**DATE:** Tuesday, June 14, 2011  
**TIME:** 3:30 p.m.  
**PLACE:** Needles Hall, Room 3001

**OPEN SESSION**

<table>
<thead>
<tr>
<th>Time</th>
<th>Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>3:30</td>
<td>Remarks from the Chair</td>
</tr>
<tr>
<td>3:35</td>
<td>Consent Agenda</td>
</tr>
</tbody>
</table>

**Motion:** That items 2-4 below be approved and/or received for information by consent.

<table>
<thead>
<tr>
<th>Time</th>
<th>Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>3:35</td>
<td>Approval of the April 5, 2011 Minutes [enclosed]</td>
</tr>
<tr>
<td>3:40</td>
<td>Report of the President</td>
</tr>
<tr>
<td>3:45</td>
<td>a. Recognition and Commendation</td>
</tr>
<tr>
<td>3:45</td>
<td>b. Sabbatical Leaves/Leave Change and Administrative Appointments</td>
</tr>
<tr>
<td>4:05</td>
<td>4. Report of the Vice-President, Administration &amp; Finance</td>
</tr>
<tr>
<td>4:10</td>
<td>a. Incidental Fee Changes</td>
</tr>
</tbody>
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**Regular Agenda**

<table>
<thead>
<tr>
<th>Time</th>
<th>Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>3:40</td>
<td>Business Arising from the Minutes</td>
</tr>
<tr>
<td>3:45</td>
<td>5. Report of the President</td>
</tr>
<tr>
<td>3:45</td>
<td>a. Overviews</td>
</tr>
<tr>
<td>3:45</td>
<td>b. Priorities of the President, 2011-12</td>
</tr>
<tr>
<td>4:05</td>
<td>7. Report of the Vice-President, Academic &amp; Provost</td>
</tr>
<tr>
<td>4:05</td>
<td>a. Executive Council Priorities, 2011-12</td>
</tr>
<tr>
<td>4:05</td>
<td>b. Process for Transition to Clinical Professorial Ranks by Continuing Clinical Lecturers</td>
</tr>
<tr>
<td>4:25</td>
<td>8. Report of the Vice-President, External Relations</td>
</tr>
<tr>
<td>4:35</td>
<td>9. Report of the Vice-President, University Research</td>
</tr>
<tr>
<td>4:45</td>
<td>Break</td>
</tr>
<tr>
<td>5:00</td>
<td>10. Reports from Committees</td>
</tr>
<tr>
<td>5:05</td>
<td>a. Audit</td>
</tr>
<tr>
<td>5:10</td>
<td>b. Building &amp; Properties</td>
</tr>
<tr>
<td>5:20</td>
<td>c. Finance &amp; Investment</td>
</tr>
<tr>
<td>5:30</td>
<td>d. Pension &amp; Benefits</td>
</tr>
</tbody>
</table>

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**Action**

| Oral | Information |
| Decision |
| Information |
| Decision/Information |
| Information |
| Information |
| Information |
| Information |
| Information |
| Decision/Information |
| Decision/Information |
| Decision/Information |
| Decision/Information |||
11. Other Business

<table>
<thead>
<tr>
<th>Time</th>
<th>Item</th>
<th>Page</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>5:45</td>
<td>b. New School of Public Health and Health Systems</td>
<td>120-126</td>
<td>Decision</td>
</tr>
</tbody>
</table>

**CONFIDENTIAL SESSION**

5:50

**Consent Agenda**

Motion: That items 12-14 below be approved by consent.

12. Approval of the March 11 and April 5, 2011 Minutes [enclosed] Decision

13. Report of the President
   a. New Appointments with Tenure CS1-CS2 Decision

14. Other Business
   a. Delegation of Authority CS3 Decision

**Regular Agenda**

5:55

15. Business Arising from the Minutes

6:00

16. Reports from Committees
   a. Pension & Benefits CS4 Decision
   b. Governance CS5 Information

6:15

17. Other Business

18. Next Meeting
   Tuesday, October 25, 2011

19. Adjournment

**Note:** To allow the Board of Governors to complete a number of matters quickly and to devote more of its attention to major items of business, the agenda has been divided between items that are to be approved and/or received for information by consent and those that are to be presented individually for discussion and decision and/or information.

A consent agenda is not intended to prevent discussion of any matter by the board but items listed under the consent sections will not be discussed at the meeting unless a governor so requests. Governors are supplied with the appropriate documentation for each item and all items will be approved by means of one omnibus motion. The board will then move immediately to consideration of the items on the regular agenda.

MRA:tad Marie Armstrong
June 7, 2011 Associate University Secretary

Parking available in Lot D (underneath Needles Hall)
Please convey regrets to Tracy Dietrich at (519) 888-4567, x36125 or tdietrich@uwaterloo.ca
FOR INFORMATION

Recognition and Commendation

Psychology Professor Mark Zanna (a Fellow of the Royal Society of Canada and a recipient of Waterloo’s awards for “excellence in research” and “excellence in graduate supervision”) recently received a $100,000 Killam Prize – one of five such prizes, called “Canada’s most distinguished annual awards,” given by the Canada Council for the Arts. The prizes are awarded annually, one each for career achievements in health sciences, engineering, humanities, natural sciences and social sciences. Zanna’s prize is for the social sciences; the other 2011 winners came from the Universities of Montréal, Toronto, Manitoba and British Columbia. The announcement was made at a ceremony in Vancouver, at UBC’s Beaty Biodiversity Museum. It is the second year in a row that one of the Killams has come to Waterloo: Ming Li, computer scientist, was a 2010 winner. According to a Canada Council news release, Zanna “is one of only a handful of academic social psychologists whose theories have been applied to major social issues such as racial prejudice. Described by his peers as one of the leading social psychologists in Canada, he is among the most cited social psychologists in the world.” The Killam Prizes were inaugurated in 1981 with a donation by Dorothy J. Killam in memory of her husband, Nova Scotia financier Izaak Walton Killam. The prizes were created “to honour eminent Canadian scholars and scientists actively engaged in research, whether in industry, government agencies or universities.”

In the recent William Lowell Putnam Mathematics Competition, held each December for mathematics students across North America and administered by the Mathematical Association of America, Waterloo’s team (Steven Karp, Boyu Li and Malcolm Sharpe) finished in fifth place. The winning team came from the California Institute of Technology, with MIT, Harvard, Berkeley and Waterloo following. The top Waterloo student was Matthew Harrison-Trainor who was amongst the top 40 of the 4,296 contestants. Waterloo’s next five students (in alphabetical order) were all amongst the top 100 contestants: Frank Ban, Steven Karp, Boyu Li, Yangxi Ou, Malcolm Sharpe. The competition was established in 1938 in memory of its namesake. Cash prizes for the top five teams in recent years ranged from $25,000 to $5,000.

The University of Waterloo Nanorobotics Group (UW_NRG) won the Microassembly Challenge at the International Conference on Robotics and Automation (ICRA) held in Shanghai in May. The group defeated ten other registered teams from top institutions based in the United States, France, and Italy. “UW_NRG’s microrobot, measuring a mere half-millimetre in width and a hundredth of a millimetre in height, was the only robot at the competition to successfully manipulate microscale triangles into a tightly packed formation – a formidable challenge requiring extreme precision and reliability. These principles have several critical applications in everything from minimally-invasive surgery to advanced electronics manufacturing. This year’s entry from UW_NRG applied fundamental magnetic principles in an extremely robust and functional package, coupled with an advanced, custom-built control and image recognition system.” The group calls itself “Canada’s premier nanotechnology student organization. Consisting exclusively of undergraduate students from the University of Waterloo, UW_NRG has been straddling the divide between research group and student team since its first ambitious design was drawn on a napkin in 2007. Beyond competing annually at the ICRA, UW_NRG organizes and participates in seminars, tutorials, and community outreach sessions.”
1. Sabbatical Leaves/Leave Change

UW Policy 3, Sabbatical and Other Leaves for Faculty Members [excerpts below, full text available at: http://www.adm.uwaterloo.ca/infosec/Policies/policy3htm], 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
  
  **Shai Ben-David**, Computer Science, September 1, 2011 to February 29, 2012 at 85% salary
  I will be conducting research in machine learning at the Hebrew University, Jerusalem and Technion (Israel Institute of Technology), Haifa, both in Israel. I will also be writing a text book in machine learning.

  **Kathleen Bloom**, Psychology, September 1, 2011 to August 31, 2012 at 86.4% salary
  I will prepare three manuscripts describing new institutional strategies for increasing knowledge application: creating benchmarks for academic rewards, training knowledge brokers, and catalyzing research uptake through innovative stakeholder-university partnerships.

  **Lutz-Alexander Busch**, Economics, September 1, 2011 to August 31, 2012 at 94.7% salary
  Three topics will be covered: one, an investigation of topics in behavioural decision theory and their implications on general equilibrium; two, an exploration of the range of timeseries data that modern simulated macro economic models can match; three, completion of a project on sequential bargaining situations in which current bargaining power depends on previous bargaining outcomes.

  **Bernt Ralph Chou**, Optometry, January 1, 2012 to June 30, 2012 at 100% salary
  *This leave will allow me to start work on a book prescribing for environmental vision problems in...*
conjunction with UAB School of Optometry, in addition to completing projects on spectacle lens impact resistance and drafting ISO standards on protective devices.

**Ken Coates**, History, July 1, 2011 to June 30, 2012 at 100% salary
My research focuses on innovation in non-metropolitan areas. Most national innovation efforts focus on major urban centres, typically with large research intensive universities. This project takes a comparative look at how regional economics are endeavouring to connect with the rapidly changing global economy.

**Claude Duguay**, Geography and Environmental Management, January 1, 2012 to June 30, 2012 at 85% salary
This leave is requested to conduct research in collaboration with colleagues in Europe related to European Space Agency (ESA) funded projects on remote sensing of ice and snow, and to work on the completion of several papers. Pending funding from the German government (Humboldt Research Award application), I plan to spend two months at the Alfred Wegener Institute (Postdam, Germany).

**Michael Godfrey**, Computer Science, August 1, 2011 to July 31, 2012 at 85% salary
I will be spending 12 months at CWI in Amsterdam starting August 1, 2011; CWI is a government-funded research institute for mathematics and computer science. I will be working on a research project involving programming languages and software engineering.

**Carin Holroyd**, Political Science, July 1, 2011 to December 31, 2011 at 100% salary
My research focuses on comparative national innovation systems and, specifically, government policies designed to promote the commercialization of environmental technologies. During my sabbatical, I will examine relevant policy initiatives in Japan, Taiwan, New Zealand, the UK, France and Norway.

**Xinzhi Liu**, Applied Mathematics, September 1, 2011 to August 31, 2012 at 85% salary
During my sabbatical leave I plan to devote myself mainly to research on hybrid dynamical systems. The location of my leave is yet to be determined. I will try and increase my interactions with researchers in other institutions as much as possible.

**Martin Karsten**, Computer Science, September 1, 2011 to August 31, 2012 at 85% salary
I will be visiting the University of Kaiserslautern, Germany, for eight months. Afterwards, I will spend four months in Waterloo consolidating results and the rest of my research program, potentially making a few more trips to engage in research collaborations.

