices of investment managers
- Refining responsibilities for managing Responsible Investment (committee versus staff)
- Monitoring and updating, when applicable, Responsible Investment policies and SIPPs/investment guidelines for each investment mandate
- Integrating Responsible Investment work with other governance topics and discussions (i.e. endowment asset allocation study, philosophical discussions on passive versus active investment management, etc.)

Operational actions include:

- Ongoing dialogue with investment managers on Responsible Investment topics
- Developing and implementing tools for evaluating Responsible Investment in investment manager selection and evaluation
- Reviewing PRI reporting framework updates, coordinating Responsible Investment activities and reporting across University investment mandates, developing and implementing reporting on Responsible Investment activity
- Seeking continuous improvement and ensuring substantive Responsible Investment activities in operational investment processes



- Utilizing UNPRI resources, annual UNPRI assessment report and other resources to build and share knowledge on Responsible Investment and to use it in continuous improvement activities
- Determining and implementing the needed resources to support these ongoing activities

The University estimates committing 1,000 hours of professional staff time each year to net new operational activities in support of Responsible Investment and its UNPRI reporting.

Dennis Huber  
Vice-President, Administration & Finance

**University of Waterloo**  
**AUDIT & RISK COMMITTEE**  
**Report to the Board of Governors**  
**29 October 2019**

This report is submitted following the committee's meetings of 24 July 2019 and 3 October 2019.

**FOR APPROVAL**

---

**1. APPOINTMENT OF EXTERNAL AUDITORS**

**Motion:** To reappoint Ernst & Young as the university's external auditors for the fiscal year ending 30 April 2020.

**Background:** This recommendation is made with the endorsement of the vice-president, administration & finance, and in conjunction with the approval of the audit plan and fee (item #3 of this report).

**FOR INFORMATION**

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**2. AUDITED FINANCIAL STATEMENTS**

The audited financial statements for the fiscal year ended 30 April 2019 were reviewed by members at the 24 July 2019 meeting and approved by the Board Executive Committee on behalf of the Board of Governors on 31 July 2019.

**3. EXTERNAL AUDIT PLAN AND FEES FOR 2019**

The committee reviewed and approved the external audit plan and fees for the fiscal year ended 30 April 2019 as proposed by the external auditors (Ernst & Young), concluding that the approach and fees are appropriate.

**4. DIRECTORS AND OFFICERS INSURANCE**

The committee received its annual report on directors and officers insurance coverage.

**5. UNIVERSITY RISK MANAGEMENT PROJECT UPDATE**

The committee received a status report on the university risk management program, as well as the university's biannual risk assessment in accordance with Policy 11 – University Risk Management.

**6. STATUTORY COMPLIANCE**

The Secretariat maintains a list of federal and provincial statutes, municipal bylaws and international regulations (the "applicable laws") posing the greatest potential for liability in the event of non-compliance. Managers responsible for institutional compliance with the applicable laws have each signed a declaration indicating that, to the extent of their responsibility and to the best of their knowledge, there are no issues of material non-compliance related to their areas of responsibility as at the date of their signature.

/rmw

M. Gamble  
Chair

**University of Waterloo**  
**PENSION & BENEFITS COMMITTEE**  
**Report to the Board of Governors**  
**29 October 2019**

This report is submitted following the committee's meetings of 14 June 2019, 20 September 2019 and 18 October 2019, for inclusion in the regular agenda.

**FOR APPROVAL**

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**1. Technical Plan Amendment Clarifying the Amortization of Unfunded Liabilities and University Contributions to the Pension Plan**

Motion: That the Board of Governors approve Amendment No. 5 to the University of Waterloo Pension Plan for Faculty and Staff, as described in Attachment #1 to this report and effective May 1, 2018.

Background: The recommended technical amendments to the pension plan text are required to maintain compliance with recent Regulations under the Pension Benefits Act (Ontario), and were prepared by the plan's consultant Aon. The amendments arise particularly from pension plan regulation changes made by the province in 2018 and document the University's obligation under the new regulations to fund any going concern or solvency deficiencies in the prescribed manner as well as the requirement to fund the "provision for adverse deviation" which is required as part of the actuarial valuation submission.

/mg

Peter Barr  
Chair

**UNIVERSITY OF WATERLOO  
PENSION PLAN FOR FACULTY AND STAFF**

Amendment No. 5

---

**The Board of Governors of the University of Waterloo resolves that the University of Waterloo Pension Plan for Faculty and Staff (amended and restated effective January 1, 2011), Registration Number 0310565 (the “Plan”), is amended to as follows:**

1. Effective May 1, 2018, paragraph (a) of Section 4.02 of the Plan shall be deleted in its entirety and replaced with the following:

“(a) Subject to Section 4.02(b), (c) and (d), the University shall each year make contributions to the Pension Fund as are required, based on the certification of the Actuary, to provide:

(i) the normal cost of the benefits currently accruing to Members under the Plan; and

(ii) for the proper amortization of any going concern unfunded liability or solvency deficiency,

both in accordance with the Pension Benefits Act, after taking into account all relevant factors including the assets of the Pension Fund and the required Member contributions.

For greater certainty, upon submission to the applicable regulatory authorities of an actuarial valuation report with an effective date on or after December 31, 2017, the University is obligated to make contributions in respect of:

(iii) the provision for adverse deviations in respect of the normal cost;

(iv) any amendment that increases going concern liabilities; and

(v) any reduced solvency deficiency under the Plan.

Notwithstanding the above, the University’s contributions to the Plan under this Section 4.02 shall be offset by any amounts contributed to the Pension Fund by an Affiliated Organization on behalf of its Members.”

**CERTIFICATION**

I \_\_\_\_\_, Secretary to the Board of Governors of the University of Waterloo, do hereby certify under the seal of the University that the foregoing resolution was duly approved by the Board of Governors at a meeting held on the \_\_\_\_ day of \_\_\_\_\_, 2019.

\_\_\_\_\_  
**Signature**

\_\_\_\_\_  
**Date**

**UNIVERSITY OF WATERLOO  
PENSION PLAN FOR FACULTY AND STAFF**

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      - (i) the normal cost of the benefits currently accruing to Members under the Plan; and
      - (ii) for the proper amortization of any going concern unfunded liability or solvency deficiency, both in accordance with the Pension Benefits Act, after taking into account all relevant factors including the assets of the Pension Fund and the required Member contributions.
- For greater certainty, upon submission to the applicable regulatory authorities of an actuarial valuation report with an effective date on or after December 31, 2017, the University is obligated to make contributions in respect of:
- (iii) the provision for adverse deviations in respect of the normal cost;
  - (iv) any amendment that increases going concern liabilities; and
  - (v) any reduced solvency deficiency under the Plan.

Notwithstanding the above, the University’s contributions to the Plan under this Section 4.02 shall be offset by any amounts contributed to the Pension Fund by an Affiliated Organization on behalf of its Members.”

**CERTIFICATION**

I \_\_\_\_\_, Secretary to the Board of Governors of the University of Waterloo, do hereby certify under the seal of the University that the foregoing resolution was duly approved by the Board of Governors at a meeting held on the \_\_\_\_ day of \_\_\_\_\_, 2019.

\_\_\_\_\_  
**Signature**

\_\_\_\_\_  
**Date**