**University of Waterloo**  
**BOARD OF GOVERNORS**  
**Tuesday 27 October 2015**

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

**President’s Reception**  
Immediately following the meeting  
Engineering 5, The Sedra Student Design Centre and second floor Atrium

Note: directions/parking information for external members to follow.  
Please convey regrets to Emily Schroeder at 519-888-4567, ext. 32749 or eschroeder@uwaterloo.ca.

### MEETING

#### OPEN SESSION

1:30  
1. Conflict of Interest  
   Oral  
   Declaration

1:35  
2. Remarks from the Chair  
   Oral  
   Information

1:40  
3. Agenda/Additional Agenda Items  
   Oral  
   Input

### Consent Agenda

**Motion:** To approve or receive for information by consent items 4-8 below.

1:45  
4. Minutes of the 2 June 2015 Meeting  
   Decision

5. Report of the President  
   a. Promotion to Professor  
   b. Recognition and Commendation  
   c. Sabbatical Leaves and Administrative Appointments/Appointment Date Changes

   a. Department Name Change: School of Environment, Resources, and Sustainability

7. Report of the Vice-President, Administration & Finance  
   a. Incidental Fees  

8. Report from the Executive Committee

### Regular Agenda

1:50  
9. Business Arising from the Minutes

1:55  
10. Report of the President  
    a. President’s Update  
    c. Risk Identification and Mitigation
d. Ranking Results – Overview and Strategies for Improvement

2:25
e. Presentation from Co-operative Education & Career Action – Rocco Fondacaro, Acting Executive Director, CECA


2:55
a. Undergraduate Admissions Update – Ray Darling, Registrar

12. Report of the Vice-President, University Relations

3:05
a. Update on Community Events [Building Our Community: 2015-16 University of Waterloo Community Impact Report]

3:15

BREAK

13. Reports from Committees

3:25
a. Audit & Risk [Financial Statements distributed]

3:35
b. Building & Properties

3:45
c. Finance & Investment

3:55
d. Pension & Benefits

4:05

14. Other Business

CONFIDENTIAL SESSION

4:15

15. Conflict of Interest

Consent Agenda

Motion: To approve or receive for information by consent items 16 and 17 below.

4:20

16. Minutes of the 2 June 2015 Meeting

17. Report of the President

a. New Appointments with Tenure

Regular Agenda

4:25

18. Business Arising from the Minutes

4:30

19. Report of the President

a. Environmental Scan: Funding Formula, Economic Development Submission

b. CFREF: Update and Status

4:50

20. Report of the Vice-President, Advancement

a. Donor List – FY15 Gifts and Pledges $250,000+
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21. Reports from Committees
   a. Audit & Risk
   b. Governance

22. Other Business

23. Next Meeting: Tuesday 2 February 2016 at 1:30 p.m.

**IN CAMERA SESSION**

24. Conflict of Interest

25. Minutes of the 1 June 2015 Meeting

26. Business Arising from the Minutes

27. Other Business

28. Adjournment

JLA/ees
20 October 2015

Logan Atkinson
University Secretary & General Counsel
Secretary to the Board of Governors
University of Waterloo
BOARD OF GOVERNORS
Minutes of the Tuesday 2 June 2015 Meeting


Guests: Stephen Amirikah, Sandra Banks, Alison Boyd, Bruce Campbell, Mario Coniglio, Ray Darling, Tobi Day-Hamilton, George Dixon, Rob Esselment, Rocco Fondacaro, Jim Frank, Kim Gingerich, Ian Goulden, Stéphane Hamade, Mark Haslett, Dennis Huber, Andrea Kelman, Jennifer Kieffer, Beth Jewkes, Terry McMahon, Kelly McManus, Nick Manning, Carlos Mendes, Catherine Newell Kelly, Ian Orchard, Daniel Parent, Tahnee Prior, Chris Read, Ellen Réthoré, James Rush, Erin Sargeant Greenwood, Tom Scott, Daniela Seskar-Hencic, Brandon Sweet, Allan Starr, Pearl Sullivan, Sean Thomas

Secretariat: Logan Atkinson, Karen Jack, Emily Schroeder, Rebecca Wickens

Regrets: Tara Collington, Cindy Forbes, Tom Jenkins, Gerry Remers, Marta Witer

Organization of Meeting: William Watson, chair of the board, took the chair, and Logan Atkinson, secretary of the board, acted as secretary. Atkinson advised that due notice of the meeting had been given, a quorum was present, and the meeting was properly constituted.

* 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.

2. REMARKS FROM THE CHAIR
The chair welcomed those present to the meeting. He asked that the annual conflict of interest declarations be completed and returned to the secretary by the end of June.

3. AGENDA/ADDITIONAL AGENDA ITEMS
The board heard a motion to approve the agenda as distributed.

Wilkinson and Booth. Carried.

Consent Agenda

It was noted that the following matters appearing in the report of the Vice-President, Administration & Finance under the Consent Agenda, item 6, would be removed from that report and presented to the Executive Committee of the board for consideration at a later date:

Amendments to the Endowment Fund and Society Fee for Students enrolled in programs in the School of Accounting and Finance.

Accounting & Finance Endowment Fund. A proposed reduction in the Accounting & Finance endowment fund fee.
Accounting & Finance Student Association Fee. The assessment and collection of a proposed new Accounting & Finance Student Association fee be assessed.

Revised Constitution of Accounting & Finance Endowment Fund. A proposed revised constitution for the Accounting & Finance endowment fund.

The board heard a motion to approve and/or receive for information by consent items 4-6 below.

Gamble and Porreca.

4. MINUTES OF THE 7 APRIL 2015 MEETING
The board approved the minutes of the meeting as distributed.

5. REPORT OF THE PRESIDENT
   a. Recognition and Commendation. The board received the report for information.

   b. Sabbatical and Administrative Leaves and Administrative Appointments. The board approved the recommended leaves and received the administrative appointments for information.

6. REPORT OF THE VICE-PRESIDENT, ADMINISTRATION & FINANCE
   a. Incidental Fees and Amendments to the School of Accounting & Finance Student Fees. 
      Incidental Fees
      Federation of Students Fee. The board approved an increase to the compulsory Federation of Students fee.
      Federation of Students Administered Fee. The board approved an increase to the Federation of Students administered fee.
      Orientation Fee. The board approved an increase to the orientation fee.
      Graduate Student Association (GSA) Administered Fees. The board approved an increase to the compulsory GSA administered fees.

The motion carried.

Regular Agenda

7. BUSINESS ARISING FROM THE MINUTES
   a. Report of the Vice-President, Advancement

      The Vice-President provided additional comment in response to a question related to the process by which metrics are established and targets set, by which levels of engagement are sustained, and through which this work has impact on international student recruitment.

8. REPORT OF THE PRESIDENT
   a. President’s Update. The board received the report for information. Slides used in the presentation may be seen here: https://uwaterloo.ca/secretariat-general-counsel/sites/ca.secretariat-general-counsel/files/uploads/files/8a_presslides_june_2_2015_.pdf.
The President provided updates on aspects of strategic plan implementation and contract teaching as additions to his written report. He asked the Vice-President, Academic & Provost to report on the recent Executive Council retreat, focusing on enabling strategic plan implementation and the position of the university nationally (in the U15) and provincially. The Vice-President commented specifically on the work towards adjusting the provincial funding formula. The top three challenges are enrolment, political instability and research funding. The Vice-President responded to a question on the allocation of student office space and the relationship between this issue and the “robust employer/employee relationship” theme in the strategic plan.

The President paid tribute to Ian Goulden and Terry McMahon, stepping down as Dean of Mathematics and Dean of Science respectively. The board acknowledged their contributions in the traditional way.

The President reminded the Board of Governors of the convocation ceremonies scheduled for next week, and especially the opening ceremony during which our new Chancellor will be installed.

9. REPORT OF THE VICE-PRESIDENT, ACADEMIC & PROVOST
   a. Undergraduate Admissions Update. The Vice-President called on University Registrar Ray Darling, and his report was received by the Board of Governors for information. Slides used in the Registrar’s presentation may be seen here: https://uwaterloo.ca/secretariat-general-counsel/sites/ca.secretariat-general-counsel/files/uploads/files/9a_ray_20150602_admissions_update.pdf.

10. REPORT OF THE VICE-PRESIDENT, UNIVERSITY RELATIONS
    The board received the report for information. Slides used in the Vice-President’s presentation may be seen here: https://uwaterloo.ca/secretariat-general-counsel/sites/ca.secretariat-general-counsel/files/uploads/files/10sandra-banks-bog-06012015-v2.pptx.

    The Vice-President provided extended comment on the upcoming Innovation Summit.

11. STUDENT PRESENTATION: TAHNEE PRIOR, PHD CANDIDATE, GLOBAL GOVERNANCE
    Prior presented a report to summarize some of the research she is conducting related to arctic law and governance, international environmental governance, and gender and climate change. Slides used in the presentation may be seen here: https://uwaterloo.ca/secretariat-general-counsel/sites/ca.secretariat-general-counsel/files/uploads/files/11_tahneePrior_slide.pdf.

12. REPORTS FROM COMMITTEES
   a. Audit & Risk.
      Delegation of Authority to Approve University of Waterloo Financial Statements, 2014-2015. The board heard a motion to approve the delegation of its authority to the Executive Committee of the board to approve the university’s audited financial statements for the fiscal year ended 30 April 2015.

      Lounds and Wilkinson. Carried.

      The board received the remaining items for information.
b. Building & Properties.  
Proposed Municipal Road Widening. The board heard a motion to approve the transfer to the City of Waterloo of a parcel of land comprising 0.188 acres (759 square metres) along the north boundary of Seagram Drive as a dedicated road allowance at no cost to the municipality.

Gamble and Tizhoosh. Carried.

The board received the remaining items for information.

c. Finance & Investment. The board received the report for information.

d. Pension & Benefits.  
Actuarial Valuation of the Pension Plan as at 1 January 2015. The board heard a motion to approve the actuarial valuation report as at 1 January 2015, recognizing that the report will not be filed with the Financial Services Commission of Ontario (FSCO).

Wilkinson and Schlegel. Carried.

The board received the remaining items for information.

13. INSTITUTE FOR QUANTUM COMPUTING ANNUAL REPORT TO INDUSTRY CANADA, EXECUTIVE SUMMARY
The chair advised the meeting that, due to the absence of certain financial information necessary to support this report, it will be referred to the Executive Committee of the board for approval when such financial information is available.

14. OTHER BUSINESS
There was no other business.

NEXT MEETING:

27 October 2015, with the President’s Reception to follow.

The board convened in confidential session.

2 June 2015

Logan Atkinson
University Secretary & General Counsel
Secretary to the Board of Governors
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 2014-15 promotion cycle carried out under Policy 77 resulted in the following individuals being promoted to professor, effective 1 July 2015.

Katherine Acheson, English Language & Literature
Sheila Ager, Classical Studies
Therese Biedl, David R. Cheriton School of Computer Science
Douglas Brown, Psychology
Barbara Csimá, Pure Mathematics
Kaan Erkorkmaz, Mechanical & Mechatronics Eng.
Myra Fernandes, Psychology
Bertrand Guenin, Combinatorics & Optimization
Kevin Hare, Pure Mathematics
Behrad Khamesee, Mechanical & Mechatronics Eng.
Debbie Leung, Combinatorics & Optimization
Grit Liebscher, Germanic & Slavic Studies
Hamed Majedi, Electrical & Computer Eng.
Stephen Mann, David R. Cheriton School of Computer Science
Christine McWebb, French Studies
Rahim Moosa, Pure Mathematics
Richard Petrone, Geography & Environmental Management
Carolyn Ren, Mechanical & Mechatronics Eng.
Michael Rubinstein, Pure Mathematics
Mathias Schulze, Germanic & Slavic Studies
Nicolaas Spronk, Pure Mathematics
Marek Stastna, Applied Mathematics
Zhongchao Tan, Mechanical & Mechatronics Eng.
Zhou Wang, Electrical & Computer Eng.
William Wong, Electrical & Computer Engineering
FOR INFORMATION

Recognition and Commendation

Tahnee Prior, a global governance PhD student at the Balsillie School of International Affairs, is the recipient of a prestigious Trudeau Foundation scholarship for her work on the future of Arctic governance. She hopes to define a new governance framework that will address the emerging and complex issues caused by climate change, resource extraction, migration and potential inter-state conflict in the Arctic. Trudeau Foundation Scholarships are the most prestigious award in Canada for doctoral students in the humanities and social sciences. Only 15 fellowships are given out nationally each year. With an annual value of up to $60,000 for a maximum of three years, the award also includes a mentorship component, and a separate annual travel allowance to support research-related travel and cover other networking, professional development and dissemination expenses. This is the second Trudeau Scholarship awarded to a doctoral student at the University of Waterloo since the start of the program in 2003. Then doctoral student Nora Doerr-MacEwen received the prestigious award in 2004. (Waterloo News, 9 June 2015)

University of Waterloo publications won a total of three gold medals at the Canadian Council for the Advancement of Education (CCAE) Prix D’Excellence Awards held during the organization’s annual conference from 10 to 12 June 2015 in Montreal. The spring 2014 issue of the Institute for Quantum Computing’s NewBit newsletter won a Prix D’Excellence Gold Medal in the Best Brochure, Newsletter or Flyer category. This is the third award for NewBit in as many weeks, as it recently won an APEX award for excellence in the newsletter category and a CASE Circle of Excellence award for external audience print newsletters. The Student Success Office’s “UwaterlooLIFE Instagram Takeover” campaign won a Prix D’Excellence Gold Medal for Best Use of Social Media. Finally, the Student Portal won a Prix D’Excellence Gold Medal in the Best Use of Multi-Media for its portal promotions. In addition, fourth-year arts and business student Jenifer Sibdhannie accepted her TD Fellowship in Advancement. Valued at $37,500, only two such fellowships are awarded annually in Canada. The Prix D’Excellence is the CCAE’s annual awards program recognizing outstanding achievements in alumni affairs, public affairs, communications, marketing, development, advancement services, stewardship, and student recruitment. (Daily Bulletin, 16 June 2015)

A number of honorees have a Waterloo connection were named to the Order of Canada on 1 July 2015. Linda Nazar was named an Officer of the Order of Canada for her contributions as a materials chemist who has developed advanced battery systems for clean energy storage. She is a professor in the Department of Chemistry, is cross appointed to the Department of Electrical and Computer Engineering, and is a researcher at the Waterloo Institute for Nanotechnology (WIN). Chancellor Emeritus Prem Watsa was named a Member of the Order of Canada for his achievements as a business leader, and for his work as a volunteer and philanthropist. Ophelia Lazaridis, a Waterloo alumna who served on the University’s Board of Governors from 2009 to 2015, was named a Member of the Order of Canada for her contributions as a community leader and philanthropist who focuses on education and the arts. Also named a Member of the Order of Canada was Professor Carolyn Hansson of the Faculty of Engineering for her contributions as a materials engineer whose efforts have reduced corrosion and improved the performance of reinforced concrete structures. Garry Rempel becomes a Member of the Order of Canada for his contributions to the field of chemical engineering, notably for advancing research in rubber
technology. He is a professor in the Department of Chemical Engineering and affiliated with the Waterloo Institute for Nanotechnology (WIN). The Order has three levels: Companion, Officer, and Member. *(Daily Bulletin, 3 July 2015)*

A Waterloo Engineering team won the 2015 Electric Mobility Canada Student Competition, an event co-sponsored by AddÉnergie and Electric Mobility Canada. The award came with a $4,500 charging station for Waterloo. At the Halifax competition, teams were presented with an electric vehicle (EV) power train configuration and battery charging issue to resolve. Each team prepared a presentation of its issue, a solution and a plan for adoption. The Waterloo team proposed a Metal/Air – LiIon Hybrid vehicle as the technical solution. Waterloo’s eight-member team was made up of chemical engineering and mechanical engineering undergraduates who are members of the University of Waterloo Alternative Fuels Team (UWAFT). Members from Mechanical Engineering were Cole Powers, Harley Tong, Mathew Joseph and Rickey Wang. Members from Chemical & Nanotechnology Engineering were Lilyn Gao, Nathan Lee and Paris Li. Team advisors were Michael Fowler, a chemical engineering professor, and Caixia (Megan) Wang, a chemical engineering master’s candidate. *(News, Faculty of Engineering, 6 July 2015)*

A collaborative project between the University of Waterloo and Maplesoft was awarded the Excellence and Innovation in the Integration of Technology in Educational Practices/Collaboration Award from the Canadian Network for Innovation in Education (CNIE). This award acknowledges the Secondary School Courseware project, a free online courseware site designed to support high school math students and teachers in calculus and pre-calculus courses. The courseware project is the result of a partnership that combines rich course materials developed by the University with Maple T.A., Maplesoft’s online testing and assessment system, and Maplesoft technology for developing, managing, and displaying dynamic STEM content. “Our collaboration with the University of Waterloo is truly a partnership that brings together two different sets of expertise in pursuit of the same vision,” said Darren McIntyre, vice-president of Business Development at Maplesoft. “While the University excels at providing academic content, our combined efforts bring this concept to the world stage using Maplesoft’s innovative technology tools. We’re grateful for the recognition of this successful partnership. This project is part of Maplesoft’s initiative to help instructors and institutions develop and provide STEM courses online.” The CNIE is a national organization of professionals committed to the effective implementation of technology and innovation in education. Their awards recognize excellence in educational processes that make use of technology to advance learning at the local, national and international levels. *(Daily Bulletin, 9 July 2015)*

First-year students in the Waterloo School of Architecture were awarded the top three prizes at the 2015 Annual Steel Structures Education Foundation Student Design Competition, announced on 30 June 2015. The theme for the 2014-2015 competition was “recycle – recycler”, where students were to explore the theme as it might be expressed in form, surfaces, members and connections, and structural and architectural design and were to provide a solution where a clear incorporation of “recycle – recycler” was the basis for structural form. Justin Ng and Tristan Sito received the Award of Excellence for their “Cable Cruise” proposal; Christy Cheng and Shaina Coulter received an Award of Merit; and Jane Hung, Winona Li and Sean Quach received an Award of Merit for their entry entitled “Steel Garden.” The student teams were supervised by Terri Meyer Boake and Matthew Spremulli of the School of Architecture. The first place team prize includes $3,000 and all-expense trip to the Canadian Institute of Steel Construction (CISC) Annual Conference in San Francisco this September to receive their award. The two Awards of Merit were worth $2,000 to be shared among the winners. *(Daily Bulletin, 16 July 2015)*

The Centre for International Governance Innovation (CIGI) announced the appointment of A. Neil Craik as Senior Fellow with its International Law Research Program (ILRP), effective immediately. Craik is current director of Waterloo’s School of Environment, Enterprise and Development (SEED). At CIGI,
Craik will explore issues of climate change and environmental law. He has particular interests in the intersection of international and domestic environmental policy, climate and geoengineering governance and environmental impact assessment. Craik is credited with having played an instrumental role in the success of the inaugural year of the CIGI ILRP and Balsillie School of International Affairs Summer Law Institute. In his current work, he examines the role of procedural obligations in governance structures addressing transboundary and global commons environmental issues. (News, Faculty of Environment, 13 July 2015)

Two incoming Waterloo Computer Science students, Jacob Jackson and Ben Zhang, were awarded a gold and bronze medal respectively at the 27th International Olympiad in Informatics. The competition was held 26 July to 2 August 2015 in Almaty, Kazakhstan. Team Canada members included Coaches Troy Vasiga (leader) and J.P. Pretti (deputy leader), Jacob Jackson, Timothy Li, Farbod Yadegarian and Ben Zhang. Li (silver) and Yadegarian (bronze) are entering Grade 12 in September. (Daily Bulletin, 7 August 2015)