**Hamed Majedi**, Electrical and Computer Engineering, January 1, 2012 to June 30, 2012 at 100% salary
I will be collaborating on characterization of single optical photon sources and detectors with two renowned groups, Laboratory of Nanoscale Optics at School of Engineering and Applied Sciences at Harvard and Quantum Nanostructures and Nanofabrication Group at Massachusetts Institute of Technology (MIT).

**Elizabeth Meiering**, Chemistry, January 1, 2012 to June 30, 2012 at 100% salary
During this sabbatical, I will 1) develop new collaborative research, e.g. with Dr. Jaakov Levy, Weizmann Institute, and with Dr. Marina Ramirez-Alvarado, May Clinic; 2) write applications; and 3) write papers on a backlog of data that has accumulated from ongoing studies in my lab. These activities will be very valuable for the continued vitality of my research program.

**J. Ian Munro**, Computer Science, September 1, 2011 to February 29, 2012 at 100% salary
Research on data structures with colleagues at Université Libre de Bruxelles (fall 2011) and
University of Aarhus (winter 2012). I will work with Professors Jean Cardinal and Stefan Langerman on the complexity of partial sorting. In Aarhus the focus, with Professors Lars Arge and Gerth Brodal, will be of data structures for efficient use in memory hierarchy.

Rajinder Pal, Chemical Engineering, May 1, 2012 to April 30, 2013 at 100% salary
A major portion of my sabbatical leave will be devoted to the completion of my second book entitled “Electromagnetic, Thermal, and Mass Transport Properties of Dispersions and Composites”. This book is to be published by CRC Press (publishing agreement signed on March 4, 2008). I also intend to visit companies and research institutions to explore the possibility of establishing collaborations.

Omar Ramahi, Electrical and Computer Engineering, September 1, 2011 to August 31, 2012 at 85% salary
I will be giving lectures in Italy and the Middle East on Computational Electromagnetics and EMI. I plan to write a book on the subject of electromagnetic band gap structures in EMI/EMC. I will also dedicate time to continue investigating the possibility of commercializing antenna probes developed and patented [pending] over the past two years.

James Robinson, Environment and Resource Studies, July 1, 2011 to December 31, 2011 at 100% salary
Special leave to continue water demand management research through to retirement.

Kathleen Rybczynski, Economics, November 1, 2011 to April 30, 2012 at 85% salary
During my sabbatical I will expand my research on “The Effect of Market Structure on Health”, funded by my SSHRC-RDI grant. Early work, from this project and others, will be completed and submitted for publication. In the winter term, I will initiate further market structure research in preparation to apply for additional grants in 2012.

Jennifer Simpson, Drama and Speech Communication, September 1, 2011 to August 31, 2012 at 92.6% salary
I will work on a book under contract with the University of Toronto Press on undergraduate education. I have two chapters completed, and will submit the entire book manuscript in August 2012. A second project addresses knowledge dissemination. I am the director of a collaborative project that is producing media resources (web-based, film, etc.) on race issues in Canada.

Bruce Taylor, Fine Arts, January 1, 2012 to June 30, 2012 at 100% salary
The purpose of my sabbatical leave is to provide me with an opportunity to further my professional growth and development. Specifically, I will be using the time to create a new body of work, which will culminate in an upcoming exhibition.

Rebecca Tierney-Hynes, English Language and Literature, September 1, 2011 to February 29, 2012 at 100% salary
My work deals primarily with the impact of new models of reading and spectatorship on theories of the mind and emotion in the late seventeenth and early eighteenth centuries. I will complete the revisions on a monograph that is currently in submission, complete an article currently in revision, and conduct research at the British Library in affiliation with the University of London in order to complete the archival research for my second book project and another article.

Richard Trefler, Computer Science, July 1, 2011 to June 30, 2012 at 85% salary
I will conduct research on the design of techniques for automated analysis of modular distributed computing systems.
Nancy Waite, Pharmacy, September 1, 2011 to February 29, 2012 and September 1, 2012 to February 28, 2013 at 100% salary

My educational research has flourished with the creation of the Pharmacy curriculum. However, administrative responsibilities have limited research project completion. This sabbatical will 1) provide the opportunity to analyze the data collected to date and complete a large number of manuscripts, 2) jumpstart grant writing using the findings from the preliminary research/manuscripts and 3) provide time for educational research methods training in the US/Canada.

Steven Weinstein, Philosophy, March 1, 2012 to August 31, 2012 at 85% salary

I plan to further explore ramifications of my recent exploration of the possibility of multiple time dimensions, and pursue research on the physical origins of time. The work on multiple time dimensions brings to light a striking form of nonlocality present even in non-quantum theories, and is of course of great philosophical interest in and of itself.

Lei Xu, Civil and Environmental Engineering, November 1, 2011 to April 30, 2012 at 85% salary

I will use this leave opportunity to broaden my research on cold-formed steel structures and to strengthen the collaborative research that has been established with other researchers in this field. With emphasis on technology innovation, the research is not only of theoretical importance but also of practical significance.

Grace Yi, Statistics and Actuarial Science, September 1, 2011 to August 31, 2012 at 85% salary

My research objectives will be focused on developing novel statistical methodology to handle various challenges arising from clinical trials and epidemiological studies. In particular, analysis methods will be developed to deal with longitudinal and survival data with measurement error or missing observations. Genuine applications to medical studies will be explored. I will also spend a great amount of time on writing a research monograph which has been undergoing for about a year.

Mu Zhu, Statistics and Actuarial Science, September 1, 2011 to August 31, 2012 at 85% salary

A regular sabbatical leave to advance my research on “kernel and ensemble methods for horizontal and vertical information selection”, to visit existing collaborations and leading researchers in my field, to identify and develop opportunities for applied and collaborative research by visiting leading industrial research labs, and to further educate myself and stay on top of recent developments.

• Sabbatical Leave Change
  Keith Warriner, Sociology and Legal Studies, change from September 1, 2011 to August 31, 2012 at 100% salary to July 1, 2011 to June 30, 2012 at 100% salary.

FOR INFORMATION

2. Administrative Appointments

Dayan Ban, appointment as Associate Director, Nano Engineering, Faculty of Engineering, May 1, 2011 to April 30, 2014.

Dan Brown, appointment as Associate Director, Computer Science, Faculty of Mathematics, July 1, 2011 to June 30, 2013.

Robin Cohen, appointment as Associate Dean, Research, Faculty of Mathematics, July 1, 2011 to June 30, 2012.
**Neil Craik**, appointment as Director, Environment, Enterprise and Development, Faculty of Environment, July 1, 2011 to June 30, 2015.

**Arnie Dyck**, appointment as Associate Dean, Co-op, Faculty of Mathematics, July 1, 2011 to August 31, 2012.

**Paul Eagles**, appointment as Interim Chair, Recreation and Leisure Studies, Faculty of Applied Health Sciences, July 1, 2011 to June 30, 2012.

**David Edwards**, appointment as Director, Pharmacy and Associate Dean of Science for Pharmacy, Faculty of Science, June 1, 2011 to May 31, 2015.

**Jill Tomasson Goodwin**, appointment as Interim Chair, Drama and Speech Communication, September 1, 2011 to August 31, 2012.

**Mark Havitz**, reappointment as Chair, Recreation and Leisure Studies, Faculty of Applied Health Sciences, July 1, 2012 to June 30, 2016.

**Paul McDonald**, reappointment as Chair, Health Studies and Gerontology, Faculty of Applied Health Sciences, July 1, 2011 to June 30, 2015.

**Barbara Moffatt**, appointment as Associate Dean, Undergraduate Studies, Faculty of Science, September 1, 2011 to August 31, 2012.

**Doug Sparkes**, appointment as Associate Director, MBET Program, Faculty of Engineering, May 1, 2011 to April 30, 2012.

**Levent Tunçel**, appointment as Associate Dean, Graduate Studies, Faculty of Mathematics, July 1, 2011 to June 30, 2012.

**Administrative Appointment Change**

**Jennifer Simpson**, appointment as Interim Chair, Drama and Speech Communication, Faculty of Arts, change from October 1, 2010 to June 30, 2011 to October 1, 2010 to August 31, 2011.
FOR APPROVAL

Incidental Fee Changes

Federation of Students Fee
It is recommended that the compulsory Federation of Students Fee, assessed and collected from all full-time undergraduate students, be increased from $38.95 per term to $39.85 per term effective September 2011 (fall term).

Comments:
- The previous fee increase was $1.71 per term effective September 2010
- The fee increase was approved by the Federation of Students on May 17
- Payment of the fee is a requirement of registration and is non-refundable

Federation of Students Administered Fee
It is recommended that the Federation of Students Administered Fee be increased to reflect changes to the U-Pass (bus pass) component effective September 2011 (fall term).

<table>
<thead>
<tr>
<th></th>
<th>Dental</th>
<th>Health</th>
<th>U-Pass</th>
<th>SRP</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regular</td>
<td>$45.38</td>
<td>$50.00</td>
<td>$60.64</td>
<td>$1.00</td>
<td>$157.02 (increase $7.70 for U-Pass)</td>
</tr>
<tr>
<td>Co-op</td>
<td>$81.59</td>
<td>$92.50</td>
<td>$60.64</td>
<td>$1.00</td>
<td>$235.73 (increase $7.70 for U-Pass)</td>
</tr>
</tbody>
</table>

Comments:
- SRP = Student Refugee Program
- The Federation of Students has contracted with StudentCare for the health and dental components and with Grand River Transit for the bus pass component
- The university assesses the fee on behalf of the Federation of Students and transfers the funds to the Federation of Students for disbursement
- Payment of the fee is a requirement of registration; the health and dental components are refundable through the Federation of Students and their service provider; the bus pass is non-refundable; the Student Refugee Program is refundable directly through the Federation of Students
- During the winter term, regular students pay twice the rate for health and dental to continue coverage from May to September

GSA Administered Fees
It is recommended that the GSA Administered Fees, assessed and collected from active full-time and part-time graduate students, be increased as follows:
### GSA Administered Fees

<table>
<thead>
<tr>
<th></th>
<th>Full-time</th>
<th>Part-time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spring 2011</td>
<td>$179.94</td>
<td>$127.00</td>
</tr>
<tr>
<td>Fall 2011</td>
<td>$187.64</td>
<td>$127.00</td>
</tr>
<tr>
<td>Grad House</td>
<td>15.00</td>
<td>15.00</td>
</tr>
<tr>
<td>Health Plan</td>
<td>52.00</td>
<td>52.00</td>
</tr>
<tr>
<td>Dental Plan</td>
<td>60.00</td>
<td>60.00</td>
</tr>
<tr>
<td>U-Pass</td>
<td>60.64 (increase $7.70)</td>
<td>0.00</td>
</tr>
</tbody>
</table>

**Comments:**
- Payment of the fee is a requirement of registration
- The Graduate House Fee is refundable directly through the Graduate Student Association (GSA)
- The health and dental plan components are refundable through the GSA and its service provider
- The U-Pass Fee pays for a universal bus pass with Grand River Transit; the fee is assessed to all full-time graduate students on campus within the Region of Waterloo; the fee is not refundable
- The proposed fee changes were approved at the GSA Board of Directors meeting on May 12

### Incidental Fees for Undergraduate UAE Programs (Engineering & Mathematics)

It is recommended that full-time undergraduate students enrolled at the UAE Campus in engineering and mathematics be assessed the following incidental fees effective September 2011 (fall term).

<table>
<thead>
<tr>
<th></th>
<th>Value</th>
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<tbody>
<tr>
<td>Student Council</td>
<td>100 AED/year (similar to student society activities)</td>
</tr>
<tr>
<td>Student Activities</td>
<td>180 AED/year</td>
</tr>
<tr>
<td>Orientation</td>
<td>150 AED/year (first-year students only)</td>
</tr>
<tr>
<td>Bus-Pass</td>
<td>2200 AED/year</td>
</tr>
<tr>
<td>Health Insurance</td>
<td>1550 AED/year</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>4180 AED/year (approx $1130/year)</td>
</tr>
</tbody>
</table>

**Comments:**
- The Health Insurance Fee is refundable with proof of adequate coverage
- The Orientation Fee is refundable
- The Student Activities Fee will cover the costs associated with providing the following services: men’s soccer, men’s & women’s basketball, men’s & women’s volleyball, table tennis, and a music group
- The Student Council, Student Activities, and Orientation Fees are lower than the rates assessed on the Waterloo campus
- The Bus-Pass and Health Insurance Fees are cost recovery rates based on local market conditions

Dennis Huber  
Vice-President, Administration & Finance
FOR INFORMATION

Local Overview
Two Waterloo professors have been awarded significant honours. Dr. Mark Zanna, one of the world’s most-cited social psychologists, won one of five Killam Prizes this year, in the social science category. He is the second Waterloo professor in a row to be named a Killam Prize winner. The Killam Prize is Canada’s most prestigious research award. As well, Michele Mosca, Institute for Quantum Computing deputy director and founding Perimeter Institute researcher, has been named one of Canada’s Top 40 Under 40 for his work in quantum research and his contributions to Canadian science.

One of the University of Waterloo’s first spin-off success stories – Northern Digital Incorporated – is being sold to a Florida-based company. Founded in 1981 by Professor Jerry Krist, computer science, NDI manufactures measuring equipment for medical and industrial applications.

I am pleased to report that Accelerator Centre CEO and Associate Vice-President Commercialization Tim Jackson will be working as our interim vice-president, external relations as Meg Beckel departs for her new post as director of the Canadian Museum of Nature in Ottawa. Tim has had a long relationship with the University of Waterloo.

National Overview
The federal election of May 2 has returned a majority Conservative government, and the Throne Speech is scheduled for June 3. Finance Minister Jim Flaherty has indicated that the federal budget of March 22 will be re-introduced with a few “tweaks” on June 6, so we will wait and see whether the commitments to increase base budgets in the three granting agencies, to create new Canada Excellence Research Chairs, and to establish an international marketing strategy will be included in the reworked document.

International Overview
Canada is benefiting from a realignment of international student preference in India, where traditional destinations, including Australia, the United Kingdom, and the United States, are seeing fewer Indian students enrolling at university, while Canada, Singapore, Germany, and France are seeing increases. Canada in particular has seen its share of Indian students rise 280 per cent from 2008 to the present day, while Australia is facing precipitous drops of 77 per cent year over year. Waterloo’s share of international students has been increasing; on the undergraduate side, our numbers went up 68 per cent from 2008 to 2010, and on the graduate side, our numbers have increased by 123 per cent over the same time period.
Priorities of the President, 2011-2012
Our goals and objectives are articulated in the 6th Decade Plan. The ultimate goal is to achieve a level of excellence in research and teaching, compatible and comparable with the top 100 universities in the world, with global stature and recognition through these two pillars.

Increase and diversify income
- Major gift fundraising
- Maximize UW’s share from the Provincial and Federal Governments
- Increase income through new specialized graduate, undergraduate and extended learning program/course initiatives
- Finalize the initiatives that have been in progress since last year

Focus on students:
- Student success through excellent academic and personal experience. The space needs and new hires for this office will be finalized by September 2011, before the new academic term. A funding plan will be created depending on the outcome of a FEDS referendum on the new Student Services building.
- Continue to make co-op education and experiential learning one of the top differentiators, and aggressively innovate and grow in this strategic area. The provost will undertake a critical review of the co-op office, including its reporting structure and strategic planning.

Further increase research productivity through:
- Increase the number and value of all external research grants and contracts
- Focus on strategic strengths coupled with external opportunities for large-scale, multidisciplinary initiatives

Two large-scale initiatives, the Southern Ontario Water Consortium and The Centre of Excellence in Clinical Trials, will be finalized.

Satellite campuses
Business plans, academic and research programs and enrolment projections will be finalized for the three UW external campuses listed below:
- Stratford Campus
- Dubai Campus
- Huntsville Campus

These campuses, over the past year and a half, created significant levels of visibility together with new academic and financial opportunities. However, if not successfully finalized and delivered, pose a high level of reputational and financial risk to the institutions.

Review and refocus the Sixth Decade Plan
The Sixth Decade Plan will be critically reviewed and reorganized with specific focus on positioning the University of Waterloo to be:
- At the frontier of innovation, academic and research excellence
- Responding to the challenges and creating new opportunities
- Industry connected and relevant
- Producing the leaders of tomorrow
- Leader in commercialization through collaboration
- Operating in a 21st century global context

The review process has already been initiated and is expected to conclude by March 2012. The process will also include creation of operational plans with appropriate accountability and measurement structures through various teams responsible for specific tasks.

Manage leadership changes/opportunity to restructure
- Vice-President, Academic & Provost
- Vice-President, External
- University Secretary
Executive Council Priorities, 2011-12
Within the framework of the 6th Decade Plan, the following specific foci for 2011-12 will be considered:

- Improving communication with various stakeholders on campus and off;
- Continuing to identify and obtain additional sources of new income;
- Using best practices, identify leaders, both faculty and staff, and arrange for mentoring and enhancement of their leadership skills;
- Hiring new faculty and staff complement using best practices;
- Developing the Student Success Office, including activities related to first-year transition and students-at-risk;
- Starting a process of reducing the high student/faculty ratio;
- Attracting international students, both undergraduate and graduate, but from a broader geographical base;
- Developing means of refreshing “co-op”;
- Streamlining course and degree offerings and standardizing procedures in both undergraduate and graduate programs;
- Developing measurements of research impact, developing a suitable data base, and communicating the results to various stakeholders.

Geoff McBoyle
Vice-President, Academic & Provost

24 May, 2011
FOR APPROVAL

Process for Transition to Clinical Professorial Ranks by Continuing Clinical Lecturers

Motion: To approve the proposed process [see Attachment 1].

Summary:

Policy 76, Faculty Appointments and Policy 77, Tenure and Promotion of Faculty Members were amended to provide for clinical professoriate [approved by Senate (March 28, 2011) and the Board of Governors (April 5, 2011)].

The process gives faculty currently appointed as continuing clinical lecturers an opportunity to transition to clinical professorial ranks. An evaluation process will be used to determine where to place each applicant along the clinical professorial career track. A faculty member who moves under this process to the tenure track but is not awarded tenure may return to the rank of continuing clinical lecturer.

The process is the result of consultations undertaken by the faculty association and discussions by the Faculty Relations Committee and has been approved by the Faculty Relations Committee (unanimous) and the university president. Due to timing constraints, the process will be taken to Senate for consideration on June 20, 2011.
Process for Transition to Clinical Professorial Ranks by Continuing Clinical Lecturers

This process is available only in 2012 and 2013. The minimum outcome possible is a first probationary-term appointment at the rank of assistant clinical professor.

A continuing clinical lecturer has a one-time option to ask for consideration to be offered a tenure-track/tenured position as follows:

i) a first probationary-term appointment at the rank of assistant clinical professor

ii) a first probationary-term appointment at the rank of associate clinical professor

iii) a second probationary-term appointment at the rank of assistant clinical professor

iv) a second probationary-term appointment at the rank of associate clinical professor

v) a tenured appointment at the rank of associate clinical professor, or

vi) a tenured appointment at the rank of clinical professor.

Application for consideration. A decision to ask for consideration must be communicated in writing to the school director by January 3, 2012 or January 2, 2013. The candidate shall meet with the director to discuss the procedures to be followed. The school will provide advice and mentoring on how to prepare a candidate’s brief.

Candidate's brief. By February 1, 2012 or February 1, 2013, the candidate shall submit a brief supporting the consideration and indicating which type of appointment the candidate is seeking. The brief must include a curriculum vitae, copies of relevant scholarly work, a summary of the candidate's contributions in scholarship, teaching and service, and any other relevant information the candidate feels may be useful to the School Tenure and Promotion Committee (STPC) and Faculty Tenure and Promotion Committee (FTPC). The document “Tenure and Promotion in the Clinical Professorial Ranks - Innovative Clinical or Professional Practice” should be consulted for an explanation of “innovative clinical or professional practice.”

Annual performance reviews. The director shall provide the STPC with copies of all written assessments made of the candidate within the school.

Consideration file. The consideration file for a candidate consists of: all evidence considered by the STPC and the FTPC; the STPC assessment of the candidate's performance in teaching, scholarship and service; the outcome of deliberations by the STPC and the FTPC. The file shall also include the numerical record of votes taken, plus any written statements, including reasons, by STPC or FTPC members who do not agree with the majority recommendation.

Conflict of interest. A member of a tenure and promotion committee who has a conflict of interest in a particular case shall declare the conflict and shall be absent from the portion of committee meetings dealing with that case. If the committee chair has a conflict of interest, the committee shall elect another of its members to serve as chair pro temp during the absence of the chair.

Challenges. Prior to consideration of a case, a candidate may challenge in writing any member or members of an STPC or FTPC for bias, apprehension of bias or perceived conflict of interest. The committee, excluding the member challenged, shall decide whether the challenge is well-founded. If so, the challenged member shall not attend those portions of committee meetings dealing with the specific
case. If the committee decides that a challenge is not well-founded, the challenged member shall participate, but the challenge becomes part of the record for any subsequent consideration or appeal.

**Procedures at the school level.** The STPC shall meet to consider the application, shall prepare an assessment of the candidate's performance in teaching, scholarship and service, and shall decide which type of appointment to recommend. The assessment should state clearly, and in detail, the evidence considered, the criteria applied to the evidence, the evaluation of the candidate in each of the three areas and the emphasis placed on each area.

If there is a strong possibility that the STPC might recommend a tenured appointment, external opinions of the candidate's scholarly contributions shall be sought; normally at least three external reviews are obtained. External referees shall be both external to UW and at arm's-length from the candidate.

The candidate will be asked to provide the names of at least three arm’s-length external referees who can assess his/her scholarship. The STPC shall consider the candidate's list of referees and normally will suggest additional names. After consulting with the dean, the STPC chair shall inform the candidate of the pool of potential referees. The candidate may challenge, in writing to the STPC, a potential referee for bias, apprehension of bias, perceived conflict of interest or unsuitability. If the STPC and the candidate do not agree on the pool of potential referees, at least half of the referees contacted must be from those approved by the candidate.