Two second-year mechatronics students developed a self-driving vehicle that is the first to travel on a Canadian road. Michael Skupien, and Alex Rodrigues, founders of Varden Labs, created an autonomous shuttle based around a golf cart’s chassis during an Enterprise Co-op term. Run out of Waterloo Engineering’s Conrad Business, Entrepreneurship and Technology Centre, the E Co-op program assists and mentors students who launch businesses while earning a co-operative education credit. Rodrigues, along with Feridun Hamdullahpur, president and vice-chancellor, made history as passengers in the vehicle that drove itself around the University’s ring road on 18 August 2015. In late July, Varden Labs won $25,000 at the University’s Velocity Fund Finals event with a pitch that showed how autonomous shuttles will change the way people live and work in campus environments such as hospitals, university campuses, large-campus corporations and assisted living facilities. Returning to the classroom in September, Skupien and Rodrigues plan to continue developing their technology. (News, Faculty of Engineering, 18 August 2015)

Four incoming first-year students at the University of Waterloo are recipients of Schulich Leader Scholarships, for their demonstrated leadership in areas such as academic excellence and entrepreneurship. The students are Ella Rasmussen of Oakville, Ontario (mechatronics engineering), Madeline Shred of Ladysmith, British Columbia (biomedical sciences), Aaron Grenke of Spruce Grove, Alberta (mechanical engineering), and Cindy Wei of Coquitlam, British Columbia (kinesiology). This year’s scholars have averages ranging from 94 to 99 per cent, and extracurricular activities that include founding a humanitarian group and participating in international robotics competitions and competitive sports. All of the scholars were drawn to Waterloo for its reputation for innovation, high standards, and entrepreneurial spirit. Open to every high school, secondary school and CEGEP across Canada, Schulich Leader Scholarships recognize Canadian students who plan to study one of the STEM disciplines during their undergraduate years at university. (Daily Bulletin, 8 September 2015)

Four professors from Waterloo are among the newly-announced fellows of the Royal Society of Canada (RSC) who have been peer-elected as the best in their field. The fellowship of the RSC consists of individuals who have made outstanding contributions in the arts, the humanities, science, and Canadian public life. Waterloo’s newest Royal Society fellows are as follows: Phillipe Van Cappellen, earth and environmental sciences; David Cory, Institute for Quantum Computing/chemistry; Eric Helleiner, political science; and Xuemin Shen, electrical and computer engineering. The RSC names about 80 new fellows annually. This year’s induction ceremony will take place on 27 November 2015 in Victoria. (Daily Bulletin, 9 September 2015)
Six young women entering STEM disciplines in science, technology, engineering and mathematics will begin their studies this year with $12,000 HeForShe IMPACT Scholarships from Waterloo. The new scholarship program is part of Waterloo’s ongoing efforts to achieve gender equity in academic programs that have traditionally been male dominated. They will be awarded to 24 young women over the next four years for a total of $288,000. Waterloo is one of only ten universities around the world to join the United Nations HeForShe IMPACT 10x10x10 campaign, a global commitment launched last year to promote gender equity. This year’s recipients are Anya Forestell (physics and astronomy), Sally Hui (mechatronics engineering), Sarah Muth (mathematical physics), Joyce (Anqi) Yang (computer science), Jenny Ma (computer engineering), and Zhuo Yu (mathematics). (Waterloo Stories, 14 September 2015)

Bessma Momani, a professor in the Department of Political Science, was awarded one of five 2015 Trudeau Foundation Fellowships. Addressing issues emerging at the intersection of international economics, finance, and global politics, Professor Momani has published and spoken extensively on topics such as the International Monetary Fund, the World Bank, Middle East politics and political economy, and the global politics of the Arab Spring. She has produced eight authored and co-authored books, published 53 peer-reviewed articles and chapters, and made more than 90 presentations in both academic and policy-oriented settings. In addition to her appointment in Political Science and the Balsillie School of International Affairs, Professor Momani is a senior fellow at Waterloo’s Centre for International Governance Innovation (CIGI). She has also been a non-resident senior fellow at the Brookings Institute in Washington DC, a Fulbright scholar at Georgetown University’s Mortara Researcher Center, and a visiting scholar at the Amman Amman Institute. (News, Political Science, 15 September 2015)

Three professors from the Waterloo are among the new members of the Royal Society of Canada (RSC) College of New Scholars, Artists and Scientists. Members have reached a high level of achievement at an early stage of their careers. They represent the emerging generation of scholars and leaders in science and the arts in the country. The Waterloo researchers among the incoming members of the College of New Scholars, Artists and Scientists are Karen E. Collins (drama and speech communication), David Hammond (School of Public Health and Health Systems), and Zhou Wang (electrical and computer engineering). There were 48 new members named last week. This year’s induction ceremony will take place on 27 November 2015 in Victoria. (Daily Bulletin, 29 September 2015)
FOR APPROVAL

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, 2016 to June 30, 2016, at 85% salary
I have these main goals: a) Develop the EEG and Eye movement analyses methods recently adopted by my lab, b) Develop/write/submit both a CIHR project grant (with co-principal investigator, James Danckert) (due March 2016) and my NSERC Discovery renewal (due Fall 2016), c) Prepare for an international symposium anticipated May 2016, d) Develop new modeling tools for the cognitive modelling of decision making and attention.

Ban, Dayan, Electrical and Computer Engineering, January 1, 2016 to June 30, 2016, at 100% salary
I will focus my research in photonics and nanotechnology, establish new collaboration with world-class institutes, and improve my teaching quality. I will mainly stay on campus but will make some short-term visits to other universities, including Tsinghua University (Beijing, China); Univer Karlsruher Institut Technologie (Germany); Université Paris-Sud (France); University College London (England); Huazhong University of Science and Technology (Wuhan, China).

Beesley, Philip, Architecture, January 1, 2016 to June 30, 2016, at 100% salary
I will direct the Living Architecture Systems Group (LASG), bringing together researchers and industry collaborators from Canada, USA, and Europe in an interdisciplinary research cluster dedicated to the
objectives of developing innovative technologies, new critical aesthetics and integrative working methods in support of an emerging trend of architectural design that challenges fundamental questions regarding the definition of life.

Betz, Emma, Germanic and Slavic Studies, January 1, 2016 to June 30, 2016, at 100% salary
Through collaboration with researchers in Germany and Finland, I will expand the cross-linguistic aspects of my research project on confirmation tokens in spoken interaction and begin the manuscript for a book on confirmation. I will also complete data gathering (video recordings, interviews) in Germany for a pilot project on language use by adolescents (UW SSHRC seed grant “Tracing knowledge displays”).

Bobier, William, Optometry and Vision Science, January 1, 2016 to June 30, 2016, at 100% salary
My research aims to understand the basic neural mechanisms which underlie anomalies of binocular eye alignment and ocular focusing. During this sabbatical, I plan to extend this work through deeper collaborations, increased publications and applications for grant funding from both basic neuroscience and clinical sources.

Calamai, Paul, Systems Design Engineering, January 1, 2016 to June 30, 2016, at 98.9% salary
The proposed research will focus on the formulation of design problems using configuration optimization and to further theoretical and applied aspects of configuration optimization as they apply to greenlands system design which involves the development of tools and decision support systems to address such problems as habitat fragmentation at the landscape scale resulting from urban sprawl.

Chen, Zhongwei, Chemical Engineering, January 1, 2016 to December 31, 2016, at 85% salary
I will strengthen research collaborations with industrial partners, develop new research proposals, design and build a significant new electrochemical power source test bench in a new research area, and move the current experimental research lab to the new building. A new research program will be developed with respect to next generation high capacity lithium-sulfur batteries.

Cooper, Andrew, Political Science, January 1, 2016 to June 30, 2016, at 85% salary
The acronym BRICS (Brazil, Russia, India, China and South Africa) has become synonymous with a shift in power in the 21st century. Yet, despite its widespread prominence in academic and popular commentary on global economic and political affairs, the nature of the BRICS is not well understood. Originally created to highlight a set of similar economic characteristics possessed by Brazil, Russia, India, and China, the acronym has evolved to take on a diplomatic format. These sustained group dynamics have in turn opened up a debate about whether the BRICS poses a geostrategic challenge to traditional western dominance via a significant reordering of the global system. With these different perspectives, I am to finish a book analyzing the BRICS.

Deadman, Peter, Geography and Environmental Management, January 1, 2016 to June 30, 2016, at 100% salary
I will participate in projects focused on understanding the impact of government cash transfer programs on household livelihood, and community resilience to climate change in the Amazon estuary, and on the role of ancient tank irrigation systems in increasing climate change adaptability in Tamil Nadu, India.

Denison, Stephanie, Psychology, January 1, 2016 to June 30, 2016, at 100% salary
I will continue to work on my main line of research with two of my PhD students on probabilistic reasoning and the origins of inductive inference in early childhood. I will also work on my emerging line of research with one PhD student on theory of mind in infancy and desire-based reasoning.
Duguay, Claude, Geography and Environmental Management, January 1, 2016 to December 31, 2016, at 85% salary
I plan to spend most of my sabbatical in Waterloo working on the preparation of manuscripts and research proposals, combined with a three-month visit at the Laboratoire d’Études en Géophysique et Océanographie Spatiales (Toulouse) to work with French colleagues on the analysis of ice cover and water level of Arctic lakes and rivers using spaceborne radar altimetry.

Emerson, Joseph, Applied Mathematics, March 1, 2016 to August 31, 2016, at 85% salary
During this sabbatical leave I plan to focus on developing a comprehensive set of theoretical techniques and experimental protocols for characterizing and assessing the performance of quantum information devices.

Erenay, Fatih, Management Sciences, January 1, 2016 to June 30, 2016, at 100% salary
This sabbatical leave will give me a period of concentrated time to focus on my research on the area of operations research applications in healthcare (medical decision making) and facilitate my publication record. I plan to focus on two research projects on optimizing colorectal cancer screening and surveillance policies, complete four working papers, and revise my currently submitted papers.

Fedy, Bradley, Environment and Resource Studies, January 1, 2016 to June 30, 2016, at 100% salary
I will devote the majority of my time to working on large-scale landscape genetics of a species of conservation concern, the greater sage-grouse. This will involve working with collaborators from U.S. Fish and Wildlife Service, U.S. Geological Survey, U.S. Forest Service and several universities.

Ganesh, Vijay, Electrical and Computer Engineering, January 1, 2016 to June 30, 2016, at 100% salary
I will focus on my area of research in computer-aided reasoning and Satisfiability (SAT) and Satisfiability Modulo Theories (SMT) solvers as applied to software engineering, security and mathematics which are currently in use in 100+ research projects. My sabbatical leave will focus on complexity-theoretic aspects of why these solvers work so efficiently, even though the problems solved by them are believed to be intractable (e.g., NP-complete (nondeterministic polynomial time)) in general.

Gauthier, Nicolas, French Studies, January 1, 2016 to June 30, 2016, at 100% salary
Completion of the second phase of my online database of newspaper fiction; submission of three journal articles; organization of the annual conference of the Association canadienne des études francophones du XIXe siècle.

Graham, Kenneth, English, January 1, 2016 to June 30, 2016, at 85% salary
I will begin a new project entitled “Saying Grace: Shakespeare’s Religious Language.” Emerging from my previous work on Renaissance rhetoric and on Reformation religious culture, this research will explore the forms, theology, and historical engagements of religious language in such plays as “King Lear, The Winter’s Tale,” and “Cymbeline,” considering both what this language says and what it does.

Grimwood, Bryan, Recreation and Leisure Studies, January 1, 2016 to June 30, 2016, at 100% salary
My research explores human-nature relationships in contexts of leisure/tourism, livelihoods, and environmental learning and management. My multi-phased SSHRC funded research involves collaborating with indigenous and tourist communities to document culturally diverse relationships with a special and changing Arctic riverscape. During my sabbatical leave, I will complete current initiatives and advance new opportunities associated with this research.

Gzara, Fatma, Management Sciences, January 1, 2016 to June 30, 2016, at 85% salary
I will work on research related to two ongoing industry projects funded by an OCE VIP 2 grant and NSERC Collaborative Research and Development grant in collaboration with partner Dematic Limited. The first project research focuses on data analytics for warehouse management and the second focuses on
optimization of mixed-case palletisation for warehouse management systems. I plan to spend most of the time at the University of Waterloo.

**Heckman, George**, Public Health and Health Systems, January 1, 2016 to June 30, 2016, at 100% salary

*My research focuses on health systems’ based solutions to improve the care of seniors with advanced cardiac disease and heart failure. I wish to enhance my statistical skills, under the supervision of Dr. John Hirdes, through the Statistical Analysis System (SAS) Institute courses, and study factors for successful care transitions of older heart failure (HF) patients from home care to long term care.*

**Hipel, Keith**, Systems Design Engineering, January 1, 2016 to December 31, 2016, at 100% salary

*Research will be carried out for significantly advancing the emerging field of systems engineering for tackling tough systems problems involving water, energy and the environment using new developments that will be made in conflict resolution and multiple criteria decision analysis. Specific topics include matrix methods for reaching a desirable outcome, value-focused policy analysis, and demand-side fair resource allocation.*

**Hoeppe, Götz**, Anthropology, January 1, 2016 to June 30, 2016, at 85% salary

*My two goals are: a) to continue writing up my anthropological study of astronomers’ collaborative practices with digital data and to submit a book proposal to academic publishers, and b) to do fieldwork for an anthropological history of how representations of marine resources have been made and contested in Kerala state (India) in preparation for a proposal submission to SSHRC.*

**Horton, Susan**, Economics, January 1, 2016 to June 30, 2016, and January 1, 2017 to June 30, 2017 at 85% salary

*I plan to request the Hospital for Sick Children to continue my affiliation as Visiting Scholar in Residence. I expect to travel to Tanzania for my ongoing IDRC-funded project on fortification of sunflower oil. I anticipate other invitations to present my work internationally, and to continue my research on health prioritization in low and middle income countries.*

**Huck, Peter**, Civil and Environmental Engineering, January 1, 2016 to June 30, 2016, at 85% salary

*I will work primarily at the Technical University of Berlin, collaborating with Professor Martin Jekel on developing techniques to control micropollutants in the urban water cycle. I will also spend a smaller amount of time in Switzerland collaborating with the consulting firm Reed, Wells, Benson & Company (RWB Engineering and will begin working on a comprehensive book on biological filtration processes.*

**Illman, Walter**, Earth and Environmental Sciences, January 1, 2016 to December 31, 2016, at 100% salary

*I will: a) implement Hydraulic Tomography (HT) at a larger scale relevant to industrial applications; b) obtain new funding on HT in the areas of water, contaminant remediation, waste disposal, mining and petroleum industries; c) write the first book on HT; and d) explore new research areas.*

**Johnson, Peter**, Geography and Environmental Management, January 1, 2016 to June 30, 2016, at 100% salary

*I will be spending a portion of my time at the University of Washington (Seattle and Tacoma campuses), working with colleagues on several areas of geographic information system science, including the development of metrics to assess the value of government open data, and the use of mobile devices for citizen contribution of information to government decision-making.*

**Knight, Mark**, Civil and Environmental Engineering, January 1, 2016 to December 31, 2016 at 100% salary

*My sabbatical will explore the state-of-the-art industry water infrastructure asset management practices in Australia, New Zealand, UK and Spain. It will also educate industry professional’s on our novel system*
dynamics approach to solicit industry uptake and new research partners. Information gathered will be used to prepare a book on advances in water infrastructure asset management practices.

Lam, Jean-Paul, Economics, January 1, 2016 to December 31, 2016 at 100% salary
I will complete some of the research I have been pursuing on the benefits of price level targeting and the interdependence between the stock market and monetary policy.

Lashgarian Azad, Nasser, Systems Design Engineering, January 1, 2016 to June 30, 2016 at 100% salary
I will use this period to strengthen my research collaborations with industry partners. I will stay at Waterloo and continue supervising my graduate students. Also, I will further expand my research program in the area of intelligent vehicle control systems.

Leat, Susan, Optometry and Vision Science, January 1, 2016 to June 30, 2016 and January 1, 2017 to June 30, 2017, at 97.5% salary
I will be writing and publishing papers for academic journals and furthering my research at the University of Waterloo campus, as well as developing a new project “Rehabilitation post stroke with Visual Midline Shift Syndrome” in collaboration with Dr. Tammy Labreche (who I am mentoring), continuing with the project “Development of form visual acuity in infants measured by gaze tracking” in collaboration with Elizabeth Irving (UW) and Moshe Eizenman (U of Toronto), and continuing to develop the project “Vision and Falls in Hospitals” in collaboration with Aleksandra Zecevic (Western) and others. The latter 6 months of the sabbatical will include grant writing to support these projects.

Lepage, Elise, French Studies, January 1, 2016 to June 30, 2016, at 100% salary
My current research project is at the intersection of Quebec poetry and visual arts. I plan to write several chapters of my second book, whose projected title is “Du pays au paysage. La poésie québécoise depuis 1950” [From the Land to the Landscape: A Perspective on Quebec’s poetry since 1950], and to undertake research on the others.

Leung, Debbie, Combinatorics and Optimization, January 1, 2016 to June 30, 2016 at 85% salary
I will visit John Preskill and Fernando Brandao at Caltech to conduct research on black hole information and channel capacities. I will also make other research collaboration visits to institutions such as the IBM Thomas J. Watson Research Center, Centrum Wiskunde & Informatica, Amsterdam (CWI) and Cambridge University.

Liebscher, Grit, Germanic and Slavic Studies, January 1, 2016 to June 30, 2016 at 100% salary
During my sabbatical, I will work on the dissemination of research connected to two LITE grants (Intercultural Awareness 2012, Intercultural Encounters 2014). I will also collect data from an online course project, in which I collaborate with the University of Mannheim. I will spend some time to work on a new grant proposal on migration experiences and second language learning.

Lien, Fue-Sang, Mechanical and Mechatronics Engineering, September 1, 2016 to February 28, 2017 at 100% salary
My main goal is to work on various projects related to, e.g., short-term wind power forecasting supported by NSERC and OCE in collaboration with York University, and development of mixing models for multiphase flows in collaboration with Defence R&D Canada – Suffield. In addition, I hope to publish a few journals and conference papers and possibly receive new sources of funding during this leave.

Mielke, John, Public Health and Health Systems, January 1, 2016 to June 30, 2016 at 100% salary
Using a variety of physiological models, my research programme aims to understand how social and nutritional adversity can become biologically embedded in such a way as to affect not only brain function in an individual, but also brain development in their offspring.
Mitchell, Carrie, Planning, February 1, 2016 to July 31, 2016 at 100% salary
I will be working on four articles on climate change adaptation in preparation for tenure and promotion in 2017 and will travel to Southeast Asia to conduct primary research for my proposed SSHRC grant, entitled: “The politics of planning for adaptation to climate change: Experience from Ho Chi Minh City, Vietnam and Jakarta, Indonesia”.

Palmer, Michael, Chemistry, January 1, 2016 to December 31, 2016 at 100% salary
I intend to pursue experimental work on a novel, hypothetical strategy for treating childhood epilepsy through a combination of ketogenic diet and pharmacological inhibition of acetone degradation. I hope to perform animal experiments to test this hypothesis. I also intend to further my work on the action mode of lipopeptide antibiotics.