Letters soliciting comments from referees shall be sent by the dean. Referees shall be sent copies of Policy 77 and this process, and shall be asked to assess the candidate's scholarly work and, if possible, to compare it with the scholarly achievements of others recently tenured at their own institutions or others of similar standing. Informal contacts with potential external referees by the director, STPC or FTPC members, or the candidate are inappropriate.

If members of the STPC express significant reservations that could result in the recommendation of an appointment at a level lower than that sought, the STPC chair shall provide the candidate with a complete copy of the file, together with a written explanation of the nature of the reservations in sufficient detail to allow the candidate to respond. The file shall include all internal or external letters of assessment with the names of the authors and other identifying references deleted, unless the authors have expressly consented to being identified. Within ten working days of delivery of the file, the candidate shall provide her/his written response (including any relevant new evidence) to the STPC chair for distribution to the STPC. The candidate may also choose to appear before the STPC and may choose to be accompanied by a UW academic colleague. The STPC shall not finalize its recommendation until the candidate has been given the opportunity to respond, as described above.

When the STPC has completed its deliberations, the STPC chair shall inform the candidate in writing of the outcome and the basis for it. The STPC chair shall forward the file to the dean for consideration by the FTPC unless the candidate chooses to withdraw it within five working days of notification of the outcome.

**Procedures at the faculty level.** The FTPC shall consider the recommendations of the STPC to ensure that the STPC has acted carefully and appropriately in its deliberations and that its recommendations are sound.
The FTPC shall base its deliberations primarily on the report forwarded by the STPC. The STPC chair (or delegate) normally will present the STPC recommendations to the FTPC and will be available to answer questions, but shall not otherwise participate in the proceedings.

If members of the FTPC express significant reservations that could result in the recommendation of an appointment at a level lower than that sought, the dean shall provide the candidate with a complete copy of the file, together with a written explanation of the nature of the reservations in sufficient detail to allow the candidate to respond. The file shall include all internal or external letters of assessment with the names of the authors and other identifying references deleted, unless the authors have expressly consented to being identified. Within ten working days of delivery of the file, the candidate shall provide her/his written response (including any relevant new evidence) to the dean for distribution to the FTPC. The candidate may also choose to appear before the STPC and may choose to be accompanied by a UW academic colleague. The FTPC shall not finalize its recommendation until the candidate has been given the opportunity to respond, as described above.

When the FTPC has completed its deliberations, the dean shall inform the candidate in writing of the outcome and the basis for it. The dean will consider the file unless the candidate chooses to withdraw it within five working days of notification of the outcome.

Outcome of consideration. The dean will consider the recommendations of the STPC and FTPC and determine whether to:

i) offer the candidate a probationary-term appointment as set out above, or
ii) forward the file to the president for consideration of a tenured appointment.

If the president supports the granting of tenure, he/she shall inform the candidate, recommend approval to the Board of Governors, and subsequently report the granting of tenure to Senate for information.

A candidate who accepts a probationary-term appointment will be governed by Policy 76 regarding probationary-term reappointment and by Policy 77 regarding tenure and promotion with the exception that if he/she is not reappointed or granted tenure he/she can return to a continuing clinical lecturer appointment.

A candidate may choose to not accept an offer and will then retain her/his status as a continuing clinical lecturer.

Appeal. If the offer by the dean is for a level lower than that sought or the decision of the president is negative, the candidate may appeal following the process set out in section 7 of Policy 77. The tribunal shall decide by majority vote on the basis of the evidence submitted to it which of the six positions is to be offered to the candidate. The decision of the tribunal is final.
Fundraising Summary 2010/2011
As of May 11, 2011, preliminary fundraising results for the fiscal year ended April 30, 2011 totaled approximately $60 million in new dollars raised, and $45 million in dollars received (on a cash flow basis). Following institutional conventions across higher education institutions in Canada, Waterloo will report on both aspects of fundraising going forward, to more clearly illustrate results on both an activity basis as well as to report actual cash flow from the private sector.

While these results are lower than the goals that had been set for the fiscal year, we are confident that a number of extraordinary pledge commitments that have been delayed and did not close as planned, as well as several major gifts currently in discussion, will be realized in the near future. This bodes well for fiscal 2011/2012.

This past year was one of significant change across the Waterloo landscape. Campaign Waterloo was closed, September 31, 2010, six months earlier than planned due to the departure of GG David Johnston, but with stellar results – as the second largest Canadian university campaign in history culminating in over $613 million in private sector gifts and the significant expansion and transformation of Waterloo as a top comprehensive, research intensive university, while still the most innovative in Canada. It was a year of significant changes in our physical landscape, fuelled by, for example, successful Knowledge Infrastructure Program grants supporting three new faculty buildings, the groundbreaking of new facilities at the Stratford campus as well as new research space in Huntsville, Ontario.

Significant changes were announced among the university leadership team – President, Provost, Secretary, VP External, three faculty decanal positions, and a school director, as well as within the faculty advancement teams, where a number of staff have been recruited to join other institutions entering major campaigns or other charities for which they have a personal affinity. The reporting structure of faculty advancement teams changed this past year, and transition to our new ‘Raisers Edge’ information system was completed, with reports created and implemented that support and provide enhanced research, management, financial and performance reporting. These changes have all had an impact on our fundraising activity and accomplishments this past year.

Deans and School Directors have been active in building, revising and reengineering strategic plans. New initiatives are moving forward, while relationships with key stakeholders, donors and prospects are reinforced and new introductions made, and new opportunities are identified and pursued. The President has been meeting with the CEOs of many of Canada’s top corporations to reinforce Waterloo’s leadership role in Canada’s future and to explore opportunities for our faculty-based and inter-disciplinary fundraising priorities.

The competition for private sector funds across Canada continues to intensify and the past two years have been particularly challenging. Overall, the number of charities across Canada has increased by 40 percent over the past 20 years, to 85,000 organizations. The past two years have seen a decline of giving by 10.7% on average across Canada, 13.9% in Ontario. This decline has been consistent across corporate and foundation giving as well as individual philanthropy. Generally, through 2009, both the number and dollar value of donations decreased. However, philanthropy is regarded as a lagging economic indicator, and we are advised that donor confidence is again being renewed, albeit under increased pressure and scrutiny.

The philanthropic landscape will continue to evolve, and our efforts at Waterloo will focus on building fundraising plans and platforms that utilize our improved knowledge of our constituents and building strong relationships as our donor demographics shift and their giving interests become more complex and diversified.

A summary of fundraising highlights will be distributed at the Board of Governors meeting reflecting final fiscal year results.
Total sponsored research awards of $190,416,804 – an increase of 12.3% over previous year.

Tri-Council Update

Success Rates
- Natural Sciences and Engineering Research Council of Canada (NSERC)
  - Discovery Grants 69.9% – national average 57.5%
  - Discovery Accelerator Supplements: seven out of 125 awarded nationally (last year one)
- Social Sciences and Humanities Research Council (SSHRC)
  - Standard Research Grants 46% – national average 37% – final SRG competition
  - Next year’s report will include three new categories: Insight, Connection, and Partnership Grants.
- Canadian Institutes of Health Research (CIHR)
  - Fall 2010 Open Competition 26.7% – national average 21.4%

NSERC Equipment Grants – 26% funded – $2.33M

CIHR Open Competition applications decreased by 32% over last year and total funding increased by 1.2%

Canadian and US Government funded contracts – $13.6M. These activities are reported separately from the Tri-Council Grants and International Programs Office.

This year IPO administered 117 international research, training projects, and development programs totalling $12.8M.

Major Funding and Award Announcements
- NSERC Industrial Research Chairs – renewal of the Chair in Design Engineering
- Seven Waterloo faculty members newly elected to the Royal Society of Canada – Savvas Chamberlain, Richard Cleve, Ian Goulden, François Paré, Janusz Pawliszyn, Lee Smolin, Michael Yovanovich
- 13 new Early Research Awards ($190K each)
- Ontario Research Fund – Research Excellence Awards – three Waterloo-led research projects ($10M); one Ryerson-led research project ($500K); one Queen’s-led research project ($979K)
- Ontario Research Fund – Water Round – two Waterloo-led research projects ($2.9M)
- Ontario Research Fund – Global Leadership Round in Genomics & Life Sciences (GL²) Competition – one McMaster-led research project ($162K)
- Automotive Partnerships Canada – one Waterloo-led research project ($3.6M); one McMaster-led research project ($246K)
- Canada Foundation for Innovation – New Initiatives Fund 2009 – two Waterloo-led research projects ($4.2M)
- Canada Foundation for Innovation – Leading Edge Fund 2009 – one Waterloo-led research project ($7.1M)
- Ontario Research Fund – Large Infrastructure Funds – three Waterloo-led research projects ($4.2M)
- Canada Foundation for Innovation – Leaders Opportunity Fund – 18 awards ($1.7M)
- Ontario Research Fund – Research Infrastructure – 16 awards ($1.5M)
- Canada Research Chairs – three Tier 2 ($500K each), five Tier 1 ($1.4M each)
- One CIHR New Investigator Award
- CIHR Canada-UK Team Grant ($2M)

George Dixon
Vice-President, University Research
This report is submitted following the committee’s meeting of April 5, 2011.

FOR APPROVAL

1. UW Financial Statements, 2010-2011

   Motion: That the Board of Governors delegate its authority to approve the university’s audited financial statements for the fiscal year ended April 30, 2011 (the “Financial Statements”) to the Board Executive Committee.

   Background: The Financial Statements will be reviewed by the Audit Committee at its July meeting. In the past, the Financial Statements were presented to the Board of Governors for approval at its October meeting. Due to changes in auditing standards, if the Financial Statements are not approved until the October meeting of board, the auditors will be required to perform a subsequent events review and bring any changes to an extraordinary meeting of the Audit Committee before the Financial Statements can go before the board. Approval of the Financial Statements before the October meeting of board will also allow the university to make certain filings and release information based on the Financial Statements earlier than in previous years.

   Risk: There is no risk associated with this decision.

FOR INFORMATION

2. Risk and Risk Mitigation

   The committee has received several audit reviews and audit follow-up reports. On the basis of reviews of UW management initiatives and approaches, the committee is satisfied that risk mitigation is being addressed.

      /rmw

      David McKay
      Chair
1. **Health Sciences Addition** [see Attachment 1]
   **Motion:** That the Board of Governors approve the granting of an easement to the City of Waterloo for a future realignment of the existing municipal sanitary sewer.

   **Background:** The site intended for the $7.75 million addition to the Health Services building is bisected by a municipal easement for an existing sanitary sewer. In order to get the City of Waterloo’s approval to construct the addition over the sewer, the City requires (a) that UW put measures in place to prevent damage to the sewer during construction, and (b) that UW grant an easement so that the sewer can be rerouted in the event of a future failure to the sewer in the area below the building addition. If the sewer needs to be rerouted, the university will be responsible for any associated costs.

   **Risk:** There is no risk associated with this decision.

2. **Science Addition**
   **Motion:** That the Board of Governors delegate its authority to the Building & Properties Committee to award a design/build contract for the construction of the Science building addition prior to the Board of Governors meeting in October.

   **Background:** With an approved budget of $45 million, the university is currently finalizing the Request for Proposal document which will be issued to the five pre-qualified design/build teams. The responses from the prequalified teams are required in August. The submissions will be reviewed by the President’s Advisory Committee on Design with a recommendation for the Building & Properties Committee expected early September. If approval is not obtained until the October meeting of board, the project will be delayed.

   **Risk:** There is no risk associated with this decision.

3. **Needles Hall Addition**
   **Motion:** That the Board of Governors approve a project budget of $11.6 million for an addition to the north facade of Needles Hall.

   **Background:** The university has grown significantly in the past few years without any additional space for administrative activities. This capital proposal contemplates the construction of 22,500 gross square feet of office/meeting space, a mechanical penthouse and lower level parking area for 15 visitors [total building area of 34,000 square feet @ $340 per square foot]. The third floor of the addition would accommodate a new Board and Senate meeting room plus related amenity spaces (i.e. break-out meeting room, kitchenette and washrooms). The lower floors would be assigned to administrative activities.
The project budget (including net HST):

<table>
<thead>
<tr>
<th>Item</th>
<th>$000s</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction</td>
<td>$9,100</td>
</tr>
<tr>
<td>Professional Fees &amp; Disbursements</td>
<td>950</td>
</tr>
<tr>
<td>Contingency</td>
<td>500</td>
</tr>
<tr>
<td>Furnishings</td>
<td>500</td>
</tr>
<tr>
<td>Network Connectivity</td>
<td>200</td>
</tr>
<tr>
<td>Building Permits &amp; Development Charges</td>
<td>350</td>
</tr>
<tr>
<td>Capital Total</td>
<td>$11,600</td>
</tr>
<tr>
<td>Maintenance Endowment</td>
<td>$1,325</td>
</tr>
<tr>
<td>Project Total</td>
<td>$12,925</td>
</tr>
</tbody>
</table>

The university has set aside $6 million (approximately 50%) of the required capital funding; the balance of funding will come from a combination of fundraising and operating funds.

Risk: The university may not be able to raise the balance of the funds and may have to rely on operating funds.

FOR INFORMATION

4. Proposed Day Care Facility [see Attachment 2]
The committee approved a day care building project budget of $3.6 million and the retention of Walter Fedy Partnership as architects/engineers for the project. The proposed day care project will replace three independent day cares operating on campus. The project is being funded by contributions from the university, staff and faculty, as well as rent payments by the day care. (Cost per square foot = $200)

5. Environment 3 Project
The committee approved a $2.395 million increase to the Environment 3 project budget to facilitate the achievement of LEED Platinum. This brings the total budget for Environment 3 to $23.095 million. The faculty has been successful in raising approximately $2.045 million of the incremental cost. The unfunded portion of the incremental cost will increase the existing shortfall by $350,000, for a total funding shortfall on the project of $1.75 million. This shortfall will be addressed through fundraising or from the operating budget of the faculty.

6. General Oversight
The committee reviewed and accepted for information:
- the capital financing commitments associated with the capital projects and advises that these commitments fall within the university’s board-approved debt policy;
- the status of capital projects and advises that all funding provided under the Knowledge Infrastructure Project was expended by March 31, 2011; and
- the maintenance program and energy conservation efforts of the university and advises that the university shows continuous improvements in this area.

/rmw

Catherine Booth
Chair
University of Waterloo
Board of Governors
FINANCE & INVESTMENT COMMITTEE
Report to the Board of Governors
June 14, 2011

FOR APPROVAL

1. Endowment Fund Investment Guidelines [see Attachment 1]

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

Background: Based on 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:

- Updated the aggregate investment limits and permitted categories to match changes made to the SIPP (as approved by the Board of Governors in October 2010);
- Updated various sections of the Guidelines to reflect the acquisition of U.S. 30-yeartreasuries;
- Inserted a definition of alternative investments; and
- Revised the rebalancing guidelines to reflect the broadening of the asset classes and removal of targets.

Risk: There is no risk associated with this decision.

FOR INFORMATION

2. General Oversight

The committee met on May 31, 2011 and reviewed and confirmed the adequacy of its terms of reference and the terms of reference for Finance & Investment Subcommittee, Pension & Benefits Committee and Registered Pension Plan Investments Subcommittee.

3. Currency Overlay

With increasing exposures to global equity markets, a multi-currency overlay has been implemented. The currency overlay is considered “insurance” since it is designed to reduce marked-to-market volatility and provide downside protection when there are significant changes in exchange rates.

/rnw
Bruce Gordon
Chair

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University of Waterloo

Endowment Fund Investment Guidelines

May 2011

Version 05/25/2011
## 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. These Funds are 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 semi-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.

Volatility Expectation
The volatility of the Fund is directly related to its asset mix, and specifically, the balance between bonds, Canadian equities and foreign 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 portfolio invested in the following asset mix should achieve the return expectation at an acceptable level of investment risk over the long term.

<table>
<thead>
<tr>
<th>Asset Class</th>
<th>Benchmark</th>
<th>Passive Canadian Fixed Income</th>
<th>Active Canadian Fixed Income</th>
<th>Active Canadian Equity Managers</th>
<th>Active Global Equity Managers</th>
<th>Passive US Equity Managers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canadian Equities</td>
<td>S&amp;P/TSX (Capped 10%) Composite</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>US Equities</td>
<td>S&amp;P 500 $ Cdn</td>
<td></td>
<td></td>
<td>30.0%</td>
<td></td>
<td>10.0%</td>
</tr>
<tr>
<td>Global Equities</td>
<td>MSCI World</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fixed Income</td>
<td>DEX Universe Bond</td>
<td>20.0%</td>
<td>20.0%</td>
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<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 Active Canadian Fixed Income Managers;
- For the Passive Canadian Fixed Income Manager (excluding U.S. Treasury bonds), 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 Active Canadian Equity Managers;
- 200 bps for Active Global Equity Managers; and
- For the hedged Passive U.S. Equity Manager, performance will be considered satisfactory if the tracking error is not more than +/- 200 bps over one-year periods and +/- 50 bps over four-year periods.

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 Class</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). 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. Treasury bonds) 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 Active Global Equity Manager. Active 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. treasury bonds.

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.

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 any interest in any asset of the Fund, material ownership, membership on the boards of other corporations, or actual or proposed contracts.

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 oral and recorded in the minutes of the meeting.

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 made by him/her 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 and Investment Committee
____________________, 20____

This is to certify that I/we have adhered to the guidelines contained in the May 2011 version of the "Endowment Fund Investment Guidelines" for the University of Waterloo, approved by the University of Waterloo.

Signed ______________________

On behalf of ______________________

Date ______________________
FOR APPROVAL

1. Actuarial Valuation of the UW Pension Plan as at January 1, 2011

Motion: To approve the “Actuarial Report: University of Waterloo Pension Plan” as of January 1, 2011 (the “Valuation”), recognizing that the report will not be filed with the Financial Services Commission of Ontario (FSCO).

Background: The University of Waterloo Pension Plan (the “Plan”) is an inflation-indexed defined-benefit plan. The Plan is funded by contributions from the employees and the university and by investment returns. The total annual contribution is determined by applying actuarial methods with assumptions about investment returns, mortality, inflation and salaries. The university is making additional contributions to meet the unfunded liability in the event the Plan remains in a deficit position when the university is next required to file (2013; valuations must be filed at least every three years).

A copy of the complete Valuation can be requested through the committee’s secretary, ext. 35924.

Financial Position of the Plan

Going Concern Basis. A valuation conducted on a going-concern basis is to determine the relationship between the respective values of assets and accumulated liabilities, assuming the Plan will be maintained indefinitely.

<table>
<thead>
<tr>
<th></th>
<th>01.01.2010</th>
<th>01.01.2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Actuarial value of assets</td>
<td>$876,597,620</td>
<td>$885,225,589</td>
</tr>
<tr>
<td>Actuarial liability</td>
<td>$984,894,916</td>
<td>$1,026,734,422</td>
</tr>
<tr>
<td>Funding excess (unfunded liability)</td>
<td>$(108,297,296)</td>
<td>$(141,508,833)</td>
</tr>
<tr>
<td>Deferred asset gain (loss) due to asset smoothing</td>
<td>$(36,850,692)</td>
<td>$26,358,618</td>
</tr>
<tr>
<td>Market value of assets</td>
<td>$882,029,237</td>
<td>$958,512,226</td>
</tr>
</tbody>
</table>

The actuarial liabilities shown above have been discounted based on a 3.85% real rate of return. The actuarial value of assets for assets other than real return bonds reflects a smoothing over a three-year period of investment gains/losses in relation to the expected return on these assets. For the real return bonds, the actuarial value of assets is calculated by discounting the projected cash flow from the bonds using a discount rate of 3.85%, to be consistent with the rate used to discount the liabilities.

Solvency Basis. A valuation conducted on a solvency basis is to determine the relationship between the respective values of the Plan’s assets and its liabilities assuming the Plan was wound up and settled on the valuation date. In accordance with the Pension Benefits Act, it is permissible to exclude certain contractual benefits (e.g., indexing) from the solvency liabilities in order to limit the magnitude of additional funding requirements for solvency purposes. This is because such additional solvency funding obligations are quite volatile as they are based on market interest rates and the market value of the assets in effect at each particular valuation date. Ignoring these obligations for solvency funding purposes does not, however, alter the contractual obligation with respect to indexing in place under the terms of the pension plan (the liability for indexation benefits is reflected in the going concern valuation position and funding requirements). The solvency calculation reported on page 2 excludes indexation. The solvency liability for indexation benefits is approximately $458,983,399 at January 1, 2011, resulting in a hypothetical wind-up deficit of approximately $497.7 million at January 1, 2011 (including indexation).
Funding Requirements. Under the funding protocols established by the committee, the university contributions to the Registered Pension Plan and Payroll Pension Plan [see below] were set at 145% of required member contributions. Effective May 1, 2011, the university increased its contributions to 155% of required member contributions, which, on a full year basis, will result in an annual special payment of $8.4 million toward the going concern funding shortfall. The full university contribution is being directed to the Registered Pension Plan to meet the current service cost requirements and to amortize the going concern funding shortfall.

Asset Mix

<table>
<thead>
<tr>
<th>Asset Mix (% of Total Market Value)*</th>
<th>As of January 1, 2010</th>
<th>As of January 1, 2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Real Return Bonds</td>
<td>22.5%</td>
<td>22%</td>
</tr>
<tr>
<td>Fixed Income, Cash</td>
<td>33.9%</td>
<td>38%</td>
</tr>
<tr>
<td>Equities</td>
<td>43.6%</td>
<td>40%</td>
</tr>
<tr>
<td>Total</td>
<td>100.0%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

*Asset mix is based on the underlying assets excluding in-transit contributions and payments.