Piérard, Emmanuelle, Economics, January 1, 2016 to June 30, 2016 at 85% salary
I will spend my leave working on projects exploring the effect of economic conditions on mortality rates, cancer incidence rates, births and marriage rates. My research will focus on Canada and the United States. Some of these projects have been ongoing while the project using data concerning cancer incidence is new.

Potwarka, Luke, Recreation and Leisure Studies, November 1, 2016 to April 30, 2016 at 100% salary
I will be dedicated to advancing a two-year multiphase research project titled: “Leveraging Community Sport Participation Legacies of the 2015 Pan Am and Parapan Am Games: The Case of Track Cycling in Milton’s Velodrome”. Consistent with my area of research, this project explores participation impacts of a megasport event.

Rasmussen, Ann Marie, Germanic and Slavic Studies, January 1, 2016 to June 30, 2016 at 85% salary
January-March in Germany; April-May in Canada and US; June research trip to UK, Low Countries, working on (a) Medieval badges, completing manuscript for publication and researching argument that badges are first mass media in the West; (b) Story Worlds: research, writing, and consulting for interdisciplinary grant proposal to study story across time, space, language, and media.

Roy, Susan, History, January 1, 2016 to June 30, 2016 at 100% salary
I will conduct research in British Columbia and Ottawa relation to my SSHRC funded project, “The Indigenous Archive: Sechelt Genealogy, Literacy, and the Colonial Encounter.” This research examines the shifting historic relationships between Sechelt families and the land- and waterscapes and will contribute to deeper understandings of local Indigenous knowledge, governance, and territoriality in Canada.

Sanderson, Joseph, Physics and Astronomy, January 1, 2016 to June 30, 2016, at 100% salary
The research to be carried out during the sabbatical will focus on imaging molecular processes on ultrafast femtosecond timescales, using sources such as the free electron laser, high intensity ultra violet laser pulses in order to track chemical reactions in real time, for single molecules.

Sbardellati, John, History, January 1, 2016 to June 30, 2016, at 85% salary
Begin research project on race and American Cold War culture; conduct research for this project at archives in New York, Texas, and California; work on an article exploring the role of film in projecting ideas about race during World War II and the early Cold War; prepare a SSHRC Insight Grant proposal to support this project.

Schneider, Gerald, Mechanical and Mechatronics Engineering, January 1, 2016 to December 31, 2016, at 100% salary
I will be expanding my research programs on two fronts: microfluidic computation fluid dynamics with application to medical lab-on-a-chip devices; and application and validation of previously developed Computational Fluid Dynamics (CFD) algorithms to important application areas including airframe icing,
rarefied high speed flows, and combustion kinetics as in rocket propulsion, incinerator performance improvement, and internal combustion engine performance improvement.

Seasons, Mark, Planning, January 1, 2016 to June 30, 2016, at 100% salary
I will develop and write a co-authored text on my ongoing research area: the monitoring and evaluation of urban plans. The product will be a primer designed for several audiences: students in Planning programs, course managers, and urban planning practitioners across Canada.

Singh, Rashmee, Sociology and Legal Studies, January 1, 2016 to June 30, 2016, at 100% salary
I currently have two research projects. One examines the use and effects of visual evidence in domestic violence trials (funded by a SSHRC Insight Grant). The other explores the specialized prostitution courts in Chicago. I am also working on a book on specialized domestic violence courts in Toronto based on my thesis research.

Sivoththaman, Siva, Electrical and Computer Engineering, January 1, 2016 to December 31, 2016, at 100% salary
Networking with international partners (Belgium, Germany) to expand ongoing research at the Centre for Advanced Photovoltaic Devices and Systems; carrying out research on the development of evaluation methodologies for toxicity risks on the use of nanomaterials in large-scale manufacturing of future photovoltaic devices; work on a book on advanced Photovoltaics (PV); strengthen collaboration with Canadian industry partners on the Refined Manufacturing Acceleration Process (ReMAP) network.

Skuterud, Mikal, Economics, January 1, 2016 to December 31, 2016, at 85% salary
I plan to complete two projects examining the impact of: a) immigration on innovation using Canadian patent data; and b) temporary foreign worker entries on employment rates and wages of permanent residents. The second project is in partnership with Citizenship and Immigration Canada (CIC), which I will build on through a new project on language training using CIC’s administrative data.

Stewart, Cameron, Pure Mathematics, July 1, 2016 to June 30, 2018, at 100% salary
While based primarily at the University of Waterloo, I plan to investigate several open questions in number theory concerning the distribution of prime numbers and the solution of equations in integers or rational numbers.

Vester, Christina, Classical Studies, January 1, 2016 to June 30, 2016, at 100% salary
Contribute to the sub-discipline of ancient Greek and Roman cultural history by completing the volume “Themes in Greek Society and Culture” (lead editor) and writing two article length manuscripts: “Fame and the Father on the Hellenistic Stage”, and “Self-perception and Survival in Seneca’s Troades”.

Walbridge, Scott, Computer and Electrical Engineering, May 1, 2016 to October 31, 2016, at 100% salary
In the summer of 2015, I was awarded a German Humboldt Fellowship to travel to Technische Universität Berlin (TU) in 2016 and conduct research on fatigue testing and reliability analysis of stay cable saddle systems. I will be working with Professor Schlaich and Dr. Goldak and their associates.

Waslander, Steven, Mechanical and Mechatronics Engineering, May 1, 2016 to April 30, 2017, at 85% salary
Sabbatical leave to undertake extensive research agenda in collaboration with colleagues at the University of Sydney in Sydney, Australia and Queensland University of Technology in Brisbane, Australia. Focus is on advanced visual perception methods for aerial robotics. One major output will be a graduate level textbook on multirotor unmanned aerial vehicles.
**Weber, Mark**, Conrad Centre, January 1, 2016 to June 30, 2016, at 85% salary
*Sabbatical objectives include the completion of three projects related to trust and cooperation and the development of a book manuscript that bridges principles of academic social psychology and managerial practice. Completion of existing projects will involve collaboration with colleagues at York, HEC, Northwestern, and University of Illinois. Prepare of a grant application to advance the work is also planned.*

**Weckman, David**, Mechanical and Mechatronics Engineering, January 1, 2016 to June 30, 2016, at 100% salary
*I plan to stay in Waterloo and write a number of research articles on the weldability of aluminum, magnesium and dual-phase steel sheet by arc and laser welding processes, and co-casting of composite aluminum alloy ingots for the making of clad aluminum sheet products. These articles will be based on past graduate student thesis work.*

**Weckman, Elizabeth**, Mechanical and Mechatronics Engineering, January 1, 2016 to June 30, 2016, at 100% salary
*Exciting avenues of large scale fire research will be pursued with students and partners at UW Live Fire Facility. These include investigations into fire safety onboard naval vessels of the Royal Canadian Navy (RNC); performance of Fire Retardant (FR) materials for aircraft for Textile Rubber and Chemical Co. of Canada (TRCC); fire growth/ventilation in houses with the Kitchener Fire Department and the Office of the Fire Marshal and Emergency Management (OFMEM) and wall heat transfer in real fires with Roxul Inc. at our new (2015) burn house and wall fire facilities.*

**West, Jeffrey**, Civil and Environmental Engineering, January 1, 2016 to December 31, 2016, at 100% salary
*This leave will be spent at the Janney Technical Center in Northbrook, Illinois to collaborate on a range of testing and research projects involving the assessment and repair of existing infrastructure. The remainder of the leave will involve the exploration of new research relationships with members of the modular construction industry in Ontario, including fabricators, contractors, and consultants.*

**Westley, Frances**, Environment, Enterprise and Development, January 1, 2016 to June 30, 2016, at 85% salary
*I have been invited to Stockholm Resilience Centre to work on a team research project on the Cultural and Psychological Sources and Sinks of Resilience. I will also work on several articles on social innovation and a book manuscript underway on social innovation.*

**Witt, Jonathan**, Biology, January 1, 2016 to December 31, 2016, at 100% salary
*I will be working on several research and writing projects related to crustacean genetics, toxicology and evolution, as well as spending some time at the University of Oklahoma biological station working on collaboration with a colleague.*

**Wood, Joanne**, Psychology, January 1, 2016 to June 30, 2016, at 85% salary
*I will concentrate on two research programs: (a) self-esteem as a predictor of the quality of close relationships and (b) negative expressivity. I will analyze the large amount of data my students and I have collected on these topics, write articles based on this work to submit for publication, and design new data collection for these projects.*

**Xie, Liang-Liang**, Electrical and Computer Engineering, January 1, 2016 to December 31, 2016, at 85% salary
*I’ll be focusing on my research in the field of network information theory. Mostly, I’ll stay at the University of Waterloo, working on current research projects with my students, and also exploring new research directions. I’ll also travel to some conferences and other universities.*
Sabbatical Leave Change
Sanita, Laura, Combinatorics and Optimization, cancelled leave from July 1, 2015 to December 31, 2015

Administrative Leave
Deadman, Peter, Geography and Environmental Management, July 1, 2016 to October 30, 2016, at 100% salary
I will participate in projects focused on understanding the impact of government cash transfer programs on household livelihood, and community resilience to climate change in the Amazon estuary, and on the role of ancient tank irrigation systems in increasing climate change adaptability in Tamil Nadu, India.

Lamb, Kevin, Applied Mathematics, January 1, 2016 to April 30, 2016, at 100% salary
Internal gravity waves are an important physical process in the ocean where they are primarily generated by winds and by tide-topography interactions. They can transport energy large distances from their generation site and are an important source of mixing. During this leave I will pursue research on various aspects of these waves.

FOR INFORMATION

2. Administrative Appointments
Acheson, Katherine, appointment as Associate Dean, Undergraduate Programs, Faculty of Arts, July 1, 2015 to June 30, 2019.

Boychuk, Gerry, re-appointment as Chair, Political Science, Faculty of Arts, January 1, 2016 to June 30, 2017.

Callaghan, Jack, appointment as Interim Associate Dean, Research, Kinesiology, Faculty of Applied Health Sciences, July 1, 2015 to December 31, 2015.

Duncker, Bernard, re-appointment as Associate Dean, Research, Faculty of Science, January 1, 2016 to December 31, 2018.

Gorecki, Tadeusz, re-appointment as Associate Dean, Co-op, Faculty of Science, September 1, 2015 to August 31, 2016.

Houston, Andrew, re-appointment as Acting Chair, Drama and Speech Communication, Faculty of Arts, July 1, 2015 to June 30, 2016.

Lin, Shoufa, appointment as Associate Dean, International Programs, Faculty of Science, September 1, 2015 to August 31, 2016.

Moffatt, Barbara, re-appointment as Associate Dean, Student Relations, Faculty of Science, September 1, 2015 to August 31, 2018.

Moresoli, Christine, appointment as Associate Dean, Education and Professional Affairs, Faculty of Engineering, September 1, 2015 to August 31, 2018.

Park, Robert, appointment as Associate Dean Infrastructure and Technology, Faculty of Arts, July 1, 2016 to June 30, 2018.
Rowlands, Ian, appointment as Associate Dean, Strategic Initiatives, Faculty of Environment, July 1, 2015 to June 30, 2018.

Sheppard, Lola, appointment as Interim Director, School of Architecture, Faculty of Engineering, July 1, 2015 to September 30, 2015.

Simpson, Jennifer, appointment as Acting Associate Dean Infrastructure and Technology, Faculty of Arts, July 1, 2015 to June 30, 2016.

Spafford, Marlee, re-appointment as Associate Dean, Undergraduate Studies, Faculty of Science, April 1, 2016 to March 31, 2019.

Stone, Michael, appointment as Interim Associate Dean, Research, Faculty of Environment, January 1, 2016 to December 31, 2016.

Taylor, William, re-appointment as Chair, Department of Earth and Environmental Sciences, Faculty of Science, September 1, 2015 to August 31, 2016.

Wandel, Johanna, appointment as Interim Chair, Geography and Environmental Management, Faculty of Environment, January 1, 2016 to December 31, 2016.

Administrative Appointment Change

Park, Robert, appointment as Associate Dean Infrastructure and Technology, Faculty of Arts, change from July 1, 2014 to June 30, 2018 to July 1, 2014 to June 30, 2015.

Feridun Hamdullahpur
President
FOR APPROVAL

DEPARTMENT NAME CHANGE

1. **Motion:** To approve a change in the name of the Department of Environment and Resource Studies to the School of Environment, Resources, and Sustainability as described in Attachment 1 and effective 1 January 2016.

**Rationale:** The current name of the department is a reflection of the department’s complement, focus and mandate from a previous era. With the significant expansion that has occurred over time, in conjunction with the evolution of the department foci into new and emerging areas of environmental education and research, this new name signifies the broad transdisciplinary approach that will underpin success in these areas for years to come. Further, changing the name to a school is also consistent with the nomenclature used by our peer universities. This change was approved at Senate on 15 June 2015.

Ian Orchard  
Vice-President, Academic & Provost
The School of Environment, Resources, and Sustainability

Proposal

The Department of Environment and Resource Studies (ERS) has been a part of the Faculty of Environment since 1969. At its creation, ERS (originally known as the Department of Man-Environment Studies) was a small, primarily undergraduate-focused program. ERS now has 14 full-time faculty members, and offers undergraduate and graduate (Master’s and PhD) programs to students who seek the kind of strongly interdisciplinary education and training that is needed to address contemporary environmental challenges and opportunities.

We believe that our current name no longer captures our character and focus accurately. Therefore, the Department seeks to better define itself with a new name: **School of Environment, Resources, and Sustainability (SERS)**. *This proposal has been endorsed by the Faculty of Environment’s Faculty Council at its meeting on December 1, 2014.*

Context and Rationale

As ERS has expanded over the years, our focus has crystalized. We have transitioned from a very broad “environmental studies” program to a much more focused unit whose members are united around a core mission of achieving sustainability in an increasingly complex world. Interdisciplinary environmental research and education are central to our mission. Faculty members are highly research active, securing funds from traditional academic sources as well as foundations and industry. These resources support a strong and growing cohort of graduate students. Reflecting our shared desire to bridge theory and practice, our faculty and students (graduate and undergraduate) engage deeply with policy makers, resource managers, industry, communities and citizens.

Through a lengthy process of reflection and consultation with internal and external stakeholders during the past two years, we have concluded that our current orientation no longer fits well with the more passive perspective that often is associated with “environmental studies”. Adding to this pressure, the milieu in which we operate has not remained static.

- Our Faculty of Environment has added two new units (School of Environment, Enterprise and Development, and Department of Knowledge Integration), both of which share the interdisciplinary orientation of ERS.
- In Canada, and around the world, the number of universities that offer programs designed to deliver an interdisciplinary perspective on environmental problem solving has grown substantially.

These pressures and changes pointed clearly to the need for change within ERS. In response, we are currently undertaking a lengthy curriculum redesign to focus our undergraduate and graduate programs on our areas of strength, and to ensure that we are well positioned not only to support Faculty strategic objectives, but also to further distinguish our programs from those of our sibling units. Our proposed new name – **School of Environment, Resources, and Sustainability** – will be the public face of those changes.

The choice of “Environment, Resources, and Sustainability” was deliberate and strategic, and followed extensive research and consultation with faculty and staff, undergraduate and graduate students, alumni, employers and other stakeholders. Importantly, our proposed name was strongly endorsed by the two external reviewers who evaluated our department in April, 2015. The rationale for using these terms in our proposed name is as follows:
• **Environment**: Leading with the term “environment” clearly signals our fit within the Faculty, and our main subject of concern. We currently specialize in certain aspects within this broad field – e.g., ecosystem restoration, resilience, governance for food, water and energy. However, a broad focus on “environment” is compatible with our integrative orientation.

• **Resources**: Our use of the term “resources” reflects the real strength of our faculty and students in the field of resource analysis (understanding how the earth’s natural resources – water, land, ecosystems, etc. – can be utilized in a sustainable fashion).

• **Sustainability**: Many of our faculty and graduate students are engaging with ideas at the cutting edge of environmental thought such as “the Anthropocene” and “resilience”. However, these specialized concepts do not resonate with the wider public, and in particular with a critical audience: prospective undergraduate students. Therefore, we chose to emphasize sustainability – a concept that is widely understood and used in the public sphere, and which has part of the bedrock of our teaching and research for over two decades. To illustrate, our current PhD program is titled “Social and Ecological Sustainability”.

Our use of the term “School” instead of “Department” was equally deliberate. The rationale is twofold:

• We believe that the name “School” supports our core mission of achieving sustainability in an increasingly complex world through interdisciplinary research and education. As noted above, the changes we are making, or proposing to make, to our undergraduate and graduate programs are designed to align with this perspective. We believe that using the term “School” will have a major positive impact on how we perceive ourselves, and on how we are perceived.

• From a practical perspective, most of our main competitors are “Schools”. The term is widely used in the names of interdisciplinary academic units that focus on environmental themes. For example, in Canada alone we compete for students with the programs shown in the accompanying box. For recruitment purposes, we view it as essential that we are on the same playing field as our competitors.

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Our Main Competitors are “Schools”

School of Environmental Studies, Queen’s University
School of Environmental Studies, University of Victoria
School of the Environment, University of Toronto
School of Environmental Sciences, University of Guelph
McGill School of Environment, McGill University
School of Environment and Sustainability, University of Saskatchewan
School of Resource and Environmental Management, Simon Fraser University
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Ian Rowlands  
Chair (Acting)  
Department of Environment and Resource Studies

Jean Andrey  
Dean  
Faculty of Environment
FOR APPROVAL

Incidental Fee Changes

1. Graduate Student Association (GSA) Fee

It is recommended that the compulsory GSA Fee, assessed and collected each term from all full-time and part-time graduate students, be increased to $20.50 effective winter term 2016.

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<th>Current</th>
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<tr>
<td>Graduate part time</td>
<td>$18.50</td>
<td>$20.50</td>
<td>10.8%</td>
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Comments:
- The fee increase was approved at the General Meeting of the GSA held on September 24, 2015.
- Payment of the fee is a requirement of registration and is non-refundable.
- The fee was last increased in the fall 2014 from $16.60 to $18.50.

2. Graduate Student Association Administered Fee

It is recommended that the compulsory GSA Administered Fee, assessed and collected from active full-time and part-time graduate students, be increased for the Graduate House fee component only, by $0.50 per term from $17.50 to $18.00 (3%) effective winter term 2016.

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<th>Current</th>
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<td>Graduate part time</td>
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</table>

Comments:
- The Graduate House component of the fee increase was approved by the GSA Directors at a meeting of the GSA Board on August 5, 2015.
- The Graduate House fee is refundable during the first three weeks of the term.
- The Graduate House fee was last increased in the spring term 2015 from $15.00/term to $17.50/term.
- Other components of this fee include Dental ($78.00), Health ($55.00), GRT Bus Pass ($81.15 – full time students only).

Dennis Huber
Vice-President, Administration & Finance
This report is submitted following the committee’s deliberations during July and August 2015.

FOR INFORMATION

During July 2015, the following resolutions were considered by the Executive Committee and passed on behalf of the Board of Governors. Resolutions are effective as of the dates noted.

1. **Financial Statements for Year Ended 30 April 2015**
   Resolved that: The Board Executive Committee approve the Financial Statements on behalf of the Board of Governors.

   This resolution was effective 6 August 2015.

2. **TD Bank Corporate Resolution**
   In connection with the change to signing authorities effective as of the 2 June 2015 Board of Governors meeting, TD Bank required the Board of Governors to pass an updated corporate resolution. This resolution outlines the university’s banking arrangements and updated signing authorities.

   Resolved: Refer to the document attached to this report for the full resolution.

   This resolution was effective 7 August 2015.

3. **Incidental Fees and Amendments to the School of Accounting and Finance Student Fees and Constitution**
   Resolved that:
   (i) The Accounting and Finance Endowment Fund fee, assessed and collected from full-time undergraduate and graduate students (excluding PhD students) enrolled in School of Accounting and Finance programs, be reduced from $50.00 to $20.00 per term, effective September 2015 (fall term).
   (ii) A new Accounting and Finance Student Association fee of $30.00 per term be assessed and collected from full-time undergraduate and graduate students (excluding PhD and Master of Taxation students) enrolled in School of Accounting and Finance programs effective September 2015 (fall term).
   (iii) The revised constitution of the Accounting and Finance Endowment Fund be approved effective 1 September 2015.

   This resolution was effective 30 July 2015.

4. **Institute for Quantum Computing Annual Report to Industry Canada**
   Resolved that: The annual report of the Institute for Quantum Computing submitted to and reviewed by members of the Executive Committee of the Board of Governors, be approved for submission to Industry Canada.

   This resolution was effective 30 July 2015.

William Watson
Chair
Resolution of the Board of Governors of University of Waterloo (“University”)

Whereas:

A. The University is an existing customer of The Toronto-Dominion Bank, TD Mortgage Corporation, TD Pacific Mortgage Corporation and The Canada Trust Company (collectively, the "Bank");

B. In order to update the signing authorities on the University's accounts, the Bank requires an updated corporate resolution approved by the University's Board of Governors;

Be it resolved that:

1. The University is authorized to:
   a) open, maintain and operate one or more accounts with the Bank and to do all things in relation thereto;
   b) enter into credit agreements from time to time with the Bank using the Bank's standard forms and to borrow money from the Bank pursuant to the credit facilities described in such agreements; and
   c) enter into further arrangements for the provision of financial services with the Bank.

2. The University is authorized and directed to negotiate, execute and deliver in favour of the Bank:
   a) the Bank's standard documentation for the opening and operation of accounts for each account opened;
   b) the credit agreements referred to above and any additional agreements described in such credit agreements; and
   c) such further instruments and agreements as may be reasonably required to carry out the agreements described herein; and by doing so, to bind the University and create the security set out in such agreements.

3. In accordance with any restrictions set out below, the officers, governors and employees of the University listed hereafter as signing officers, whose names are identified on Schedule A attached hereto, are hereby authorized for and on behalf of the University to execute and deliver:
   a) any subsequent amendments to the names of signing officers identified on Schedule A;
   b) all of the documents and instruments described in paragraph 2; and
   c) any others documents and instruments that may be reasonably required from time to time to carry out the transactions contemplated, subject to such amendments as the authorized representatives may approve, such approval to be conclusively evidenced by the execution of the said documents or instruments. In accordance with any restrictions set out below, such persons are also authorized to conduct all aspects of the University's banking relationship with the Bank and, notwithstanding the generality of the foregoing:
      (i) to give the Bank instructions and perform transactions on behalf of the University in connection with the ongoing operation of the accounts, credit facilities and other financial services contemplated by this resolution; and
      (ii) to authorize any person or persons to do any one or more of the following:
         (1) to receive from the Bank any (a) cash or securities, (b) bills of exchange (including cheques), promissory notes, orders for payment of money, securities, coupons, clearing items or other value items, and other instruments (each of which individually called an "Instrument") or (c) other property, or to give instructions to the Bank for the delivery or other transfer of any such cash, securities, Instruments or other property to any party named in those instructions;
         (2) to deposit with, negotiate or transfer to the Bank, for the credit of the University, cash or any security, Instrument or other property, endorsed (by rubber stamp or otherwise) with the University's Business name; and
         (3) to settle the University's accounts with the Bank and to receive from the Bank, and provide receipt of, statements, passbooks, debit vouchers and any other items (including paid and unpaid cheques). The Bank is entitled to rely on such documents, Instruments, instructions and transactions as duly and validly authorized and binding on the University. The Bank does not need to make any further inquiry into the authority of the authorized representatives to bind the University.
### Signing Officers Group A – Borrowing Matters
- Chair of the Board of Governors
- Vice-Chair of the Board of Governors
- President
- Vice-President, Academic & Provost
- Vice-President, Administration & Finance

### Signing Officers Group B – Deposit and Other Non-Borrowing Matters
- Chair of the Board of Governors
- Vice-Chair of the Board of Governors
- President
- Vice-President, Academic & Provost
- Vice-President, Administration & Finance
- Director of Finance
- Controller
- Associate Director, Treasury and Tax Services

### Signing Officer Requirements/ Restrictions

**Borrowing Matters**
- Any two (2) to sign from Signing Officers Group A

**Deposit and Other Non-Borrowing Matters**
- (Except receiving cancelled cheques and other debit vouchers charged to any account of the University)
- Any two (2) to sign from Signing Officers Group B

**Receiving cancelled cheques and other debit vouchers charged to any account of the University**
- Any one (1) from Signing Officers Group B or any one delegated by any one (1) from Signing Officers Group B, except any Cashiering or Payment Processing Staff

Certified a true copy of a written resolution passed on 7 August 2015 by the Board Executive Committee on behalf of the Board of Governors of the University, and now in full force and effect and unamended.

Dated this 7th day of August, 2015

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<tbody>
<tr>
<td>Signature &amp; Title</td>
<td>Signature &amp; Title</td>
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</table>
Schedule A to TD Canada Trust Corporate Resolution

In accordance with a Corporate Resolution of the University of Waterloo dated the 7th day of August, 2015, be advised of the titles and names of signing officers effective from the following date.

Effective Date

<table>
<thead>
<tr>
<th>Month</th>
<th>Day</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>August</td>
<td>7th</td>
<td>2015</td>
</tr>
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</table>

Signing Officers Group A

<table>
<thead>
<tr>
<th>Title</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chair of the Board of Governors</td>
<td>William Watson</td>
</tr>
<tr>
<td>Vice-Chair of the Board of Governors</td>
<td>Catherine Booth</td>
</tr>
<tr>
<td>President</td>
<td>Feridun Hamdullahpur</td>
</tr>
<tr>
<td>Vice-President, Academic &amp; Provost</td>
<td>Ian Orchard</td>
</tr>
<tr>
<td>Vice-President, Administration &amp; Finance</td>
<td>Dennis Huber</td>
</tr>
</tbody>
</table>

Signing Officers Group B

<table>
<thead>
<tr>
<th>Title</th>
<th>Name</th>
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<tbody>
<tr>
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<td>Dennis Huber</td>
</tr>
<tr>
<td>Director of Finance</td>
<td>Jane Manson</td>
</tr>
<tr>
<td>Controller</td>
<td>Patricia Hancock</td>
</tr>
<tr>
<td>Associate Director, Treasury and Tax Services</td>
<td>Sarah Hadley</td>
</tr>
</tbody>
</table>
Dear Governors,

I would like to welcome new and returning board members to the 2015-2016 session.

Most of the information presented is the direct result of the quality and calibre of the excellent work of our faculty, staff and students. I believe we should all be aware and recognize their accomplishments and show our pride for their efforts.

Below, you will find some important developments that have taken place at the University since our last meeting in June. In addition, I have also briefly touched on some areas of concern as well as potential risks to the University that will require further attention and planning. You will also have received a package containing the progress report of our Strategic Plan highlighting areas of continued success and improvement. I will specifically touch on some of the strategic plan objectives and measurements in my oral report and answer your questions/comments.

I look forward to our face to face interaction at the upcoming meeting and your thoughts and valuable input as we advance the mission of the University of Waterloo.

**Congratulations/Accomplishments**

- **Royal Society of Canada elects new Fellows** - Philippe Van Cappellen, Earth & Environmental Sciences, David Cory, IQC and Department of Chemistry, Eric Helleiner, Department of Political Science and Xuemin (Sherman) Shen, Electrical & Computer Engineering.


- **Trudeau Foundation names Waterloo professor among new fellows** - Bessma Momani, Political Science/BSIA.

- **Waterloo Engineer wins Emmy® Award** - Zhou Wang, (Electrical and Computer Engineering) won an Engineering Emmy® Award for developing computational models that accurately and consistently predict how people view image and video quality.

- **Several Waterloo people named to Order of Canada** - Three professors from the University of Waterloo were among the list of several individuals with an affiliation with the University who were named to the Order of Canada in July.
• *Linda Nazar* was named an Officer of the Order of Canada for her contributions as a materials chemist who has developed advanced battery systems for clean-energy storage.

• *Garry Rempel* became a Member of the Order of Canada for his contributions to the field of chemical engineering, notably for advancing research in rubber technology.

• *Carolyn Hansson* became a Member of the Order of Canada for her contributions as a materials engineer whose efforts have reduced corrosion and improved the performance of reinforced concrete structures.

• *Prem Watsa*, chancellor emeritus, became a Member of the Order of Canada, recognized for his achievements as a business leader, and for his work as a volunteer and philanthropist.

• *Ophelia Lazaridis*, a Waterloo alumna who served on the University's Board of Governors from 2009 to 2015, was named a Member of the Order of Canada for her contributions as a community leader and philanthropist who focuses on education and the arts.

• *Douglas Fregin*, co-founder of Research In Motion, Ltd. (now BlackBerry), was recognized for his innovative advancements in communications technology and for his many philanthropic endeavours. He is a generous donor to the University and became an Officer of the Order of Canada.

• **Velocity companies** raise more than $250M from investors since the incubator launched – and more than $150M in just the last 18 months.

• **Pitchbook 2015 - UW** remains the top Canadian institution in venture-capital backed entrepreneurs.

**Research and Graduate Studies**

• *#1 comprehensive university in Canada for top NSERC scholarships* – UW has remained among the top schools for NSERC graduate, postgraduate and postdoctoral funding for more than a decade.

• **Top Research University among comprehensives for 8th straight year** – according to RE$EARCH$ Infosource (a Canadian Research and Development intelligence).

• **#1 ranked comprehensive Canadian University for SSHRC grants for the 7th consecutive year** - supporting social sciences and humanities research.
• **2016 US Parchment Student Choice College Rankings** - UW recognized as being the only Canadian school in the top 10 for North American universities rated as the top choice by students.

• **UW to build state-of-the art Science Complex** - $24.7M contribution from the Government of Canada - this complex will increase capacity for cutting-edge research, experiential education and science-based entrepreneurship.

• **July 21st** - Minister Goodyear announcement of $9.7M in CAIP funding to regional partnership including Velocity and the AC.

• **July 30th** - announcement of $7M CFI investment into Compute Canada infrastructure on campus.

• **August 27th** - announcement of $300K by Minister Matthews at the Stratford Campus for poverty reduction research project.

**Student Experience**

• **Waterloo commits $10M for Improved Space for Students and Learning** - this investment will help fund renovations to existing classrooms, social space, student services and the Physical Activities Complex - all part of the UW’s commitment to providing a vibrant student experience and outstanding academic programming.

• **Waterloo awards HeForShe scholarships to outstanding female students applying to STEM programmes** - UW will award 24 outstanding female students a total of $288K over the next four years as part of a new scholarship supporting ongoing efforts to achieve comprehensive, long-term and sustainable gender equality.

• **Waterloo welcomed top Canadian students** - Four incoming first-year students at the University of Waterloo are recipients of Schulich Leader Scholarships, for their demonstrated leadership in areas such as academic excellence and entrepreneurship. Their entrance averages ranged from 94 to 99 per cent. All of the scholars were drawn to the University of Waterloo for its reputation for innovation, high standards and entrepreneurial spirit.

• **Waterloo receives $600K to renovate Columbia Icefield area** - successful award through the Canada 150 Community Infrastructure program.

**Global Prominence**

• **UW and Hong Kong University of Science and Technology launch dual degree PhD program** - HKUST (one of the world’s top engineering schools) and UW will allow select students to simultaneously earn a PhD from each institution.
• Intensified joint research connections with preferred partners - notably University of Bordeaux (10 projects) and Technion Institute of Technology (10 projects)

• Signed new agreements or negotiated renewal agreements with leading research institutions - including TU Delft, Technion University of Technology, Pohang University of Science and Technology (POSTECH), University of Queensland, Chinese University of Hong Kong, and Karlsruhe Institute of Technology

• Distinguished Professor Emeritus Kenneth McLaughlin’s new book *Entrepreneurship and Innovation are in the Waterloo Genome* - launched in September and sales and distribution are underway.

• UW welcomed 1000 students from around the globe for Canada’s largest hackathon – 4600 students applied from over 100 schools around the world for the Hack the North 2015.

**World University Rankings 2015**

Last year, the Board indicated that while global rankings were an important indication of progress, we would continue to be guided by our strategic plan and measure our progress against the goals and objectives set out in the plan. I am, however, very pleased to note that our continuous progress and success has been rightfully reflected in the 2015 global rankings and UW’s standing has gone up in almost each one of them.

• **Waterloo highest Canadian riser in prestigious Times Higher Education (THE) World University Rankings** - UW rose into the top 200 universities in the world placing 179, up from 251-275 a year ago. Waterloo is among just seven Canadian universities ranked in the top 200 in the world by Times Higher Education

• **Waterloo rises 17 places in QS world university ranking** – now ranked 152nd in the world in 2015, according to Quacquarelli Symonds (QS)

• **Updated results for Waterloo from the “big three” world university rankings over the past four years are shown below:** (ARWU (Academic Ranking of World Universities, formerly known as the Shanghai ranking), QS (Quacquarelli Symonds) and THE (Times Higher Education).

<table>
<thead>
<tr>
<th></th>
<th>2012</th>
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<th>2015</th>
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<tr>
<td>THE</td>
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<td>251-275</td>
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<tr>
<td>QS</td>
<td>191</td>
<td>180</td>
<td>169</td>
<td>152</td>
</tr>
<tr>
<td>ARWU</td>
<td>151-200</td>
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<td>201-300</td>
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Waterloo’s International Ranking, 2012-2015
• Waterloo performed well in the following subject rankings:
  ○ Top 25 in the QS Computer Science subject (24th), Mathematics subject (20th)
  ○ Top 50 in QS Subject areas: Geography
  ○ Top 100 in QS Subject areas: Architecture, Civil Engineering, Electrical Engineering, Mechanical Engineering, Psychology, Environmental Sciences, Sociology, Statistics & Operational Research
  ○ Top 100 in the QS Engineering & Technology faculty area (57th)
  ○ Top 50 in the ARWU Engineering field (47th)
  ○ Top 100 in the ARWU Computer Science subject area (76th)
  ○ Top 20 in the QuantNet ranking of Financial Engineering programs for Quantitative Finance (14th)

**Waterloo Innovation Summit**

The Waterloo Innovation Summit took place September 16-18. The Summit was presented in partnership with Communitech with the theme “Regional Innovation Ecosystems”. Three keynote speakers, Steve Blank, Salim Ismail, and Mariana Mazzucato, inspired and engaged the audience. A series of panels, including “Universities Engineering Innovation” and “Making Big Bets on Big Science” profiled the University of Waterloo’s pivotal role. Close to 300 registered participants, sponsors and special guests enjoyed the dynamic program featuring multiple venues and creative applied experiences, such as an Interactive Playground. The Summit evaluation is underway.

Communications support for this year’s successful Waterloo Innovation Summit (WIS) resulted in a ‘sold out’ conference and an increase in media coverage over last year. Media attending included the Wall Street Journal, Bloomberg, Reuters, BNN, Toronto Star and local Waterloo Region media. In addition, keynote speakers appeared on TVO’s the Agenda with Steve Paiken and The Exchange with Amanda Lang. Coverage also focused on remarks by Premier Wynn and BlackBerry CEO John Chen. 2015 communications also included updated summit branding, the creation of a new conference website, content-rich, real-time blogs to capitalize on the high profile of the speakers and an enhanced social media presence. The #WINS15 social media hashtag delivered 12 million (potential) impressions (vs. 3.3 million in 2014) and 2,600 mentions. Ten per cent of this activity was UWaterloo/Communitech generated and 70 per cent driven by external social media accounts participating in the online conversation.
Community Relations and Events

- First ever Community Impact Report released on September 11 - Close to 100 community leaders attended the President’s Community Breakfast. Sandra Banks outlined key themes from the report and engaged participants in further dialogue about the University's leadership role in Waterloo Region. Sandra will provide further comment on this report at the meeting.

- 31st UW Canada Day Celebration - with attendance of over 60,000, this continues to be a signature event for the university.

- UW welcomed Shopify CEO and co-founder Tobias Lutke on October 1. The University continues to maintain a visible presence in important communities via strategic support of key University and partner initiatives. Among recent examples are participation in the fall campaign kick-off for the United Way, and the annual Take Back the Night march in downtown Kitchener.

New Resource Allocation Model

The prototype has been developed, with agreement on all of the drivers. Upon implementation, the model will facilitate multi-year budget planning and increased transparency that will inform strategic decisions regarding institutional revenues and efficiencies. Once the prototype has been validated and finalized, a multi-year implementation progress will begin that includes data gathering, building the operational model, and implementing business processes. Website with Fact sheets and a Q&A is live and feedback and questions monitored and responded too. Anticipated roll out of the NRAM is for shadow in 2016-17 budget year. An Integrated Planning and Budget advisory committee/process will be implemented.

Strategic Plan Implementation – Progress and Outcomes Fall 2015 Update

The attached package is the second annual update to the Board of Governors and describes progress towards reaching Waterloo’s strategic goals. This update, developed in consultation with numerous campus stakeholders, includes two key documents:

- Strategic Plan, Progress and Outcomes Fall 2015 Update – this document provides updated data and information for measures being monitored over the next four years. Measures are aligned by objective, include an explanation of what the measures inform, why they are important and key actions that have been taken. Further information on these measures, as well as additional measures and information, can be found at the web interactive tool (uwaterloo.ca/strategic-plan-action). The document also includes a special session on teaching, learning and community space at Waterloo, highlighting important strategic initiatives to address improvements to Waterloo’s campus space.
Faculty Update Supplement 2015 - Faculty initiatives drive Waterloo's strategic goals forward. This document represents how each of the Faculties initiatives undertaken this past year in the Strategic Plan theme areas, with a specific focus on Transformational Research and Academic Programming.

Risk Identification and Mitigation

I would like to spend a bit of time at the meeting discussing some PSE sector risks and UW specific risks. I have listed them below:

- **Government Funding** – possibility of decreased or eliminated funding to assist core differentiation such as co-op or research (CFI matching)
- **Enrolment** – drop in enrolment (graduate and undergraduate) given Ontario demographics
- **Strategic Enrolment Management** - Waterloo has the second largest proportion of undergraduate international students (15% for 2014-15). Using 2015-16 budget figures, undergraduate international tuition revenue represents 34% of total undergraduate tuition revenue
- **Research Productivity** – need for diversification through private sector and international collaboration
- **Hiring talent** – ability and focus on hiring the best faculty from around the world
- **Entrepreneurship** - need to clearly differentiate from all others and highlight economic impact
- **Co-op** – biggest most important risk because it is the most significant (valuable) asset

President’s Reception

I will be hosting our annual President’s Reception after the Board meeting on October 27th from 5:30 – 7:30pm at The Sedra Student Design Centre in E5. I hope that you will be able to join me as we recognize and celebrate the wonderful support of our loyal circle, society members and volunteer leaders.

Board of Governor’s Retreat

I look forward to discussing these and any other issues and subject on October 27th.