Membership Data

<table>
<thead>
<tr>
<th>Membership Data</th>
<th>Jan. 1/09</th>
<th>Jan. 1/10</th>
<th>Jan. 1/11</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active Members</td>
<td>3455</td>
<td>3499</td>
<td>3518</td>
</tr>
<tr>
<td>LTD Members</td>
<td>90</td>
<td>87</td>
<td>93</td>
</tr>
<tr>
<td>Suspended Members</td>
<td>15</td>
<td>7</td>
<td>12</td>
</tr>
<tr>
<td>Current Pensioners</td>
<td>1345</td>
<td>1400</td>
<td>1432</td>
</tr>
<tr>
<td>Deferred Pensioners</td>
<td>395</td>
<td>394</td>
<td>422</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>5300</td>
<td>5387</td>
<td>5477</td>
</tr>
</tbody>
</table>

History of Asset Returns. The following table shows the history of asset returns for the last six years:

<table>
<thead>
<tr>
<th>Year Ending</th>
<th>Return on Market Value *(After Expenses)</th>
<th>Interest Rate Credited on Employee Contributions **</th>
</tr>
</thead>
<tbody>
<tr>
<td>December 31, 2005</td>
<td>9.65%</td>
<td>3.20%</td>
</tr>
<tr>
<td>December 31, 2006</td>
<td>13.25%</td>
<td>6.66%</td>
</tr>
<tr>
<td>December 31, 2007</td>
<td>1.62%</td>
<td>11.11%</td>
</tr>
<tr>
<td>December 31, 2008</td>
<td>-21.51%</td>
<td>8.48%</td>
</tr>
<tr>
<td>December 31, 2009</td>
<td>14.70%</td>
<td>0.75%</td>
</tr>
</tbody>
</table>
The returns (after all expenses) on market value have been calculated assuming contributions and benefit payments take place in the middle of the year.

* Excluding real return bonds

** Four-year arithmetical average rate of return on assets, excluding real return bonds, calculated at December 31st of prior year. Interest rate to be credited to December 31, 2011 is 0.83%.

2. Statement of Investment Policies & Procedures for UW Pension Plan [see Attachment 1]

Motion: To approve the January 1, 2011 version of the University of Waterloo Pension Plan (2000) Statement of Investment Policies & Procedures (the “SIPP”).

Background: Following its annual review required to ensure compliance with the Guideline for the Development of Investment Policies & Procedures for Federally Regulated Pension Plans, the Finance & Investment and Pension & Benefits Committees approved the following changes to the SIPP:

- incorporation of the investment philosophy approved by the Board of Governors in October 2010;
- revision of the period of time over which performance is measured against the return expectation (from four to ten years - four being considered too short a time frame);
- adjustments necessary to reflect the purchase of U.S. treasuries in 2010;
- addition of a definition for alternative assets; and
- revision to the rebalancing section due to changes to Section 5 of the SIPP, in particular, the broadening of the asset classes and removal of targets.

Risk: There is no risk associated with these modifications.

3. Pension Plan Text Restatement [see Attachment 2]

Motion: To approve the attached pension plan text restatement.

Background: There have been numerous amendments to the pension plan text since it was last restated in May 2000. The number of amendments resulted in a pension plan text that was difficult for members to read. In the interest of making the pension plan text more readable, a subcommittee of the Pension & Benefits Committee, including the UW pension coordinator and plan actuary, incorporated all of the amendments into the pension plan text and made adjustments for consistency, where necessary. After review by the committee, the restated pension plan text was circulated for review and comment by pension plan members.

Risk: There is no risk associated with this decision.

FOR INFORMATION

4. Premium Increases for Benefits Plan

Following a negotiation process with the carrier, the LTD premium (contract rate) will increase by 18.0%, and the life insurance premium (contract rate) will decrease by 10%, effective May 1, 2011.

5. Payroll Pension Plan

The University of Waterloo Payroll Pension Plan provides pension benefits (subject to plan caps) that cannot be paid from the Registered Pension Plan because of the application of the Income Tax Act maximum pension. The Registered Pension Plan and Payroll Pension Plan are integrated from a financial management perspective. Assets are set aside within the university funds in respect of the obligations under the Payroll Pension Plan. A going concern valuation of the Payroll Pension Plan is also performed in conjunction with the annual valuation of the Pension Plan, using the same actuarial assumptions. As of January 1, 2011, the actuarial liabilities of the Payroll Pension Plan were $15 million. The market value
of the funds set aside was $17 million. The current service cost for 2011 is $383,260 or 0.13% of pensionable earnings, bringing the combined university current service cost for the Registered Pension Plan and Payroll Pension Plan to 7.76% of pensionable earnings.

6. Pension Plans (Contribution and Cap Protocols)

Effective January 2005, the committee adopted the University Pension Contribution Protocol which establishes and tracks a loan balance each year which is equal to the accumulated difference between the actual university contributions to the Registered Pension Plan and the Adjusted University Current Service Cost (AUCS) which is determined prior to Pension Plan improvements. In effect, the purpose of the Protocol is to remove barriers to the university contributing more than the minimum since the loan balance can be recouped at a later date.

Effective January 2008, the committee adopted the Protocol Regarding the Adjustment to the Pension Cap to identify and track the amount of funding necessary to meet the defined benefit formula (i.e., ensure a plan is in place to monitor the funding requirements necessary to index the $3,200 maximum cap).

A copy of the Supplemental Report – University Pension Contribution and Cap Protocols, University of Waterloo Pension Plan and Payroll Pension Plan can be requested through the committee’s secretary, ext. 35924.

/rnw
May 26, 2011

Janet Passmore
Chair
Pension & Benefits Committee
University of Waterloo Pension Plan (2000)
STATEMENT OF INVESTMENT POLICIES AND PROCEDURES
January 1, 2011

CONTENTS

1. Purpose
2. Background, Plan Type and Liabilities
3. Allocation of Investment Responsibilities
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
9. Delegation of Voting Rights
10. Valuation of Investments
11. Borrowing
12. Conflicts Between the Policy and Pooled Fund Investment Policies
13. Dismissal of a Fund Manager
14. Policy Review
1. PURPOSE

The primary goal of the University of Waterloo Pension Plan (2000) (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 accrued under the Plan are escalated annually by the cost-of-living factor described in the Plan. If the cost-of-living factor is 5% or less it is automatically applied to all pensions. If it is greater than 5%, the P&B Committee takes into account the fund’s ability to afford any increase beyond 5%. Liabilities for both active members and pensioners will grow in direct relation to inflation.

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. In addition to the investments described in Section 4, the Plan holds real return bonds that are not actively traded and are intended to provide protection against inflation for a significant portion of the Plan's indexed pensioner and beneficiary obligations. Subject to annual review, the long-term objective of the Plan is to hold 70% of the retiree liabilities in this type of investment.

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.

Working with the F&I Committee with respect to investment philosophy, policies, objectives and strategies, the P&B Committee will make recommendations to the Board in the following areas:

- the content of this document;
the selection of a Consulting Actuary;
- the selection of Fund Managers;
- the selection of a Custodian/Trustee to hold the pension fund assets; and
- the purchase of real return bonds.

In addition, the P&B Committee will:

- review this document annually;
- review pension fund performance on at least a semi-annual basis;
- review 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; and,
- report to Plan members on at least an annual basis.

The Fund Managers will:

- participate, at least annually, in performance reviews by the P&B Committee;
- forward to the P&B Committee 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;
- provide the P&B Committee with monthly valuation statements for the fund;
- 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 11) 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 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 pension plan 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 Consulting Actuary 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 development and 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 the P&B Committee on matters related to investment management and administration of the Plan; and

- meet with 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. 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 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.** A portfolio invested in the following asset mix should achieve the return expectation at an acceptable level of investment risk over the long term.

<table>
<thead>
<tr>
<th>Asset Class</th>
<th>Benchmark</th>
<th>Active Canadian Balanced Managers</th>
<th>Active Canadian Equity Managers</th>
<th>Active Global Equity Managers</th>
<th>Passive Canadian Fixed Income and U.S. Equity Managers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canadian Equities</td>
<td>S&amp;P/TSX Composite</td>
<td>10.0%</td>
<td>10.0%</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>U.S. Equities (US $)</td>
<td>S&amp;P 500 (Hedged to $ CDN)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>10.0%</td>
</tr>
<tr>
<td>Global Equities</td>
<td>MSCI World $ CDN</td>
<td>-</td>
<td>-</td>
<td>30.0%</td>
<td>-</td>
</tr>
<tr>
<td>Fixed Income</td>
<td>DEX Universe Bond</td>
<td>6.7%</td>
<td>-</td>
<td>-</td>
<td>33.3%</td>
</tr>
</tbody>
</table>

A portion of the Plan is invested in a buy-and-hold real return bond portfolio. The foregoing table applies to the remaining portion of the Plan.

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.

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 Active Canadian Equity Managers, 200 bps for Active Global Equity Managers and 50 bps for Active Canadian Fixed Income Managers. Similarly, for the Canadian Balanced Managers, 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 80 bps. 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. Similarly, for the hedged U.S. Equity Passive Managers, performance will be considered satisfactory if the tracking error is no more than +/- 20 bps over one-year periods and +/- 10 bps over consecutive four-year periods.

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 (excluding real return bonds)

<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>10%</td>
</tr>
<tr>
<td>Equities:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alternatives</td>
<td>30%</td>
<td>70%</td>
</tr>
<tr>
<td>Total</td>
<td>0%</td>
<td>20%</td>
</tr>
</tbody>
</table>

* These assets can be held in any combination of pooled funds or individual investments.
+ The asset classes exclude real return bonds. The long-term objective of the plan is to hold 70% of retiree liabilities in this type of investment.
** 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 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). 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.

**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.

**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.

**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 Active Global Equity Managers. Active 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.

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 the P&B and F&I Committees, 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 any interest in any asset of the pension fund, material ownership, membership on the boards of other corporations, or actual or proposed contracts. However, being a member of the Plan itself is not sufficient to constitute a potential conflict of interest.

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 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 made by her/him 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 2011*
To be completed by Fund Managers immediately prior to each quarterly review.

UNIVERSITY OF WATERLOO
REGISTERED PENSION PLAN INVESTMENTS SUBCOMMITTEE
_____________________, 201__

This is to certify that I/we have adhered to the guidelines contained in the January 2011 version of the "Statement of Investment Policies and Procedures" for the University of Waterloo Pension Plan (2000), approved by the Board of Governors of the University of Waterloo.

Signed ______________________

On behalf of ______________________

Date ______________________
University Of Waterloo
Pension Plan

As Amended and
Restated Effective
January 1, 2011
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1.01 The University of Waterloo Pension Plan was established July 1, 1960 to provide retirement benefits for all eligible Employees of the University.

1.02 The Plan was revised effective January 1, 1969 and effective July 1, 1977 the Plan was revised and restated.

1.03 The Plan was further revised and restated as follows:

   (a) effective January 1, 1987, to incorporate amendments to that date and changes required under the *Pension Benefits Act, 1987* (Ontario);

   (b) effective January 1, 1992 to incorporate changes required as a result of amendments to the *Income Tax Act*; and

   (c) effective May 1, 2000 to incorporate through consolidation all amendments to the Plan since the previous restatement as of January 1, 1992, including amendments to the Plan made as of May 1, 2000.

1.04 The Plan is herein amended and restated effective January 1, 2011 to incorporate all amendments since the restatement of May 1, 2000 and to make various other changes to clarify the wording of the Plan.