Feridun Hamdullahpur
President and Vice-Chancellor
A risky venture...
- co-op model “self evidently second rate…no future at a serious university” (Usher, 4/21/15)
- DNA - right from the start

Why students come to university (HESA ’14)
- to get good job;
- to prepare for specific career or job;
- knowledge in specific field

Graduate outcomes: (OUGS ’11)
- UWaterloo co-op grads:
  --make more
  --hired sooner,
  --careers more related to studies

Graduate outcomes: (OUGS ’11)
- UWaterloo co-op grads:
  --make more
  --hired sooner,
  --careers more related to studies

Economic Impacts:
- start ups ecosystem
- IP & commercialization
- $251M contribution to economy (JobMine Salary Survey 2014)

Advancement/Research Impacts:
- diverse industry/employer relations
- talent is Foot-in-the-door
- bolsters Global Reputation
- collaborations
- $$

Enrolment Impacts:
- 66% 1st year for co-op (MUR)
- 50+% overall complete co-op (IAP)
- 50+% undergrad Tuition and BIU revenues

Note: background data in BOG member agenda packages.
FACTORS IN FIRST YEAR CANADIAN STUDENTS' DECISION TO ATTEND UNIVERSITY

grassroots reflection of global risk area: unemployed / underemployed

parents and students believe co-op delivers on these factors

Source: Higher Education Strategy Associates, Preparing Students for the Workforce, November 13, 2014
66% would not accept UWaterloo’s offers without co-op

Source: MUR ISS Survey
co-op enrolment growth
(full-time/undergraduate)

Average UW employment rate past 10 years = 96.8%

source: IAP

Source WatCACE
UWaterloo co-op grads are highly employable

2012 Ontario University Graduate Survey

- Waterloo Co-op: 90.7% employed 6 months after graduation, 96.2% employed 2 years after graduation
- Waterloo Overall: 87.2% employed 6 months after graduation, 94.1% employed 2 years after graduation
- Ontario (including Waterloo): 87.6% employed 6 months after graduation, 93.6% employed 2 years after graduation

Co-operative Education & Career Action
UWaterloo co-opgrads more likely to secure positions related to their field of study

2013 NBGO Survey
How related is your main job to the Bachelor’s program you graduated from?

5 years after graduation
- Waterloo Co-op: 80%
- Waterloo Overall: 73%
- Ontario: 73%
- Canada: 74%

6 months after graduation
- Waterloo Co-op: 95%
- Waterloo Overall: 86%
- Ontario (Including Waterloo): 79%

2012 OUGS Survey
- Related to skills developed at University
- Related to subject matter of the program of study

2 years after graduation
- Waterloo Co-op: 97%
- Waterloo Overall: 90%
- Ontario: 86%
- Canada: 75.2%

Co-operative Education & Career Action
### UWaterloo co-op grads earn more

<table>
<thead>
<tr>
<th></th>
<th>5 years after graduation</th>
<th>6 months after graduation</th>
<th>2 years after graduation</th>
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</thead>
<tbody>
<tr>
<td>Waterloo Co-op</td>
<td>65%</td>
<td>61%</td>
<td>39%</td>
</tr>
<tr>
<td>Waterloo Overall</td>
<td>66%</td>
<td>58%</td>
<td>55%</td>
</tr>
<tr>
<td>Ontario</td>
<td>61%</td>
<td>42%</td>
<td>39%</td>
</tr>
<tr>
<td>Canada</td>
<td>65%</td>
<td>42%</td>
<td>39%</td>
</tr>
</tbody>
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- **Salary > $40,000**
  - Waterloo Co-op: 79%
  - Waterloo Overall: 58%
  - Ontario: 42%

- **Salary > $50,000**
  - Waterloo Co-op: 74%
  - Waterloo Overall: 55%

#### Notes:
- Great or some extent
- NBGO Survey (Question re: achieving goal of making more $)
- 2011 OUGS Survey (Reported salaries)
overall positive student and employer experience

• 96+% employment rate

• 93% employers rate student job performance as very good, excellent or outstanding

• 90+% students rate work satisfaction with experience 7+ out of 10

• Source CECA... data collected each term
  • all co-op students and employers

  • strategic reporting
  • process improvement
  • employer and student relations management
SHIFTING ENVIRONMENTAL BACKDROP

Growth, demographic and enrolment patterns
• Shrinking 18 – 24 age segments
• Changing make-up of student body (e.g., more diversity; domestic vs. international)
• Enrolment challenges

Student Readiness and Career Goals
• Younger/inexperienced; less resilient (failure adverse)
• Non-traditional career aspirations
• Growing start-up culture

Employer Needs and ROI
• Access to right talent; addressing skills gaps (soft skills, intrapreneurship)
• Seeking broader relations
• Better ROI – hiring flexibility, longer work terms, convenience and ease

CO-OP JUGGERNAUT

Competition
• Growing demands for Work Integrated Experiences
• WIE part of many PSE SMAs
• Smaller programs more personalized, responsive with students and employers
Student Employment

- Student readiness – first work term; international
- At risk programs – challenging job development
- Traditional work terms becoming less relevant

At Risk... delivering on the co-op promise; student satisfaction; UW reputation and enrolment advantage

Employer ROI

- Skills gaps (soft skills, attitudes)
- Competition for “best” talent
- Cumbersome process is costly

At Risk... our quality talent value proposition; employer recruitment and retention; maintaining employment rate
MITIGATING RISK - FLEXIBILITY AND RELEVANCE

Student Employment

- Student readiness – first work term; international
- At risk programs – challenging job development
- Work less relevant for more students

At Risk... delivering on the co-op promise; student satisfaction; UW enrolment advantage

Employer ROI

- Less choice; fewer alternatives
- Skills gaps and hiring mis-matches
- Ease-of-participation

At Risk... our quality talent value proposition; employer recruitment and retention; maintaining employment rate

Student Employment

- Innovations in student preparation
- First work term programming pilots (LLC)
- Focus program segmentation
- Work term flexibility and relevance

Employer ROI

- Promotion and recruitment support
- Talent Partnering (Account Management)
- Work term flexibility (8 mon wts, e-co-op)
- Enhance search, self serve, interview and hiring process ease & convenience (WaterlooWorks)
Reasserting UW Leadership and Prominence

WatCACE

- International research and thought leadership
- CAFCE (chair), WACE research committees
- Building a research portal to connect research and practice for international work-integrated education community

- Enhancing quality stakeholder experience
  - Research Grants:
    - Measuring the quality of the co-op student experience (OHCRIF, 2014)
    - Unpacking the co-op supervisor experience (OHCRIF, 2015)
    - Developing a framework for sustainable work-integrated learning (WIL) relationships (ACEN, 2015)

- First work term Pilot Programs (PIF, 2014)
Co-op Living Learning Community (LLC) (Fall 2014 & ongoing Fall 2015)

• Joint initiative between WatCACE, Housing and CECA
• Students: 150 first year Engineering students, randomly assigned to the LLC
• Programming includes: mock interviews, résumé critiques, speed networking company events and several community dinners
• Employers: Linamar, D2L, Toyota Manufacturing, Christie Digital and BlackBerry

Results
- LLC Students...
  - felt better prepared to navigate the co-op process
  - more confident in their ability to secure a co-op job
- Student attendance at each event this term up over 100% over last year
Green House Co-op  
(Winter 2014, Planned for Winter 2016)

- 12 first work term students still unemployed at start of work term
- Student selection and training in partnership with St. Paul’s “GreenHouse”
- Students worked in pairs for 3 different social enterprise start-ups in 4 week cycles
- Students stipends jointly funded by employers and an innovation grant

Results
- Employer feedback about students’ contribution very positive
- Increase in Students interest and appreciation for entrepreneurship and social innovation
- Students were as successful as peers in finding second work term employment
Protect and Progress

UW Strategic Plan provides context and mechanism...

- Building flexibility, relevance and ubiquity
- Cross-pillar and strategic theme integration
- Leveraging our “unfair advantage”
entrepreneurship and co-op -- e-co-op

Winter 2009 to Winter 2015

Entrepreneurship & co-op:
- Option in engineering
- Minor
- Student employees in start-ups (Velocity)
- BETS
- Greenhouse BETS

Entrepreneurship Integrated Education (EIL) for any UW student

source: CECA
research and co-op – r-terms

Winter 2012 to Spring 2015

Leverage UW core competency; “r-terms”; Co-op specialization in research

source: CECA
STRATEGY AND ALIGNMENT

Today

- Co-op Juggernaut
- EE
- Strategic Themes

Emerging

- Work Integrated Education for all students
- Co-op 2.0

Tomorrow

- Enhanced UW Brand:
  - “UW Experiential Undergraduate Degrees”

Strategic links

- Entrepreneurship
- Research
- Student Success
- Graduate Studies
- Academic Excellence

Specializations

- E-co-op (EIL)
- R-terms

Collaborations

- Grad co-op
- GBDA
- SEM

Flexibility

Co-op Designation

Ubiquity

EDGE Career Readiness Certificate

Relevance

Domain-related Credentials?
End notes

On-line links

Co-operative Education and Career Action
https://uwaterloo.ca/co-operative-education/

Hire Waterloo
https://uwaterloo.ca/hire/

Focused Program “HIRE”
Kinesiology  https://uwaterloo.ca/hire/hire-kinesiology
Chemical Engineering  https://uwaterloo.ca/hire/hire-chemical-engineering

Waterloo Centre for Advancement of Co-operative Education (WatCACE)
https://uwaterloo.ca/centre-advancement-co-operative-education/
There is no other institution in this world that does co-op like we do.

FERIDUN HAMDULLAHPUR
President and Vice-Chancellor
University of Waterloo

There is no other institution in this world that does co-op like we do.

FERIDUN HAMDULLAHPUR
President and Vice-Chancellor
University of Waterloo

Discover what University of Waterloo students can do for your talent needs.

- Designated Canada’s most innovative university for the past 23 years, our students and alumni are quick learners who bring fresh ideas fueled by passion and intelligence to your organization.
- Waterloo students are exposed to academic excellence. The University is home to many distinguished faculty and researchers including two Canada Excellence Research Chairs, 65 Canada Research Chairs, four Killam Prize winners, and more.
- Upon graduation, students will have completed four to six work terms in a competitive employment process - the equivalent of two years of work experience.
- The success they achieve in co-op translates to our graduates enjoying higher employment rates, more jobs related to their field of study, and higher earnings compared to other students in Canada.

We’re grooming the next generation of the workforce and we invite you to become a part of it. Put your organization at the forefront of innovation by hiring Waterloo.

https://uwaterloo.ca/hire/
https://uwaterloo.ca/hire/hire-kinesiology
It's EASY TO HIRE University of Waterloo students. Talented co-op students, graduating students, and alumni are available to meet your hiring needs.

**HERE'S HOW:**

Visit our website and see how Waterloo students and alumni can work for you. Be sure to check out:

- Sit back and relax. We post your job online.
- Advertising a job is free and easy. Contact us:
  - hire.talent@uwaterloo.ca
  - 877-928-4473 | uwaterloo.ca/hire

**Select your desired candidate(s).**
5 Reasons to Hire Waterloo

1. Depth & Breadth of Talent Pool
   The largest co-op program in the world with over 18,000 participating students and thousands of alumni. Access to talent from over 140 programs of study across a wide breadth of academic disciplines.

2. World-Class Experience
   Global industry leaders hire Waterloo students consistently, year after year. Students and alumni work in more than 60 countries.

3. Streamlined Process
   A dedicated team of representatives will help you every step of the way.

4. Freshness & Versatility
   Youthful Waterloo minds are connected to current technology and bring a fresh perspective. Comprehensive job-skill development courses prepare students for seamless integration into any workplace.

5. Year-Round Availability & Affordability
   Co-op students begin work in January, May or September for four months or longer, depending on their program. Alumni and graduating students are available year-round.

Advertising a job is free and easy. Contact us: hire.talent@uwaterloo.ca 877-928-4473 | uwaterloo.ca/hire
University of Waterloo co-op students exhibit tremendous dedication and ingenuity. The level of talent we recruit from the University of Waterloo plays a key role in our business.

— ALEX PEREL, Director, ETF Trading, TD Securities

You can recruit our students and alumni using our simple process.

You pay no fees and can post as many jobs as required.

Our staff will assist you to:
» Post your job on our online system
» Select candidates and interview them in person, by telephone, by webcam, or by Skype

Find out more about hiring University of Waterloo co-op students/interns, graduating students and alumni.

website: uwaterloo.ca/hire
email: cecaintam@uwaterloo.ca
**Our Students**

- We have more than 30,000 undergraduate and 5,000 graduate students.
- 48% of new undergraduates have an entrance average of greater than or equal to 90%.
- There are two main reasons they choose to study here:
  - The world’s largest co-operative education/internship program.
  - Waterloo’s academic reputation.
- Our students study in six different faculties.

**Our Faculties**

- Applied Health Sciences
- Arts
- Engineering
- Environment
- Math
- Science

**Work Terms**

Students/interns alternate between study semesters and work terms. On a work term, students work full-time hours for 12 to 16 weeks during the following semesters:
- January-April (Winter)
- May-August (Spring)
- September-December (Fall)

Upon completion of their degree, they will have finished 4 to 6 work terms/internships and gained up to two years of work experience.

**Interns work in a variety of industries:**
- Technology: 19%
- Financial services: 16%
- Schools, colleges, and universities: 12%
- Federal, provincial, and municipal government: 10%
- Electrical equipment manufacturing: 7%
- Architectural, engineering, and related services: 7%
- Medical: 5%

**Students/interns had their work performance rated:**
- "Very Good" to "Outstanding": 92%

**We have more than 30,000 undergraduate and 5,000 graduate students.**

**48% of new undergraduates have an entrance average of greater than or equal to 90%.**

**Two main reasons they choose to study here:**
- The world’s largest co-operative education/internship program.
- Waterloo’s academic reputation.

**Our students study in six different faculties:**

**120+ Internships/Gap-Year Programs working with:**
- 5,200+ employers located in over 60 countries

**18,000+ work terms per year**
- 2,300+ work terms outside of Canada

**University of Waterloo**

**WHO ARE WE?**

The University of Waterloo is a top university in Canada. It is home to innovative research, inspired teaching, and a world-renowned co-op/internship program. Among all Canadian universities, Waterloo is ranked:

- Canada’s top comprehensive research university for 7 straight years – Research Infosource
- Most innovative for 23 years
- Best overall for 18 of 23 years – Maclean’s magazine reputation ratings
- QS, 5th, the highest ranking for international universities – Quacquarelli Symonds World University Rankings 2014

**OUR STUDENTS**

- Industry leaders hire from Waterloo year after year.
- Waterloo students/alumni are multicultural; many speak multiple languages and adapt well to new cultures.
- Our students/alumni are fast learners who can adapt to your organization and make a strong contribution.
- Students/interns alternate between study semesters and work terms.
- On a work term, students work full-time hours for 12 to 16 weeks during the following semesters:
  - January-April (Winter)
  - May-August (Spring)
  - September-December (Fall)

Upon completion of their degree, they will have finished 4 to 6 work terms/internships and gained up to two years of work experience.

**Students/interns alternate between study semesters and work terms.**

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- Technology: 19%
- Financial services: 16%
- Schools, colleges, and universities: 12%
- Federal, provincial, and municipal government: 10%
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 2016.

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 #2 of this report). In accordance with industry best practices, a planned rotation in the engagement partner is forthcoming. Additionally the committee members participated in a critical services review for the external audit function (along with selected staff within Finance) and all responses indicated that the present external auditor meets or exceeds expectations in all areas. This outcome helped inform the committee’s recommendation.

FOR INFORMATION

2. EXTERNAL AUDIT PLAN FOR 2016

The committee reviewed the external audit plan for the fiscal year ended 30 April 2016 together with the university’s response. The committee approved the fees for the external audit plan as proposed by the external auditors (Ernst & Young). For the upcoming year the committee approved the overall planned audit approach, which is similar to the prior year.

3. DIRECTORS’ AND OFFICERS’ INSURANCE

The committee reviewed the Executive Protection Policy for 2015-2016 and found it to be satisfactory. As well, the committee reviewed a variety of liability coverages that are offered by private insurance providers or via the Canadian Universities’ Reciprocal Insurance Exchange (CURIE), a group of 60 Canadian universities which forms a reciprocal insurance exchange created specifically for large and small universities across Canada. The committee reviewed all coverages in place, which are unchanged from the prior year, and benchmarked those coverages against four other Ontario universities; the coverages are similar and the committee found these to be satisfactory.

4. STATUTORY COMPLIANCE

2015 Declaration of Compliance. The university’s legal counsel identified the following federal and provincial statutes, municipal bylaws and international regulations as those posing the greatest potential risk for the university in the event of non-compliance:


Municipal Bylaws: bylaws in force in the various municipalities in which the university owns real property.


Staff responsible for institutional compliance have reviewed these statutes, bylaws and regulations, and have signed a declaration indicating that there are no issues of material non-compliance related to their areas of responsibility, as at the date of their signature.

The University Secretary and General Counsel noted some exceptions in his report on statutory and regulatory compliance. The committee considered the proposed mitigation plans to reduce institutional risk in these areas and requested additional clarification and follow-up activity from administration to address the identified exceptions. A follow up report will be presented to the committee at its next meeting.

5. UNIVERSITY RISK MANAGEMENT PROJECT UPDATE

The committee received an update on the implementation of the risk management project. The first formal report for this project is expected at the next meeting.


The university’s financial statements for the year ended 30 April 2015, which were approved by the Board Executive Committee, are included with the meeting agenda package for your information.

7. COMMITTEE TERMS OF REFERENCE

The committee reviewed its terms of reference, which were found to be satisfactory.
This report is submitted following the committee’s meeting of 9 October 2015.

FOR APPROVAL

1. Engineering 7

Motion: That the Board of Governors approve the award of a CCDC2 stipulated price contract for $65,200,000 + HST to EllisDon Corporation for the construction of the Engineering 7 building.

Background: The proposed Engineering 7 building budget, location and architect (Perkins + Will Canada) were approved by the Building & Properties Committee and Board of Governors during the fall of 2014.

The building is approximately 242,000 gross square feet and will be located between the Engineering 5 and Engineering 6 buildings. Engineering 7 is connected along the entire eastern length of Engineering 5 and will connect to Engineering 6 via an elevated pedestrian link. The building is designed to accommodate both undergraduate and graduate engineering students including the new Biomedical Engineering program, the doubling of the Mechatronics Engineering program, new experiential education opportunities through the multidisciplinary Engineering Ideas Clinic, additional entrepreneurship through the Conrad Business, Entrepreneurship and Technology Centre, and more innovation through cutting-edge research labs including additive manufacturing, space for student design projects, and facilities such as machine shops, electronics component shop, and a centre for aerial vehicles and robotics testing.

A total of 7 general contractors were prequalified to bid the project. All 7 contractors submitted bids; 6 of the bids were within 5%. One bid was an outlier at 15% above the low bid.

FOR INFORMATION

1. General Oversight
   The committee reviewed and accepted for information:
   - the capital financing commitments associated with capital projects and advises that these commitments fall within Waterloo’s board-approved debt policy
   - the status of capital projects
   - its work plan
   - the results of the committee self-assessment for the 2014-2015 meeting cycle

14 October 2015       Murray Gamble
/jla

Chair
This report is submitted following the committee’s meeting of 5 October 2015.

FOR APPROVAL

1. Endowment Fund Investment Guidelines
   Motion: That the Board of Governors approve the revised Endowment Fund Investment Guidelines (the “Guidelines”). See Attachment 1.

   Background: Following its annual review of the Guidelines and taking into consideration changes made to the registered pension plan’s Statement of Investment Policies and Procedures (the “SIPP”), the committee recommends approval of the following changes to the Guidelines:
   • On page 5, an update to the language under “Fund Manager Investment Objectives” to reflect the divestment of a U.S. passive equity investment and to give the committee more flexibility to set appropriate objectives as different asset classes are added over time; and
   • On page 8, the addition of a statement re: consideration of environmental, social and governance (“ESG”) factors for consistency with the SIPP (see the Pension & Benefit Committee report). The statement inserted in the Guidelines reflects current practice at the University; however, the committee is aware that the University intends to engage in a more fulsome discussion with relevant stakeholders in 2016 re: the approach to consideration of ESG factors in investment decisions.

FOR INFORMATION

1. Investment Fund Performance as at 30 June 2015
   Registered Pension Plan Fund. The fund exceeded its objective for the year to date (4.9% versus 4.1%), and one year period ended 30 June 2015 (9.5% versus 4.8%). The investment managers are performing as expected given the style of investment and market conditions. The US treasuries and Brookfield Infrastructure Partners investments continue to yield positive results.

   Endowment Fund. The fund continues to underperform the policy benchmark, returning 2.6% (compared to 4.5%) for the year to date and 5.4% (compared to 7.9%) for the one year period ended 30 June 2015. The primary drivers are the asset mix of the fund compared to the policy benchmark (43.2% equities/56.8% cash and fixed income versus 60% equities/40% fixed income), as well as the performance of one of the global managers. Given market conditions, the committee agreed there was a good opportunity to redeploy a portion of the funds held in fixed income to existing global equity investments. The University has recently implemented this recommendation.

   IQC Trust Fund. The portfolio was liquidated in December 2014 and reinvested in a bond fund. The performance of the bond fund for the year to date was 2.59%, tracking closely to the policy benchmark (2.37%).
Payroll Pension Plan Fund. The fund, which is passively managed, returned 3.35% for the year to date and 6.29% for the one year period ended 30 June 2015, tracking closely to the benchmark (3.31%, 6.22%).

2. Reporting
The committee received a series of new reports on the investment funds, resulting from a collaboration between the chair and the University’s finance department. The reports look at the relationships between assets and liabilities for each fund, asset allocation by asset class, investment manager performance, and sensitivity to interest rates and market indices. The reports on the registered pension fund were also shared with the Registered Pension Plan Investments Subcommittee. Both committees provided valuable feedback that will be used to improve the reports for future meetings. These reports are expected to be useful tools for management and committees with responsibility for the University’s investment funds.

3. Pension Fund Financial Statements
As part of its annual work plan, the committee reviewed the audited pension fund financial statements as at 31 December 2014. There were no issues of note. A copy of the financial statements can be requested from the committee secretary (rebecca.wickens@uwaterloo.ca) or accessed online at: Pension Fund Financial Statements 31 December 2014.

/rmw

Satish Rai
Chair
University of Waterloo
Endowment Fund Investment Guidelines
October 2015
## Contents

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1. Background and Purpose

This document has been prepared to provide guidelines for the prudent and effective management of the University of Waterloo Endowment Fund (the “Fund”) and to maximize investment income within acceptable risk tolerances, while preserving the Fund’s capital. The Fund is invested in perpetuity to achieve an annual income stream to fund specific activities of the University of Waterloo (the “university”) and to preserve their purchasing power.

This document has been prepared in accordance with the relevant legislation to ensure continued prudent and effective management of the Fund’s assets. Deviating from these guidelines is only allowed with the prior written approval of the Finance and Investment Committee (the “F&I Committee”).

2. Allocation of Responsibilities

The Board of Governors of the University of Waterloo (the “Board”) has established the F&I Committee to assist in the determination of the university’s overall investment policies, objectives and strategies.

With respect to investment policies, objectives and strategies, the F&I Committee will make recommendations to the Board in the following areas:

- the content of these guidelines;
- the selection of Fund Managers; and
- the selection of a Custodian/Trustee to hold the assets of the Fund.

In addition, the F&I Committee will:

- review these guidelines annually;
- review the performance of the Fund on at least an annual basis;
- review Fund Manager performance on at least an annual basis;
- be responsible for the delegation of any responsibilities not specifically mentioned.

The Fund Managers will:

- participate, at least annually, in performance reviews;
- forward to the university quarterly reviews of investment performance, expectations of future returns on various asset classes and proposed investment strategies for the following 12 to 24 months;
- upon direction of the F&I Committee, invest in passive asset classes such as indexed bond fund, indexed equity fund, etc.;
- manage asset mix and select securities within each asset class, subject to applicable legislation and the constraints set out in these guidelines;
- provide the university with regular valuation statements for the Fund;
- advise the university immediately of any changes in its senior investment personnel and/or significant changes in the size or mix of assets managed;
• comply with all relevant laws concerning the investment of the Fund; and
• complete and deliver a compliance report (see page 11) to the university each quarter. The compliance report will indicate whether or not the Fund Manager was in compliance with these guidelines during the quarter. In the event that the Fund Manager is not in compliance with these guidelines, the Fund Manager is required to advise the university immediately, detail the nature of the non-compliance and recommend the appropriate course of action to remedy the situation.

The Fund Manager is expected to comply, at all times and in all respects, with the Code of Ethics and Standards of Professional Conduct as promulgated by the CFA Institute.

The Fund Manager will manage the assets with the care, diligence and skill that an investment manager of ordinary prudence would use in dealing with endowment assets. The Fund Manager will also use all relevant knowledge and skill that it possesses or ought to possess as a prudent investment manager.

The Custodian/Trustee will:
• fulfill the regular duties required by law of a Custodian/Trustee and perform the specific duties required of the Custodian/Trustee pursuant to agreements entered into from time to time with the university; and
• provide the university with monthly portfolio reports of all assets of the Fund and transactions during the period.

3. Return Expectation, Benchmark Portfolio, Fund Manager
Investment Objectives

Return Expectation

The rate of return objective of the Fund is to provide a real rate of return of at least 5%, net of all expenses, and maintain the purchasing power of the endowed capital. The performance of the Fund will be measured over four-year rolling periods. With an annual expenditure target of 5%, the purchasing power of the Fund is maintained whenever possible by annually reinvesting investment income in an amount equal to the annual CPI. Unspent expendable amounts or parts thereof may be capitalized at the end of a fiscal year. In years when the realized income exceeds the expendable amount plus CPI, income will be directed to a reserve fund (maximum 10% of book value) to service years with low investment returns.

Investment Philosophy. All equity investments are to be made using the long-term value approach by investing in companies at prices below their underlying long-term values to protect capital from loss and earn income over time. The Fund Managers will attempt to identify financially-sound companies with good potential profitability which are selling at a discount to their intrinsic value. Appropriate measures of low prices may consist of: low price-earnings, high dividend yields, significant discounts to book value and low price to free cash flow. Downside protection is obtained by seeking a margin of safety in terms of sound financial position and a low price in relation to intrinsic value. Appropriate measures of financial integrity include debt/equity ratios, financial leverage, asset turnover, profit margin, return on equity, and interest coverage. It is anticipated that purchases will be made when economic and issue-specific conditions are less than ideal and
sentiment is uncertain or negative. Conversely, it is expected that gains will be realized when issue specific factors are positive and sentiment is buoyant. Assets of the Fund are administered and managed on a combined basis through specialist portfolios. Fund Managers will be expected to generate a rate of return in the first quartile or better over a market cycle.

**Volatility Expectation**

The volatility of the Fund is directly related to its asset mix, and specifically, the balance between bonds, Canadian equities and global equities. Since the Fund Managers do not have authority to make leveraged investment on behalf of the Fund, the volatility of the Fund should be similar to the volatility of the Benchmark Portfolio set out below.

**Benchmark Portfolio**

A benchmark portfolio invested in the following assets is used to measure the consequences of asset mix decisions at the total fund level.

<table>
<thead>
<tr>
<th>Asset Class</th>
<th>Benchmark</th>
<th>Fixed Income</th>
<th>Canadian Equity Managers</th>
<th>Global Equity Managers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canadian Equities</td>
<td>S&amp;P/TSX (Capped 10%) Composite</td>
<td>30.0%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Global Equities</td>
<td>MSCI World</td>
<td></td>
<td></td>
<td>30.0%</td>
</tr>
<tr>
<td>Fixed Income</td>
<td>DEX Universe Bond</td>
<td>40.0%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

A diversified management structure has been adopted for the Fund consisting of several managers. This structure has been adopted as it is believed that the different investment mandates will result in increased diversification, while reducing the “manager risk” effect for the total Fund.

The investment management structure employs a mix of active and passive management styles. Active management has been adopted for portions of the assets as it provides the opportunity to outperform common market indices over the long-term, with a minimum degree of excess risk. Passive management has been adopted for portions of the assets as it minimizes the risk of underperformance relative to a benchmark index and is generally less expensive than active management.

**Fund Manager Investment Objectives**

Subject to the constraints cited in section 4, Fund Managers will employ security selection and asset mix strategies to try to add to the returns that would be earned by passively managing their respective investment portfolio as described below. The objective of passive management is to match the return
that could be earned by investing in securities that compose an index that is representative of a specific market.

Fund Manager performance will be considered satisfactory if the annualized return (before investment management fees) over any consecutive four-year rolling period exceeds the return that could have been earned by passively managing the combined Benchmark Portfolio by the following amounts:

- 50 bps by Canadian Fixed Income Managers;
- For the Passive Canadian Fixed Income Manager, performance will be considered satisfactory if the tracking error is not more than +/- 10 bps over one-year periods and +/- 6 bps over four-year periods
- 100 bps for Canadian Equity Managers; and
- 200 bps for Global Equity Managers.

For Fund Managers with mandates that do not fit into the categories set forth above, performance objectives will be set when the Fund Manager is hired, and communicated to the Consulting Actuary (or delegate) for monitoring and reporting purposes.

4. Aggregate Investment Limits and Permitted Categories, Asset Mix Policy

Aggregate Investment Limits and Permitted Categories

At all times, the market value of the individual asset classes will be within the following minimum and maximum aggregate investment limits:

<table>
<thead>
<tr>
<th>Asset Classes</th>
<th>Minimum**</th>
<th>Maximum**</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash or Equivalents</td>
<td>0%</td>
<td>10%</td>
</tr>
<tr>
<td>Fixed Income</td>
<td>30%</td>
<td>70%</td>
</tr>
<tr>
<td>Equities</td>
<td>30%</td>
<td>70%</td>
</tr>
<tr>
<td>Alternatives</td>
<td>0%</td>
<td>20%</td>
</tr>
</tbody>
</table>

* These assets can be held in any combination of pooled funds or individual investments.
** Minima and maxima do not sum to the total, as this would introduce artificial constraints.

Liquidity

All investments should be reasonably liquid (i.e. under normal circumstances, they should be capable of liquidation within one month).
Passively and Specialty Managed Investments

Assets that are passively managed or managed by specialty managers (e.g., global equities) are normally expected to be 100% invested with minimal, generally less than 2%, cash. The Passive Manager may equitize cash within its pooled funds.

Cash or Equivalents

Cash on hand, demand deposits, treasury bills, short-term notes and bankers’ acceptances, term deposits and guaranteed investment certificates.

Fixed Income

Bonds (including real-return bonds), debentures, mortgage loans, mortgage-backed securities, preferred shares and asset-backed securities (ABSs). Passive investments in Canadian bonds and debentures will have a minimum rating of BBB or an equivalent rating, as rated by at least two of the three Recognized Bond Rating Agencies at the time of purchase. The following rating agencies shall be considered to be “Recognized Bond Rating Agencies”: (i) Dominion Bond Rating Service (Canadian issuers only); (ii) Standard and Poor’s and (iii) Moody’s Investor Services. Not more than 10% of the market value of the Canadian fixed income securities shall be invested in BBB bonds or debentures. In addition, up to 10% of the actively managed fixed income portfolio may be invested in debt denominated in U.S. currency, including debt issued by the U.S. Government, its agencies and instrumentalities. No other foreign currency debt will be purchased.

Equities

Common shares, rights, warrants, global depository receipts, exchange-traded index participation units, units of income trusts domiciled in jurisdictions that provide limited liability protection to unit holders and securities convertible into common shares. American Deposit Receipts (ADRs) are considered to be non-Canadian/non-U.S. investments. No single equity shall represent more than 10% of the total market value of any one of the Fund Manager’s equity portfolios.

Alternatives

Investments outside the traditional asset classes of cash, bonds and stocks. Examples of alternative investments are real estate, infrastructure, private equity and hedge funds.

Downgrades in Rating Quality

In the event that a security is downgraded below the stated minimum in the guidelines, the Fund Manager will take the following steps: (i) the university will be notified of the downgrade by telephone at the earliest possible opportunity; (ii) within ten business days of the downgrade, the Fund Manager will advise the university in writing of the course of action taken or to be taken by the Fund Manager, and its rationale; and (iii) immediately upon downgrade, the Fund Manager will place the asset on a Watch List subject to monthly review by the Fund Manager with the university until such time as the security matures, is sold or until it is upgraded to a level consistent with the purchase quality standards as expressed in the guidelines mentioned above.
Split Ratings

In cases in which the Recognized Bond Rating Agencies do not agree on the credit rating, the bond will be classified according to the methodology used by Scotia Capital, which states: (i) if two agencies rate a security, use the lower of the two ratings; (ii) if three agencies rate a security, use the most common; (iii) if all three disagree, use the middle rating.

Derivatives, Options and Futures

Derivatives, options and futures on any securities allowable under the investment guidelines, including index options and futures. These instruments will be used to protect against losses from changes in exchange rates, interest rates and market indices. Aggregate limits encompass the securities underlying the futures and options. Upon prior written confirmation from the F&I Committee that such investments may be made, derivatives may be used as a substitute for more traditional investments if they are based on and are consistent with achieving the long-term asset mix goal and rate of return objectives of the Fund. Such products include debt, equity, commodity and currency futures, options, swaps and forward contracts, and pooled or segregated funds that employ derivatives and synthetic products for purposes consistent with the investment objectives of the Fund. Synthetic products used as substitutes for more traditional investments will not be used to gain leveraged exposure to various asset classes and will be collateralized by cash equal to the risk-adjusted market value of the synthetic exposure. Hedging the currency on a fund position in a non-Canadian dollar investment is allowed into Canadian dollars only, with written approval of the university. Sufficient assets must be held to cover commitments due to the derivatives transactions. No derivatives can be used for speculative trading or to create a portfolio with leverage. Purchase or sale of any of these instruments for speculative purposes is prohibited.

Pooled Funds

Open pooled funds investing in the asset categories noted above. The aggregate limits for these categories are inclusive of the underlying assets in the pooled funds.

Global investments may only be made by the Global Equity Manager. Canadian Managers may only invest in Canadian investments, excluding any references to the contrary specifically outlined above. Passive Managers may only invest in securities that are contained in the appropriate benchmark index(es) for their mandate(s), subject to residual cash holdings.

Asset Mix Policy

The selection of investments is to be made with consideration given to the overall context of the investment portfolio without undue risk of loss or impairment and with a reasonable expectation of fair return or appreciation given the nature of the investments. All investments shall be made in accordance with all applicable legislation and the investment principles outlined above.

Consideration of Environmental, Social and Governance (“ESG”) Factors

Consistent with its obligation to act in the best interest of the Fund, the Board chooses investments and Fund Managers that it believes will deliver superior financial performance over the longer term.
In this regard, the Board does not consider ESG factors in choosing Fund Managers with whom it invests the assets of the Fund. The Board recognizes, however, that some Fund Managers may consider ESG factors as a way of determining which investments will have the best economic outcome, but this is not a factor considered by the Board when choosing Fund Managers nor are the Fund Managers instructed to consider the policies and practices of the various investments relating to ESG factors. In order to protect and enhance the value of the Fund’s investments, when choosing Fund Managers, the Board considers criteria that include the Fund Manager’s business, staff, historical performance, and investment process. For the purposes of this section, ESG factors refer to the environmental, social and governance factors relevant to an investment that may have a financial impact on that investment.

5. Rebalancing

The Fund will adjust the asset mix consistent with the investment objectives described in this document.

6. Conflict of Interest Policy and Disclosure Requirements

These guidelines apply to members of the F&I Committee, Fund Managers, Custodians, Trustees, the university and any employee or agent retained to provide services to the Fund.

Conflict of Interest Policy—Consistent with UW Policy 69 “Conflict of Interest”, any person listed above must disclose any direct or indirect association or material interest or involvement in aspects related to her/his role with regard to the investments of the Fund that would result in any potential or actual conflict of interest.

Without limiting the generality of the foregoing, this would include material ownership of or control over an asset held by the Fund, participation in the management or membership on the boards of corporations with which the Fund is invested or which have significant investments in assets held by the Fund, or interest in actual or proposed contracts involving the Fund.

Persons who are unsure as to whether or not a conflict of interest exists can seek clarification from the Secretariat on whether it is necessary to follow the procedures below.

Disclosure Requirements—Persons listed above shall disclose the nature and extent of any conflict to the F&I Committee in writing upon becoming aware of the conflict; if knowledge of the conflict arises in the course of a discussion at a meeting, such disclosure will be made verbally and recorded in the minutes of the meeting.

If the person disclosing the conflict does have voting power, he/she will refrain from participating in discussion and voting on the matter in respect of which the individual has a potential or actual conflict of interest. If the person is the chair, the chair will step down for the duration of the discussion and the members will choose one of their number to fill the chair during that period. If the person disclosing the conflict does not have voting power, he/she may elect to continue in his/her activities in respect to the issue in conflict only with the unanimous approval of the members with voting rights.
The notification of a conflict shall be considered a continuing disclosure on that issue, until such time as he/she advises that the conflict no longer exists.

### 7. Lending of Cash and Securities

The Fund may not lend cash other than through investments described in these guidelines. Upon approval of the university, the Fund may enter into securities loan agreements. Such loans must be secured by cash and/or readily marketable government bonds, treasury bills and/or letters of credit, discount notes and banker’s acceptances of Canadian chartered banks. The amount of collateral taken for securities lending should reflect best practices in local markets. The market value relationship between collateral and securities on loan must be calculated at least daily. For equity loans, high quality, liquid assets, may also be accepted as collateral. The terms and conditions of any securities lending program will be set out in a contract with the Custodian. The Custodian shall, at all times, ensure that the university has a current list of those institutions that are approved to borrow the investments of the Fund. Where the Fund is invested in pooled Fund, security lending will be governed by the terms and conditions set out in the pooled fund contract.

### 8. Delegation of Voting Rights

The Fund Managers are delegated the responsibility of exercising all voting rights acquired through the investments of the Fund. The Fund Managers will exercise acquired voting rights with the intent of fulfilling the investment objectives and guidelines of the Fund. At least on an annual basis, the Fund Managers shall report their voting rights to the university. However, in those situations in which the exercise of voting rights could have significant financial impact upon the assets of the Fund, the Fund Managers will secure guidance from the university as to how the rights should be voted. On items for which the Fund Manager has voted against management, the Fund Manager will provide the university with their rationale for voting in this manner at least on an annual basis. Further, the Fund Managers should advise the university regarding their voting on any unusual items at least on an annual basis.

### 9. Valuation of Investments

It is expected that all the securities held by the Fund will have an active market and therefore valuation of the securities held by the Fund will be based on their market values.

The Fund Managers will notify the university if the market for any investment held by the Fund becomes inactive and provide for the university’s consideration a method for valuing the affected investment.

### 10. Borrowing

The Fund shall not borrow money.
11. Conflicts between the Guidelines and Pooled Fund Investment Policies

To the extent that the assets of the Fund are invested in pooled funds, the provisions of the pooled fund’s own investment policy will supersede these guidelines. The Fund Manager is required to advise the university in the quarterly compliance report in the event of any material discrepancies between the guidelines and the pooled fund’s own investment policy.