1.05 Unless stated otherwise, the terms of the Plan as restated shall apply to Members who Retire, terminate employment or die on or after January 1, 2011 and the benefits of Members who Retired, terminated employment, died, or were transferred to another category of employment not covered by the Plan prior to this date shall be determined by the terms of the Plan in effect at the time of that event. See Appendix for various historical provisions of the Plan.
Article 2 – Definitions

The following words and phrases when used in this text shall have the following meanings unless a different meaning is clearly required by the context.

2.01 "Actuarial Equivalent" means an actuarially equal value computed by reference to the rate of interest and actuarial tables in effect at the time, adopted by the Pension Committee for purposes of the Plan on the recommendation of the Actuary, subject to any requirements of the Pension Benefits Act and the Income Tax Act.

2.02 "Actuary" means an independent qualified actuary who is a Fellow of the Canadian Institute of Actuaries and who is appointed by the Pension Committee.

2.03 "Affiliated Organization" means the employers that participate in the Plan as identified in Schedule A hereto.

2.04 "Beneficiary" means the person, persons, organization or organizations designated by the Member pursuant to Section 10.05 to receive a payment or payments, if any, under the provisions of the Plan.

2.05 "Board of Governors" means the Board of Governors of the University.

2.06 "Committed Value" means a lump-sum amount which is the actuarial present value of a Member's benefits computed at the rate or rates of interest and using the actuarial tables adopted by the Pension Committee on the recommendation of the Actuary, subject to the provisions of the Pension Benefits Act and the Income Tax Act.

2.07 "Consumer Price Index" means the arithmetic average of the monthly Consumer Price Indices for the twelve (12) months ended December 31 for a specified calendar year, as calculated by Statistics Canada for Canada as a whole and, should such index be replaced by another, the index substituted would be the most recent Consumer Price Index series published, arithmetically adjusted to the same basis.

2.08 "Continuous Employment" means employment with the University on a regular basis without interruption except for periods of vacation, authorized sick leave, periods of approved disability, or periods of leave of absence with or without pay duly authorized by the University, periods of lay-off, and periods of absence due to injury in respect of which the Member is entitled to Workers' Compensation benefits that are included in Credited Service under Section 2.11. Continuous Employment includes employment on a reduced work load.

Notwithstanding the foregoing, separate periods of employment with the University shall be considered a single period of Continuous Employment in the following circumstances:

(a) the periods of employment are separated by a period of not more than twelve (12) months during which the Employee was not employed by the University;

(b) the periods of employment are separated by a period of not more than eighteen (18) months where the earlier period of employment with the University was terminated as a result of an organizational restructuring under which the Employee's position was eliminated; or
2.09 "Contract Year" means the twelve (12) month period commencing with the first of the month of original appointment to the University.

2.10 "Credited Interest" means interest on a Member's contributions made to this Plan, calculated as follows:

(a) up to and including December 31, 2011, compounded annually from the first day of the month following the month in which the contribution was made to the first day of the month in which a determination thereof is to be made at a rate equal to the four-year moving arithmetical average of the annual rate of return of the market value of the Pension Fund, excluding the portion of the Pension Fund invested in real return bonds, net of expenses;

(b) after December 31, 2011 for required Member contributions, on balances as of December 31, 2011 and on contributions made thereafter, compounded annually from December 31, 2011 or from the first day of the month following the month in which the contribution was made, as applicable, to the first day of the month in which a determination thereof is to be made, at a rate equal to the calendar year average of the five-year personal fixed-term chartered bank deposit rates as determined by the Canadian Socio-Economic Information Management System (CANSIM) series V122515, or its successor; and

(c) after December 31, 2011 for additional voluntary contributions, on balances as of December 31, 2011 at a rate equal to the rate of return on the market value of the Pension Fund, excluding the portion of the Pension Fund invested in real return bonds, net of expenses.

2.11 "Credited Service" means the number of full years and completed months of Continuous Employment;

(a) prior to July 1, 1960 while a participant under the Dominion of Canada Government Annuity Plan; and

(b) on and after July 1, 1960 during which the Member made required contributions to the Plan, but does not include any period of Continuous Employment in respect of which the Member withdrew or suspended his or her required contributions to the Plan.

Credited Service shall also include:

(c) any period of absence due to injury in respect of which the Member is entitled to receive benefits under the Workplace Safety and Insurance Act, 1997, S.O. 1997, c. 16, Sch. A, and within the twelve (12) month period following the date of the injury, provided that if the Member is not approved for long term disability benefits the Member continues to make required Member contributions from the date that long term disability benefits would have been payable if the claim had been approved;

(d) any period of absence required by law to be granted in respect of maternity or parental leave provided that the Member continues to make required Member contributions during the absence;

(e) any period of absence without pay during which the Member makes required contributions to the Plan;
subject to any restrictions prescribed under the Income Tax Act with respect to periods of reduced pay, a Member who transfers to a reduced work load within ten (10) years of his or her Normal Retirement Date and after completion of at least ten (10) years of Continuous Employment will continue to accrue Credited Service at the rate of one year for each year on reduced work load, provided that the Member contributes to the Plan based on his or her Earnings. This applies whether:

(i) he or she works throughout the year at reduced work load; or

(ii) he or she works at full load for a portion of the year equal to his or her reduced work load required for the full year and does not work during the balance of the year.

If the Member chooses to contribute to the Plan based on his or her Reduced Earnings instead, the Member shall be credited with a reduced amount of Credited Service equal to the proportion his or her reduced work load bears to a regular full-time work load;

(g) a Member on reduced work load other than as described in (f) above, or a Member employed on a part-time basis shall be credited with a reduced amount of Credited Service equal to the proportion his or her reduced work load bears to a regular full-time work load;

(h) a Member on a sabbatical leave will continue to accrue Credited Service at the rate of one year for each year of the sabbatical, provided that the Member contributes to the Plan based on his or her Earnings. If the Member chooses to contribute to the Plan based on his or her Reduced Earnings instead, the Member shall be credited with a reduced amount of Credited Service equal to the proportion his or her Reduced Earnings are less than the Member's Earnings; and

(i) years of Credited Past Service purchased pursuant to Article 12.

Notwithstanding the foregoing:

(j) in respect of periods of absence before January 1, 1992, other than for periods when a Member is Totally Disabled, the period of Credited Service granted in respect of any approved period of unpaid leave of absence is limited to a maximum full-time equivalent of two years; and

(k) in respect of periods of absence and reduced workloads after December 31, 1991, other than for periods when a Member is Totally Disabled, the aggregate Credited Service granted in respect of approved unpaid leaves of absence is limited to a maximum full-time equivalent of eight years provided that not more than five of those eight years are credited in respect of absences that are not within the twelve (12) month period following the birth or adoption of a child of the Member.

2.12 "Defined Benefit Limit" shall have the meaning given to this term under the Income Tax Act.

2.13 "Early Retirement Date" means a Member's Early Retirement Date as set out in Article 5.
2.14 “Earnings” means:

(a) for staff Employees, the normal earnings paid according to basic monthly salary or basic weekly salary as indicated in the official payroll records of the University for a normal work month or a normal work week for the particular job classification, but excluding overtime pay, reimbursement for expenses, special payments for special services, shift premiums, week-end provisions, special allowances and other like payments; and

(b) for faculty Employees, the normal earnings paid according to basic monthly salary as indicated in the official payroll records of the University, but excluding reimbursement for expenses, administrative stipends, faculty research fellowships, seasonal stipends, summer teaching stipends, special payments for special services, consulting fees, special allowances and other like payments.

Earnings of an Employee employed on a part-time basis, while on reduced work load, or while on a sabbatical leave, are deemed to be the Earnings that the Employee would have been paid if he or she had worked full-time. Earnings of an Employee while on paid disability leave of absence are deemed to be the Employee’s Earnings immediately prior to commencement of the disability leave of absence, adjusted annually by an amount to be determined by the Pension Committee, taking into account other factors including the cost of living adjustment awarded to pensioners and the salary increases awarded to active faculty and staff, subject always to the limitations in the Income Tax Act.

Earnings of an Employee during a leave of absence without pay that is included in Credited Service are deemed to be the Employee’s Earnings immediately prior to the commencement of the leave.

2.15 “Employee” includes the following:

(a) a regular, ongoing full-time staff or faculty employee of the University on full work load or on authorized reduced work load as determined by the University under its normal practices;

(b) a regular, ongoing part-time staff or faculty employee of the University on full work load or on authorized reduced work load as determined by the University under its normal practices; and

(c) a regular, ongoing faculty employee of the University on authorized fractional work load as determined by the University under its normal practices;

but does not include:

(d) a casual employee employed for less than three months or on intermittent bases, or who does not have regularly scheduled hours of work, or who is employed under an arrangement where they may elect to work or not when requested to do so;

(e) a full- or part-time staff employee with a fixed appointment duration of two years or less following the appointment date or with a series of fixed appointments which together amount to a duration of two years or less; or

(f) a full- or part-time faculty employee with a fixed appointment duration of one year or less following the appointment date or with a series of fixed appointments which together amount to a duration of one year or less.
2.16 "Excess Contributions" means the amount, if any, by which a Member's accumulated required contributions to the Plan, plus Credited Interest thereon, exceeds 50% of the Commuted Value of the Member's accrued benefit to date of determination.

2.17 "Final Average Earnings" shall be determined as follows:

(a) the average of the Member's Earnings during the 36 consecutive months of highest Earnings during 120 months of his or her Continuous Employment immediately preceding the earliest of the Employee's date of termination of employment, Retirement or death;

(b) for a Member who is laid-off or on a leave of absence including a sabbatical leave, and provided he or she returns to the University after the period of absence, the 36 consecutive month period referred to in (a) may include all or part of the period of absence, as necessary, and Earnings during the leave of absence shall be deemed as though the Member was employed by the University during the period of absence; and

(c) for a Member who has less than 36 months of Continuous Employment at the date of determination, Final Average Earnings means the average of the Member's earnings during the total period of the Member's Continuous Employment.

2.18 "Funding Excess" means the excess (if any) of the actuarial value of assets over the actuarial liability as indicated in the actuarial report most recently filed with the Financial Services Commission of Ontario.

2.19 "Income Tax Act" means the Income Tax Act, R.S.C. 1985, c. 1 (5th Supp.) and the Regulations thereunder, as amended or replaced from time to time.

2.20 "Member" means an eligible Employee or former Employee who has completed and filed with the University the necessary enrollment forms and who continues to be eligible for benefits under the Plan.

2.21 "Normal Retirement Date" means a Member's Normal Retirement Date as set out in Article 5.

2.22 "Pension Benefits Act" means the Pensions Benefits Act, R.S.O. 1990, c.P.8, and the Regulations thereunder, as amended or replaced from time to time.

2.23 "Pension Commencement Date" means the date that pension is due to commence and shall be the first day of the calendar month following the date of the Member's Retirement, subject to the provisions of Article 6.

2.24 "Pension Committee" means the Pension & Benefits Committee provided for in Article 15. Any reference to the Pension Committee shall refer to the Pension Committee or any delegate thereof for purposes of administration.

2.25 "Pension Fund" means the fund established pursuant to Article 14 hereof in order to provide for the payment of the benefits described in the Plan.

2.26 "Plan" means the University of Waterloo Pension Plan, established July 1, 1960 and most recently amended and restated as at January 1, 2011.