In the event that the Fund Manager is not in compliance with the Fund Manager’s own investment policy, the Fund Manager is required to advise the university immediately, detail the nature of the non-compliance and recommend an appropriate course of action to remedy the situation.

12. Dismissal of a Fund Manager

Reasons for considering the termination of the services of a Fund Manager include, but are not limited to, the following factors:

- performance results which are below the stated performance benchmarks;
- changes to the overall structure of the assets of the Fund such that the Fund Manager’s services are no longer required;
- changes in personnel, firm structure, ownership or investment philosophy; and/or,
- failure to adhere to these guidelines.

In the event that a new Fund Manager must be selected or additional Fund Manager(s) are added to the existing structure, the university will undertake an investment manager search. The criteria used for selecting a Fund Manager will be consistent with the investment and risk objectives set out in Section 3.

13. Guidelines Review

The guidelines may be reviewed and amended at any time, but must be formally reviewed by the university at least annually.
To be completed by Fund Managers each quarter.

UNIVERSITY OF WATERLOO

BOARD OF GOVERNORS

Finance & Investment Committee

_______________, 20____

This is to certify that I/we have adhered to the guidelines contained in the October 2015 version of the “Endowment Fund Investment Guidelines” for the University of Waterloo, approved by the University of Waterloo.

Signed _______________________

On behalf of _____________________

Date ___________________________
This report is submitted following the committee’s June, September and October meetings.

FOR APPROVAL

1. Statement of Investment Policies and Procedures for University of Waterloo Pension Plan

   Motion: To approve the 1 January 2015 version of the University of Waterloo Pension Plan (2011) Statement of Investment Policies and Procedures (the “SIPP”). See Attachment 1.

   Background: Following its annual review to ensure compliance with legislative requirements and based on input from the Finance & Investment Committee and the Registered Pension Plan Investments Subcommittee, the Pension & Benefits Committee recommends approval of the following changes to the SIPP:
   - The addition of a statement re: consideration of environmental, social and governance (ESG) factors, which is now a legally mandated component of the SIPP. The SIPP must be filed in early 2016, so the committee agreed to recommend a statement that reflects current practice at the University and to engage in a more fulsome discussion with relevant stakeholders in 2016 re: the University’s approach to considering ESG factors in investment decisions;
   - An update to the language under “Investment Philosophy” (p.3) to make it more consistent with the language and intent of the SIPP more generally;
   - An update to the language under “Fund Manager Investment Objectives” (p.4) to reflect the divestment of a U.S. passive equity investment and to give the committee more flexibility to set appropriate objectives as different asset classes are added over time; and
   - House-keeping changes to reflect the sale of the real return bonds and the move to investing in other specific investments (e.g., infrastructure, real estate, U.S. Treasuries).

2. Amendment to the Pre-Retirement Death Benefit

   Motion: To approve the attached resolutions amending the University’s registered pension plan and payroll pension plan (collectively, the “Pension Plan”). See Attachments 2 and 3.

   Background: The University is implementing a new pension administration system. As part of the implementation, the University is in the process of identifying pension calculations that can be automated as part of the new system.

   This has brought a few historical provisions to the University’s attention, which only apply to a small subset of plan members and may only apply to a portion of their pensions. Because of the low volume of calculations and small dollar amounts, it does not make economic sense to build the calculation into the system (where it is not already part of the program). However, if the calculation is not automated, the administrative costs and risk of human error associated with this calculation increase. Further, the differential treatment of members may, in some cases, be seen as an equity issue.

   As such, the University is looking at these types of provisions on a case by case basis and determining the best way to deal with them moving forward. This may result in further recommendations to amend the Pension Plan.
With respect to this particular amendment, under the current Pension Plan provisions, if a member with pre-1987 service dies before retirement, the benefit paid to their beneficiary/estate is lower than if the individual were to terminate prior to retirement. The amendment harmonizes the calculation across groups and termination scenarios.

Currently, there are 132 members impacted by these provisions. The change will result in a small, one-time increase in the going concern liability for the Pension Plan. However, as mentioned above, it is expected to reduce the administrative burden and risks associated with human error in related calculations.

FOR INFORMATION

1. Report to the Community
   The Pension & Benefits Committee issued a report to the University community regarding its activities in 2014/2015. A copy of the report is appended as Attachment 4.

2. Commuted Value Standards
   On the recommendation of the actuary and human resources, effective 1 October 2015, the committee approved the adoption of a new mortality table promulgated by the Canadian Institute of Actuaries for the purposes of determining pension commuted values. Although Ontario has not yet updated its regulations to reflect the new standard, such an amendment is expected in the next few months.

3. General Oversight
   The committee receives regular reports from the consulting actuary on legislative, policy and other changes that impact public sector pensions. During the reporting period, the committee has been monitoring, discussing and, where required, taking action re: new regulations regarding the filing and contents of a pension plan’s statement of investment policies and procedures; the impact of the new Ontario Retirement Pension Plan on the University and its employees; anticipated changes to legislation re: the calculation of commuted values using a new mortality table; and the progress of the Council of Ontario Universities-Ontario Confederation of University Faculty Associations joint working group on the development of an Ontario university sector pension plan.

/rmw
Karen Wilkinson, Chair
University of Waterloo Pension Plan (2011)
STATEMENT OF INVESTMENT POLICIES AND PROCEDURES
January 1, 2015

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2. Background, Plan Type and Liabilities
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4. Return Expectations, Benchmark Portfolio, Fund Manager Investment Objectives
5. Aggregate Investment Limits, Permitted Investment Categories, Asset Mix Policy
6. Rebalancing
7. Conflict of Interest Policy and Disclosure Requirements
8. Lending of Cash and Securities
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13. Dismissal of a Fund Manager
14. Policy Review
1. PURPOSE

The primary goal of the University of Waterloo Pension Plan (2011) (the “Plan”) is to provide members with a defined retirement income at a reasonable cost. The prudent and effective management of the assets of the pension fund has a direct impact on the achievement of this goal. The University of Waterloo (“UW”), sponsor and legal administrator of the pension fund, is responsible for achieving this primary goal.

This document has been prepared in accordance with the relevant legislation affecting the Plan to ensure continued prudent and effective management of pension fund assets. Deviating from this Statement of Investment Policies and Procedures (“Statement”) is only allowed with the prior written approval of the Pension and Benefits Committee (“P&B Committee”).

2. BACKGROUND, PLAN TYPE AND LIABILITIES

The Plan is a contributory defined-benefit plan, based upon an individual’s final average salary and years of participation in the Plan prior to retirement.

All pensions paid under the Plan are escalated annually by the cost-of-living factor described in the Plan. For benefits accrued prior to January 1, 2014, liabilities will grow in direct relation to the increase in the consumer price index (“CPI”). For benefits accrued on or after January 1, 2014, liabilities will increase by 75% of the increase in CPI. Notwithstanding the foregoing, if the increase in CPI in a given year exceeds 5%, then the indexation paid in that year will be determined by P&B Committee, in its discretion, taking into account the fund’s ability to afford such an increase.

Thus, to provide pensions at a reasonable cost, it is necessary to strive for high real investment returns on the Plan assets over medium- and long-term periods. The investment philosophy, policies and procedures adopted in this document will assist in the achievement of this goal in a prudent and effective manner.

This Statement has been developed taking into account factors such as: the nature of the Plan’s liabilities; the allocation of such liabilities between active and retired members; the funded and solvency positions of the Plan; the net cash flow position of the Plan; the investment horizon of the Plan; historical and expected capital market returns; and the benefits of investment diversification.

3. ALLOCATION OF RESPONSIBILITIES

The Board of Governors of the University of Waterloo (the “Board”) has established a Finance and Investment Committee (“F&I Committee”) to assist in the determination of UW’s overall investment philosophy, policies, objectives and strategies, and a P&B Committee to assist in the management of the pension fund. A Registered Pension Plan Investments Subcommittee (“RPPI”) was formed consisting of members from both F&I Committee and P&B Committee to assist in carrying out the responsibilities listed below.

RPPI will:
- review this document annually;
- review pension fund performance on at least a semi-annual basis;

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1 A protocol has been developed to set out the parameters under which the P&B Committee would increase the level of indexation beyond 75%.
· review Fund Manager performance on at least a semi-annual basis; and
· report to P&B Committee.

RPPI will make recommendations to P&B Committee and F&I Committee on:
· the content of this document;
· the selection of Fund Managers; and
· the purchase of specific investments.

Working with the F&I Committee with respect to investment philosophy, policies, objectives and strategies and taking into consideration the recommendations of RPPI, the P&B Committee will make recommendations to the Board in the following areas:
· the content of this document after its annual review;
· the selection of a Consulting Actuary;
· the selection of Fund Managers; and
· the selection of a Custodian/Trustee to hold the pension fund assets.

In addition, the P&B Committee will:
· review this document annually, taking into consideration any recommended changes from RPPI and F&I Committee;
· consider reports from RPPI on pension fund performance on at least a semi-annual basis;
· consider reports from RPPI on Fund Manager performance on at least a semi-annual basis;
· provide cash flow information to the Fund Managers, if necessary;
· be responsible for the delegation of any responsibilities not specifically mentioned;
· report to Plan members on at least an annual basis; and
· review and approve the purchase of specific investments.

The Fund Managers will:
· participate, at least annually, in performance reviews by the RPPI;
· forward to RPPI quarterly reviews of investment performance, expectations of future returns on various asset classes and proposed investment strategies for the following 12 to 24 months;
· upon direction of the P&B Committee, invest in passive asset classes such as indexed bond funds, indexed equity funds, real-return bonds, etc.;
· manage asset mix and select securities within each asset class, subject to applicable legislation and the philosophy and other constraints set out in this document;
· advise the P&B Committee immediately of any changes in its senior investment personnel and/or significant changes in the size or mix of assets managed;
· comply with all relevant laws concerning the investment of the pension fund and;
· complete and deliver a compliance report (see page 10) to the P&B Committee and the Fund’s Consulting Actuary each quarter. The compliance report will indicate whether or not the Fund Manager was in compliance with this Statement during the quarter. In the event that the Fund Manager is not in compliance with this Statement, the Fund Manager is required to advise the P&B Committee immediately, detail the nature of the non-compliance and recommend the appropriate course of action to remedy the situation.

The Fund Managers are expected to comply, at all times and in all respects, with the Code of Ethics and Standards of Professional Conduct as promulgated by the CFA Institute. The Fund Managers will manage the assets with the care, diligence and skill that an investment manager of ordinary prudence would use in dealing with pension plan assets. The Fund Managers will also use all relevant knowledge and skill that they possess or ought to possess as a prudent investment manager.
The Consulting Actuary (or his/her delegate approved by P&B Committee and RPPI) will:

- assist in the preparation and subsequent annual reviews of this document;
- participate in all reviews of the Fund Managers and the Plan;
- report, at least semi-annually, on the performance of the Fund Managers and the Plan;
- comment on any changes in the Plan’s benefits, membership or contribution flow which may affect how the Plan’s assets are invested;
- comment on the impact of potential investment opportunities/strategies/legislative changes which may affect how the Plan’s assets are invested;
- assist in the implementation of this Statement;
- monitor the performance of the Plan and the Fund Managers on a regular basis, and contact the chair of the P&B Committee immediately if there are adverse changes of any kind, which warrant further review and/or investigation;
- support RPPI and the P&B Committee on matters related to investment management and administration of the Plan; and
- meet with RPPI and the P&B Committee as required.

The Custodian/Trustee will:

- fulfill the regular duties required by law of a Custodian/Trustee and perform the specific duties required of the Custodian/Trustee pursuant to agreements entered into from time to time with UW; and
- provide the P&B Committee with monthly portfolio printouts of all assets of the Plan and transactions during the period.

4. RETURN EXPECTATION, BENCHMARK PORTFOLIO, FUND MANAGER INVESTMENT OBJECTIVES

**Return Expectation.** The annualized rate of return of the Plan must exceed the annualized rate of increase in the Consumer Price Index by at least 400 basis points (bps) net of the associated investment management fees over any ten-year period.

**Investment Philosophy.** Active equity fund managers are to apply the long-term value approach by investing in companies at prices below their underlying long-term values to protect capital from loss and earn income over time. The fund managers will attempt to identify financially-sound companies with good potential profitability which are selling at a discount to their intrinsic value. Appropriate measures of low prices may consist of: low price-earnings, high dividend yields, significant discounts to book value and low price to free cash flow. Downside protection is obtained by seeking a margin of safety in terms of sound financial position and a low price in relation to intrinsic value. Appropriate measures of financial integrity include debt/equity ratios, financial leverage, asset turnover, profit margin, return on equity, and interest coverage. It is anticipated that purchases will be made when economic and issue-specific conditions are less than ideal and sentiment is uncertain or negative. Conversely, it is expected that gains will be realized when issue-specific factors are positive and sentiment is buoyant. Assets of the Fund are administered and managed on a combined basis through specialist portfolios. Fund managers will be expected to generate a rate of return in the first quartile or better over a market cycle.

**Volatility Expectation.** The volatility of the Plan is directly related to its asset mix, and specifically, the balance between Canadian bonds, Canadian equities and foreign equities. Since the Fund Managers do not have authority to make any type of leveraged investment on behalf of the Plan, the volatility of the Plan should be similar to the volatility of the Benchmark Portfolio set out below.
**Benchmark Portfolio.** The following benchmark portfolio is used by the Consulting Actuary to calculate the return assumptions for the Plan.

<table>
<thead>
<tr>
<th>Asset Class</th>
<th>Benchmark Portfolio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash</td>
<td>2%</td>
</tr>
<tr>
<td>Fixed Income</td>
<td>33%</td>
</tr>
<tr>
<td>Canadian Equities</td>
<td>15%</td>
</tr>
<tr>
<td>Global Equities</td>
<td>40%</td>
</tr>
<tr>
<td>Infrastructure</td>
<td>5%</td>
</tr>
<tr>
<td>Real Estate</td>
<td>5%</td>
</tr>
<tr>
<td><strong>100%</strong></td>
<td></td>
</tr>
</tbody>
</table>

A diversified management structure has been adopted for the Plan consisting of several managers. This structure has been adopted as it is believed that the different investment mandates will result in increased diversification, while reducing the “manager risk” effect for the total Plan.

The investment management structure employs a mix of active and passive management styles. Active management has been adopted for portions of the assets as it provides the opportunity to outperform common market indices over the long-term, while controlling active risk levels. Passive management has been adopted for portions of the assets as it minimizes the risk of underperformance relative to a benchmark index and is generally less expensive than active management.

**Fund Manager Investment Objectives.** Subject to the constraints cited in section 5, Fund Managers will employ security selection and asset allocation strategies to try to add to the returns that would be earned by the alternative of passively managing their respective investment portfolio as described below. The objective of passive management is to match the return that could be earned by investing in securities that compose an index which is representative of a specific market.

Active Fund Manager performance will be considered satisfactory if the annualized return (before investment management fees) over consecutive four-year periods exceeds the return that could have been earned by passively managing the combined Benchmark Portfolio by 100 bps for Canadian equity managers, 200 bps for global equity managers and 50 bps for Canadian fixed income managers. For passive Canadian fixed income managers (excluding U.S. treasuries), performance will be considered satisfactory if the tracking error is not more than +/- 10 bps over one-year periods and +/- 6 bps over consecutive four-year periods. For Fund Managers with mandates that do not fit into the categories set forth herein, performance objectives will be set when the Fund Manager is hired, and communicated to the Consulting Actuary (or delegate) for monitoring and reporting purposes.

5. **AGGREGATE INVESTMENT LIMITS and PERMITTED CATEGORIES, ASSET MIX POLICY**

**Aggregate Investment Limits and Permitted Categories.** At all times, the market value of the individual asset classes will be within the following minimum and maximum aggregate investment limits:
Asset Classes

<table>
<thead>
<tr>
<th>Asset Class *</th>
<th>Minimum **</th>
<th>Maximum **</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fixed Income</td>
<td>30%</td>
<td>70%</td>
</tr>
<tr>
<td>Cash or Equivalent</td>
<td>0%</td>
<td>15%</td>
</tr>
<tr>
<td>Equities</td>
<td>30%</td>
<td>70%</td>
</tr>
<tr>
<td>Alternatives</td>
<td>0%</td>
<td>20%</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* These assets can be held in any combination of pooled funds or individual investments.
** Minima and maxima do not sum to the total, as this would introduce artificial constraints.

Liquidity. All investments should be reasonably liquid (i.e. under normal circumstances, they should be capable of liquidation within one month).

Passively Managed and Specialty Investments. Assets that are passively managed or managed by specialty managers (e.g. global equities) are normally expected to be 100% invested with minimal, generally less than 2%, cash. The passive Fund Manager may equitize cash within its pooled funds.

Cash or Equivalents. Cash on hand, demand deposits, treasury bills, short-term notes and bankers’ acceptances, term deposits and guaranteed investment certificates.

Equities. Common shares, rights, warrants, global depository receipts, exchange-traded index participation units, units of income trusts domiciled in jurisdictions that provide limited liability protection to unitholders and securities convertible into common shares. American Deposit Receipts (ADRs) are considered to be Non-Canadian/Non-US investments. No single equity shall represent more than 10% of the total market value of any one of the Fund Manager’s equity portfolios.

Fixed Income. Bonds (including real-return bonds), debentures, mortgage loans, mortgage-backed securities, preferred shares and asset-backed securities (ABS’s). Passive investments in Canadian bonds and debentures will have a minimum rating of BBB or an equivalent rating, as rated by at least two of the three Recognized Bond Rating Agencies at the time of purchase. The following rating agencies shall be considered to be “Recognized Bond Rating Agencies”: (i) Dominion Bond Rating Service (Canadian issuers only); (ii) Standard and Poor’s and (iii) Moody’s Investor Services. Not more than 10% of the market value of the Canadian fixed income securities shall be invested in BBB bonds or debentures. In addition, up to 10% of the actively managed fixed income portfolio (excluding the buy and hold U.S. treasuries) may be invested in debt denominated in U.S. currency, including debt issued by the U.S. Government, its agencies and instrumentalities. No other foreign currency debt will be purchased.

Downgrades in Rating Quality. In the event that a security is downgraded below the stated minimum in the Statement, the following steps will be taken: (i) The Fund Manager will notify UW of the downgrade by telephone at the earliest possible opportunity; (ii) Within ten business days of the downgrade, the Fund Manager will advise UW in writing of the course of action taken or to be taken by the Fund Manager, and its rationale; and (iii) Immediately upon downgrade, the Fund Manager will place the asset on a Watch List subject to monthly review by the Fund Manager with
UW until such time as the security matures, is sold or until it is upgraded to a level consistent with the purchase quality standards as expressed in the guidelines mentioned above.

**Split Ratings.** In cases in which the Recognized Bond Agencies do not agree on the credit rating, the bond will be classified according to the methodology used by DEX, which states: (i) if two agencies rate a security, use the lower of the two ratings; (ii) if three agencies rate a security, use the most common; (iii) if all three disagree, use the middle rating.

**Alternatives.** Investments outside the traditional asset classes of stocks, bonds and cash. Examples of alternative investments are real estate, infrastructure, private equity, and hedge funds.

**Derivatives, Options and Futures.** Derivatives, options and futures on any securities allowable under the Statement, including index options and futures. These instruments will be used to protect against losses from changes in exchange rates, interest rates and market indices. Aggregate limits encompass the securities underlying the futures and options. Upon prior written confirmation from the P&B Committee that such investments may be made, derivatives may be used as a substitute for more traditional investments if they are based on and are consistent with achieving the Plan’s long-term asset mix goal and rate of return objectives. Such products include debt, equity, commodity and currency futures, options, swaps and forward contracts, pooled or segregated funds that employ derivatives and synthetic products for purposes consistent with the investment objectives of the fund. Synthetic products used as substitutes for more traditional investments will not be used to gain leveraged exposure to various asset classes and will be collateralized by cash equal to the risk-adjusted market value of the synthetic exposure. Hedging the currency on a fund position in a non-Canadian dollar investment is allowed into Canadian dollars only. Sufficient assets must be held to cover commitments due to the derivatives transactions. No derivatives can be used for speculative trading or to create a portfolio with leverage. Purchase or sale of any of these instruments for speculative purposes is prohibited.

**Pooled Funds.** Open-ended pooled funds investing in the asset categories noted above. The aggregate limits for these categories are inclusive of the underlying assets in the pooled funds.

Global investments may only be made by the global equity managers. Canadian managers may only invest in Canadian investments, excluding any references to the contrary specifically outlined above. Passive managers may only invest in securities that are contained in the appropriate benchmark index(es) for their mandate(s), subject to residual cash holdings and approved purchases of U.S. treasuries.

**Asset Mix Policy.** The selection of investments is to be made with consideration given to the overall context of the investment portfolio without undue risk of loss or impairment and with a reasonable expectation of fair return or appreciation given the nature of the investments. All investments shall be made in accordance with all applicable legislation and the investment principles outlined above.

**Consideration of Environmental, Social and Governance (“ESG”) Factors.** Consistent with its obligation to act in the best interest of the Plan, the Board chooses investments and Fund Managers that it believes will deliver superior financial performance over the longer term. In this regard, the Board does not consider ESG factors in choosing Fund Managers with whom it invests the assets of the Plan. The Board recognizes, however, that some Fund Managers may consider ESG factors as a way of determining which investments will have the best economic outcome, but this is not a factor considered by the Board when choosing Fund Managers nor are the Fund Managers instructed to consider the policies and practices of the various investments relating to ESG factors. In order to
protect and enhance the value of the Plan’s investments, when choosing Fund Managers, the Board considers criteria that include the Fund Manager’s business, staff, historical performance, and investment process. For the purposes of this section, ESG factors refer to the environmental, social and governance factors relevant to an investment that may have a financial impact on that investment.

6. **REBALANCING**

The Plan will adjust the asset mix consistent with the investment philosophy described in this document.

7. **CONFLICT OF INTEREST POLICY AND DISCLOSURE REQUIREMENTS**

These guidelines apply to members of RPPI, P&B Committee, F&I Committee, Fund Managers, Consulting Actuary, Custodian/Trustee, the Administrator and any employee or agent retained to provide services to the Plan.

**Conflict of Interest Policy.** Consistent with UW Policy 69, “Conflict of Interest”, any person listed above must disclose any direct or indirect association or material interest or involvement in aspects related to her/his role with regard to the Pension Plan investments that would result in any potential or actual conflict of interest.

Without limiting the generality of the foregoing, this would include material ownership of or control over an asset held by the Fund, participation in the management or membership on the boards of corporations with which the Fund is invested or which have significant investments in assets held by the Fund, or interest in actual or proposed contracts involving the Fund. However, being a member of the Plan itself is not sufficient to constitute a potential conflict of interest.

Persons who are unsure as to whether or not a conflict of interest exists can seek clarification from the Secretariat on whether it is necessary to follow the procedures below.

**Disclosure Requirements.** Persons listed above shall disclose the nature and extent of any conflict to the Committee in writing upon becoming aware of the conflict; if knowledge of the conflict arises in the course of a discussion at a meeting, such disclosure will be made verbally and recorded in the minutes of the meeting.

If the person disclosing the conflict has voting power, he/she will refrain from participating in discussion and voting on the matter in respect of which the individual has a potential or actual conflict of interest. If the person is the chair, the chair will step down for the duration of the discussion and the members will choose one of their number to fill the chair during that period.

If the person disclosing the conflict does not have voting power, he/she may elect to continue in her/his activities with respect to the issue in conflict only with the unanimous approval of the members with voting rights.

The notification of a conflict shall be considered a continuing disclosure on that issue, until such time as he/she advises that the conflict no longer exists.

**Related Party Transactions.** For the purpose of this section, a “related party” and a “transaction” in respect of the Plan have the meanings given to such terms in Schedule III of the Pension Benefits
Standards Regulations, 1985 (Canada). The following related party transactions are permitted for the Plan:

- any transaction that is required for the operation or administration of the Plan, the terms and conditions of which are not less favourable to the Plan than market terms and conditions;
- any transaction the value of which is nominal (that is, less than 3% of the market value of the Plan) or which is immaterial to the Plan (that is, the terms and conditions of the transaction are not less favourable to the Plan than market terms and conditions); two or more transactions with the same related party shall be considered a single transaction; and
- any purchase of securities of a related party, provided that those securities are acquired at a public exchange recognized under the Pension Benefits Standards Act and Regulations, 1985 (Canada).

8. LENDING OF CASH AND SECURITIES

The pension fund may not lend cash other than through investments described in this policy. Upon approval of the P&B Committee, the pension fund may enter into securities loan agreements. Such loans must be secured by cash and/or readily marketable government bonds, treasury bills and/or letters of credit, discount notes and banker’s acceptances of Canadian chartered banks. The amount of collateral taken for securities lending should reflect best practices in local markets. The market value relationship between collateral and securities on loan must be calculated at least daily. For equity loans, high quality, liquid assets, may also be accepted as collateral. The terms and conditions of any securities lending program will be set out in a contract with the Custodian. The Custodian shall, at all times, ensure that the UW has a current list of those institutions that are approved to borrow the Plan’s investments. Where the Plan is invested in a pooled fund, security lending will be governed by the terms and conditions set out in the pooled fund contract.

9. DELEGATION OF VOTING RIGHTS

The Fund Managers are delegated the responsibility of exercising all voting rights acquired through the Plan’s investments. The Fund Managers will exercise acquired voting rights with the intent of fulfilling the investment objectives and policies of the Plan. At least on an annual basis, the Fund Managers shall report their voting rights to the P&B Committee. However, in those situations in which the exercise of voting rights could have significant financial impact upon the Plan’s assets, the Fund Managers will secure guidance from the P&B Committee as to how the rights should be voted. Further, the Fund Managers should advise the P&B Committee regarding their voting on any unusual items or items they voted against management (together with reasons) at least on an annual basis.

10. VALUATION OF INVESTMENTS

It is expected that all the securities held by the Plan will have an active market and therefore valuation of the securities held by the Plan will be based on their market values.

The Fund Managers will notify the P&B Committee if the market for any investment held by the Plan becomes inactive and provide for the Committee’s consideration a method for valuing the affected investment.

11. BORROWING

The Plan shall not borrow money.
12. CONFLICTS BETWEEN THE POLICY AND POOLED FUNDS INVESTMENT POLICIES

To the extent that the Plan’s assets are invested in a pooled fund, the provisions of the pooled fund’s own investment policy will supersede the above guidelines. The Fund Manager is required to advise UW in a quarterly compliance report in the event of any material discrepancies between the above guidelines and the pooled fund’s own investment guidelines.

In the event that the Fund Manager is not in compliance with the Fund Manager’s own investment policy, the Fund Manager is required to advise UW immediately, detail the nature of the non-compliance and recommend an appropriate course of action to remedy the situation.

13. DISMISSAL OF A FUND MANAGER

Reasons for considering the termination of the services of a Fund Manager include, but are not limited to, the following factors:

· performance results which are below the stated performance benchmarks;
· changes to the overall structure of the Plan’s assets such that the Fund Manager’s services are no longer required;
· changes in personnel, firm structure, ownership or investment philosophy; and/or,
· failure to adhere to this Statement.

In the event that a new Fund Manager must be selected or additional Fund Manager(s) are added to the existing structure, UW will undertake an investment manager search. The criteria used for selecting a Fund Manager will be consistent with the investment and risk philosophy set out in Section 4.

14. POLICY REVIEW

The Statement may be reviewed and amended at any time, but it must be formally reviewed by UW at least annually.

January 2015
To be completed by Fund Managers immediately prior to each quarterly review.

UNIVERSITY OF WATERLOO
REGISTERED PENSION PLAN INVESTMENTS SUBCOMMITTEE

This is to certify that I/we have adhered to the guidelines contained in the January 2015 version of the “Statement of Investment Policies and Procedures” for the University of Waterloo Pension Plan (2011), approved by the Board of Governors of the University of Waterloo.

Signed ________________________

On behalf of _____________________

Date ___________________________
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 September 1, 2016, Section 10.01 (Death In Service Before Retirement) shall be deleted in its entirety and replaced with the following:

"10.01 Death In Service Before Retirement

If a Member dies in service on or after September 1, 2016, he or she shall be deemed to have terminated employment as of the date of death and the Commuted Value of the deferred life annuity to which the Member would have been entitled under Section 11.02 and any Excess Contributions shall be payable in a lump sum to the Member's Spouse or, where there is no Spouse, or where the Member and the Member's Spouse have delivered to the Pension Committee a written waiver in the form prescribed under the Pension Benefits Act, such amounts shall be payable to the Member's Beneficiary or, if there is no Beneficiary, to the Member's estate.

In addition the Member's Spouse, Beneficiary or estate, as applicable, shall receive an amount equal to the Member’s additional voluntary contributions, if any, with Credited Interest to the date of death."

2. Effective September 1, 2016, Section 10.02 (Death After Termination of Employment) shall be deleted in its entirety and replaced with the following:

"10.02 Death After Termination Of Employment

If a Member who terminated employment and who is entitled to benefits under this Plan dies on or after September 1, 2016 and before commencement of his or her pension, the Commuted Value of the deferred life annuity to which the Member was entitled shall be payable in a lump sum to the Member's Spouse. Where there is no Spouse, or where the Member and the Member's Spouse have delivered to the Pension Committee a written waiver in the form prescribed under the Pension Benefits Act, such amounts shall be payable to the Member's Beneficiary or, if there is no Beneficiary, to the Member’s estate.

In addition, the terminated Member's Spouse, Beneficiary or estate, as applicable, shall receive an amount equal to any Excess Contributions and any additional voluntary contributions that the Member elected to keep in the Plan on termination of employment pursuant to Section 11.05(c), with Credited Interest to the date of death."
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 ______________, 2015.

_____________________________________________
Signature

_____________________________________________
Date
CERTIFICATE OF AMENDMENT
OF
UNIVERSITY OF WATERLOO
PAYROLL PENSION PLAN

Amendment No. 3

The Board of Governors of the University of Waterloo resolves that the University of Waterloo Payroll Pension Plan (amended and restated effective May 1, 2000) (the “Plan”) is amended as follows:

1. Effective September 1, 2016, Section 8.01 (Death In Service Before Retirement) shall be deleted in its entirety and replaced with the following:

   "8.01 Death In Service Before Retirement
   
   If a Participant dies in service, he or she shall be deemed to have terminated employment as of the date of death and the Commuted Value of the deferred life annuity to which the Participant would have been entitled under Section 9.01 shall be payable to the individual to whom the death benefit is payable under the Registered Plan, be it the Participant’s Spouse, Beneficiary or estate."

2. Effective September 1, 2016, Section 8.02 (Death After Termination of Employment) shall be deleted in its entirety and replaced with the following:

   "8.02 Death After Termination of Employment
   
   If a Participant who terminated employment and who is entitled to benefits under this Payroll Pension Plan dies before commencement of his or her pension, the Commuted Value of the Participant’s deferred life annuity shall be payable to the individual to whom the death benefit is payable under the Registered Plan, be it the Participant’s Spouse, Beneficiary or estate."

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 _________________________, 2015.

__________________________
Signature

__________________________
Date
This report provides an overview of the issues addressed by the Pension & Benefits Committee in 2014-15. Further information on any of these topics may be obtained by contacting the committee secretary, Rebecca Wickens (rebecca.wickens@uwaterloo.ca), or by visiting the committee webpage.

The Committee and its Members

The Pension & Benefits Committee is a standing committee of the Board of Governors responsible for overseeing the University’s employee pension plans, insured health care and dental plans, sick leave benefits, long term disability plan, and life insurance plan (the “Plans”). The committee consists of representatives from the University’s employee groups, administration, Board of Governors, retirees, and affiliated and federated institutions of Waterloo.

The committee meets on a monthly basis (except April, July and August); meetings are open to the University community and agendas and minutes are available on the committee webpage. The committee monitors the health and oversees the administration of the Plans. Recommendations for changes and improvements to the Plans are developed, refined and approved by the committee and forwarded to the Board of Governors for approval.

The committee’s approach is based on the following principles:

1. There will be one pension and benefits plan for all members of the University community, regardless of the type of work performed or the employee group to which one belongs.
2. Benefits are provided for both the employee and his or her family, where relevant.
3. Employees should be covered for catastrophic events.
4. The current level of benefits should be maintained.
5. Cost implications to both the University and its employees should be considered.

Committee Activities in 2014-15

Benefits Plans

1. Life-time Maxima on Out-of-Province Healthcare Coverage for Pensioners. Pensioners who live within Canada, but outside of Ontario, are covered under the University’s extended healthcare plan. Historically, coverage was subject to life-time maxima, which differed based on the period during which the individual retired (prior to 1 January 1996, between 1 January 1996 and 6 June 2000, or after 6 June 2000). The original intent of this feature was to protect the plan in the event a provincial government outside of Ontario decided to delist or discontinue healthcare coverage.

In the fall of 2014, Human Resources reviewed this feature of the benefits plan in consultation with Aon Hewitt and Great West Life and recommended the removal of the life-time maxima on the following bases:

- This plan feature is unusual;
- The financial impact of removing the maxima is expected to be low; and
- The University now hires individuals to work in other provinces – coverage on retirement should be the same for these individuals as for those hired to work in Ontario.

On the recommendation of the committee, the Board of Governors removed the life-time maxima effective as of 28 October 2014. The committee will monitor the financial impact of this change on the University.
2. **Annual Work Plan Items.** In accordance with the annual work plan for the committee, the committee:

- Reviewed the extended health and dental plan maxima and agreed to index the maxima by a percentage equivalent to three years’ inflation, which resulted in an increase of 8.38% to the paramedical and private duty nursing maxima, 0.34% increase to the out-of-pocket maxima for individuals and families, and 6.97% increase to the dental plan maxima. These changes took effect 1 January 2015.

- Approved the benefits plans premium renewals negotiated by Human Resources in conjunction with our consultants. Based on claims experience, the long-term disability premium paid by employees increased by 3.7%; there was no increase to the other employee and employer paid rates. These changes took effect on 1 May 2015.

- Received a report from Human Resources in June on the benefits plan utilization rates and associated costs.

- Provided oversight to a number of other items that occur automatically according to plan provisions, e.g. movement in the dental fee guide used for calculating reimbursement and annual indexation of long-term disability benefits in pay.

**Pension Plans**

3. **Education and Monitoring.** 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 University’s pension plans and takes the information into account when making decisions on matters including plan design, funding and administration.

Initiatives the committee has been monitoring, discussing and, where required, taking action over the past year include: new regulations regarding the filing and contents of a pension plan’s statement of investment policies and procedures; new reporting requirements for deferred vested members and retirees; the impact of the new Ontario Retirement Pension Plan on the University and its employees; anticipated changes to legislation re: the calculation of commuted values using a new mortality table.

The committee has also received several updates on the progress of the Council of Ontario Universities-Ontario Confederation of University Faculty Associations joint working group and the development of an Ontario university sector pension plan. The committee understands that this initiative is still in its early stages and will continue to monitor its progress.

4. **1 January 2015 Actuarial Valuation.** An actuarial valuation report is required to be filed at least every three years; however, the committee commissions a report on an annual basis for its planning and the University’s budgeting purposes.

The 1 January 2015 report was prepared using the same assumptions as the 1 January 2014 and an alternate set of assumptions\(^1\). Under both sets of assumptions, the registered pension plan (the “Registered Plan”) is in a deficit position; however, the going concern deficit position has improved since the 1 January 2014 report. The University continues to make additional contributions to meet the unfunded liability.

The payroll pension plan (the “Payroll Plan”), which provides pension benefits (subject to plan caps) that cannot be paid from the Registered Plan because of the application of the *Income Tax Act* maximum pension, has a surplus of $2.5 million.

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\(^1\) The alternate assumptions assume that inflation going forward will be 2.00% as opposed to 2.25%. This lowered several other assumptions, including increase in salaries, the interest rate used to discount the liabilities, and the increase in Year’s Maximum Pensionable Earnings under the Canada pension plan.
The full actuarial report for the Registered Plan and Payroll Plan can be found on the committee’s webpage: Actuarial Valuation Results as of 1 January 2015.

5. **Revisions to the Statement of Investment Policies & Procedures (“SIPP”).** New regulations under the Pension Benefits Act were introduced, which require the University to file its SIPP with the Financial Services Commission of Ontario (“FSCO”) by 1 March 2016. Previously, the SIPP needed to be updated and approved by the Board of Governors on an annual basis, but was not required to be filed with FSCO. Under the new regulations, the revised SIPP must also contain a statement regarding the plan’s approach to environmental, social and governance factors in its investment decisions. The committee, and its subcommittee, Registered Pension Plan Investments (“RPPI”), have been waiting for more guidance from FSCO on what is required before revising the document.

6. **Investment monitoring.** The RPPI Subcommittee, which is made of up members of the Pension & Benefits Committee and Finance & Investment Committee continues to meet on a regular basis to monitor the performance of the pension fund and investment managers, discuss investment philosophy and asset mix, research investment opportunities, and consider recommendations re: changes to the investment portfolio. The subcommittee reports on its activities and the pension fund’s performance after each meeting.

7. **Changes to investment portfolio.** In October 2014, the committee approved the sale of the real return bonds held by the registered pension plan fund on the recommendation of the RPPI Subcommittee, allowing the pension fund to realize a gain of $52,909,984 over the face value of the bonds plus accumulated CPI. The proceeds from the bonds were invested in high quality short-term corporate bonds, until a suitable investment opportunity arises.

8. **Annual Work Plan Items.** In addition to the above, the committee:

   - Reviewed and approved the audited pension fund financial statements for filing with FSCO. The statements show, among other things, that there are significant assets in the fund, the change in assets over the year and drivers for that change, amounts paid out of assets, and compliance with the SIPP. At the same time, the committee reviewed a more detailed breakdown of administrative fees incurred by the plan in 2014, including consulting actuary’s fees, custodian’s fees, investment managers’ fees, audit fees, salaries for pension administration personnel and HST recovery. The fees totalled $4,594,000, which represents an increase of 16.7% over 2013. The primary drivers were investment managers’ fees and HR administration fees.

   - Reviewed and approved cost of living increases to earnings of individuals on long-term disability for the purpose of calculating pension contributions, and to eligible deferred pensions. The committee formed a subcommittee to recommend principles to guide these decisions going forward.

   - Received the annual report from Aon Hewitt re: the contribution and protocol caps, including the impact of indexing or removing the caps on costs and liabilities, the number of individuals who would be impacted if the caps were not indexed, and the projected date on which the cap under the Income Tax Act will hit the hard cap in the pension plan, if the cap is not increased. The committee monitors these numbers annually in order to make decisions about how and when to increase the caps.

   - Provided oversight to a number of other items that occur automatically according to plan provisions, e.g. annual indexation of pensions in pay and payroll pension plan caps.

11 September 2015