2.27 "Plan Year" means January 1 to December 31.
2.28 "Postponed Retirement Date" means a Member's Postponed Retirement Date as set out in Article 5.

2.29 "Post-Retirement Cost Of Living Factor" means the Post-Retirement Cost of Living Factor as set out in Article 7.

2.30 "Reduced Earnings" means the earnings that are actually received by the Member while the Member is receiving less than the Member's Earnings as a result of a reduced work load, a sabbatical leave or working part-time.

2.31 "Retire or Retirement" means, with respect to a Member, a termination of employment for any reason other than death, on or after the date the Member becomes eligible to receive an early retirement pension pursuant to Section 6.02 (Early Retirement).

2.32 "Spouse" means at the time a determination of marital status is required, a person to whom the Member is:

(a) legally married, provided the Member is not living separate and apart from that person;

(b) not legally married but the Member and that person are cohabitating continuously in a conjugal relationship for at least three (3) years; or

(c) not legally married but the Member and that person are cohabitating in a conjugal relationship of some permanence and are jointly the natural or adoptive parents of a child, both as defined in the Family Law Act, R.S.O. 1990, c.F.3.

2.33 "Totally Disabled" means a Member who is certified to be totally disabled by a medical doctor who is licensed to practice in Canada or where the Member resides, and either:

(a) in receipt of disability income under the long term disability insurance plan of the University; or

(b) not able to return to work because of health reasons, his or her period of paid sick leave has expired, and he or she is in the qualifying period for the long term disability insurance plan of the University.

Members not eligible for the long term disability insurance plan must be independently judged as totally disabled by a medical doctor who is licensed to practice in Canada or where the Member resides, satisfactory to the University.

2.34 "Trustee" means an insurance company authorized to carry on a life insurance business in Canada or a trust company and includes any combination or successors thereof appointed by the University to hold, administer and invest the assets of the Pension Fund.

2.35 "Trust Agreement" means any agreement or agreements now or hereafter executed between the University and the Trustee for purposes of this Plan.

2.36 "University" means the University of Waterloo, a university chartered under the laws of the Province of Ontario and, where the context so requires means the governing body of the University and its Board of Governors in their collective capacity.
2.37 "Year's Maximum Pensionable Earnings" means the "Year's Maximum Pensionable Earnings" from time to time in effect under the Canada Pension Plan, R.S.C. 1985, c. C-8.
Article 3 – Eligibility Requirements and Enrolment

3.01 Employees (Other Than Definite-Term Lecturers)

Each Employee who is employed on a full-time or part-time basis (provided he or she has at least one third annual commitment) and who is not ranked as a definite-term lecturer:

(a) is eligible to join the Plan on the first day of any month coincident with or next following his or her date of employment;

(b) is required to join the Plan on the first day of the month coincident with or next following his or her date of employment if he or she is thirty-five (35) years of age at the date of employment; and

(c) is required to join the Plan on the first day of the calendar year coincident with or next following his or her thirty-fifth (35th) birthday if he or she is under thirty-five (35) years of age at the date of employment.

3.02 Definite-Term Lecturers

Each Employee who is employed as a definite-term lecturer on a full-time or part-time basis (provided he or she has at least one third annual commitment):

(a) is eligible to join the Plan on the first day of any month coincident with or next following his or her date of employment;

(b) is required to join the Plan on the first day of the month coincident with or next following the date he or she is promoted to a higher rank of faculty employment (including the rank of continuing lecturer), if he or she is thirty-five (35) years of age at the date of promotion; and

(c) is required to join the Plan on the first day of the month following his or her completion of five (5) years of Continuous Employment.

3.03 Employees – Less than one third annual commitment

An Employee with less than one third annual commitment who has in each of the two immediately preceding calendar years:

(a) earned at least 35% of the Year’s Maximum Pensionable Earnings under the Canada Pension Plan while working for the University; or

(b) worked at least 700 hours for the University,

shall be eligible to join the Plan on the first day of any month coincident with or next following the date on which such conditions are satisfied. Once an Employee joins the Plan pursuant to this Section 3.03, he or she shall remain a Member of the Plan until his or her termination of employment, death or Retirement, even if he or she does not meet the threshold set out in (a) and (b) above in any calendar year(s) after joining the Plan.
3.04 Enrolment and Waiver Form

Any Employee with at least one third annual commitment, including a lecturer, who is eligible to join the Plan shall be automatically enrolled upon meeting the eligibility criteria set out in Subsections 3.01(a) or 3.02(a), unless participation in the Plan is optional for the Employee under the provisions of the Plan and he or she submits the required waiver form to the Pension Committee prior to the first day of the month following the date he or she becomes eligible to join the Plan.

Any Employee with less than one third annual commitment who meets the eligibility criteria set out in Section 3.03 shall be enrolled in the Plan on the first day of the month next following the date he or she submits the required application to the join the Plan to the Pension Committee.
Article 4 – Contributions

4.01 Required Member Contributions

(a) General
Subject to Section 4.01(b), (c), (d) and (e), each Member is required to contribute to the Plan by payroll deduction for each year (including a partial year) of participation an amount equal to 5.80% of that portion of his or her Earnings which does not exceed the Year’s Maximum Pensionable Earnings for that year, plus 8.30% of that portion of his or her Earnings which exceeds the Year’s Maximum Pensionable Earnings but does not exceed two times the Year’s Maximum Pensionable Earnings for that year, plus 9.65% of that portion of his or her Earnings which exceeds two times the Year’s Maximum Pensionable Earnings for that year, provided, however, that a Member shall not be required to contribute for any period while he or she is Totally Disabled.

(b) Part-time
A Member who is part-time shall contribute for each year (including a partial year) of participation an amount equal to 5.80% of that portion of his or her Reduced Earnings which does not exceed the Year’s Maximum Pensionable Earnings for that year, plus 8.30% of that portion of his or her Reduced Earnings which exceeds the Year’s Maximum Pensionable Earnings but does not exceed two times the Year’s Maximum Pensionable Earnings for that year, plus 9.65% of that portion of his or her Reduced Earnings which exceeds two times the Year’s Maximum Pensionable Earnings for that year.

(c) Reduced Work Load
A Member who has received approval from the University for a reduced work load and is receiving Reduced Earnings shall contribute to the Plan based on his or her Earnings as outlined in (a) above unless the Member elects to contribute to the Plan in accordance with (b), based on his or her Reduced Earnings instead.

(d) Sabbatical Leave and Other Leaves
A Member who is on a sabbatical leave or another leave of absence approved by the University and who is receiving Reduced Earnings shall contribute to the Plan based on his or her Earnings as outlined in (a) above unless the Member elects to contribute to the Plan in accordance with (b), based on his or her Reduced Earnings instead.

(e) ITA Limits
Notwithstanding any other provision in the Plan, a Member’s contributions for any year under Section 4.01(a), (b), (c) and (d) shall not exceed the maximum amount permitted under the Income Tax Act for that year.

(f) Past Contribution Rates
See Appendix for past required member contribution rates.
4.02 University Contributions

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

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

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

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

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

(b) No contributions shall be made by the University to the Pension Fund, in accordance with Section 4.02(a), unless it is an eligible contribution as defined by the Income Tax Act.

(c) If at any time while the Plan continues in existence the Actuary certifies that there is Funding Excess in respect of the benefits defined in the Plan, the University's contribution obligations under Section 4.02(a) may be reduced by an equal amount or by a lesser amount, all as determined by the University based on the recommendation of the Pension Committee and subject to any protocols established by the Pension Committee and any limitations prescribed by the Pension Benefits Act.

(d) If at any time while the Plan continues in existence there is a prior year credit balance as defined by the Pension Benefits Act, the University's contribution obligations under Section 4.02(a) may be reduced by an equal amount or by a lesser amount, all as determined by the University.

(e) The University’s contributions in respect of the normal cost of benefits shall be paid in monthly instalments within 30 days following the month for which the contributions are payable. The University’s contributions in respect of special payments to amortize an unfunded actuarial liability or solvency deficiency shall be payable in equal monthly instalments throughout the year.

(f) Subject to the prior approval of the Superintendent of Financial Services, any overpayment by the University in the year in excess of the amount required to be contributed under Section 4.02(a) may be returned to the University out of the Pension Fund, provided the payment is a permissible distribution in accordance with the Income Tax Act.
4.03 Additional Voluntary Contributions

Prior to January 1, 1999, each member was permitted to elect to make additional voluntary contributions to an individual account maintained on behalf of the Member under the Plan, in an amount and manner as may have been approved by the Pension Committee. Credited Interest on such contributions was allocated at least annually to the Member’s individual account. A Member’s additional voluntary contributions to the Plan in any given year could not exceed the maximum amount permitted under the Income Tax Act for that year.

Effective January 1, 1999, Members are no longer permitted to make additional voluntary contributions to the Plan.

4.04 Remittance Of Member Contributions

The University shall remit to the Trustee, for deposit to the Pension Fund, all sums received by the University from a Member or deducted from a Member’s pay, within 30 days following the month in which such sums are received or deducted.

4.05 General Provisions

(a) No required or voluntary contributions may be withdrawn by a Member while he or she is in Continuous Employment; and

(b) Subject to Section 6.03(b), Members shall continue to make required Member contributions to the Plan until the date of actual Retirement, death or termination.

4.06 Contributions By A Member For Past Service Upon Returning From Political Leave of Absence

(a) Subject to Subsections 4.06(b) and (c) below, a Member, who has taken an authorized unpaid leave of absence for the purpose of a political leave approved by the University and who returns to service with the University, has the option to contribute an amount equal to the required Member contributions, plus Credited Interest, that would have been made if the Member had not taken the Political Leave, in order to increase the Member’s Credited Service under the Plan by the length of time the Member was on the Political Leave. Such required Member contributions shall be based upon the Member’s Earnings immediately prior to the Political Leave, plus any scale or range adjustments that may have been granted to the Member during the leave. An election made pursuant to this Section 4.06 shall be subject to certification of any past service pension adjustment required under the Income Tax Act.

Upon payment by Member of the required amount, and upon certification of any past service pension adjustment as defined in the Income Tax Act, the Member’s Credited Service shall be increased accordingly.

(b) The option described in Section 4.06(a) shall be permitted only if the Member, as a condition of the Member’s political office, was required to participate in another pension arrangement during the Member’s Political Leave and thereby the Member’s participation in the Plan was suspended effective the date of commencement of the Political Leave.
Where a Member returns to service with the University in accordance with Section 4.06(a) and is entitled to a deferred vested benefit in another pension arrangement as referred to in Section 4.06(b), such Member shall not be permitted the option provided for in Section 4.06(a).
Article 5 – Retirement Dates

5.01 Normal Retirement Date

The Normal Retirement Date of a Member is the first day of the month coincident with or next following his or her attainment of age 65.

5.02 Early Retirement Date

An Early Retirement Date is the first day of any month within ten (10) years of a Member’s Normal Retirement Date when a Member elects to Retire early and is eligible to receive an immediate pension under the Plan as described in Section 6.02.

5.03 Postponed Retirement Date

A Postponed Retirement Date is the first day of any month following the Normal Retirement Date of a Member who has remained in Continuous Employment, when the Member elects to Retire and commence a postponed retirement pension under the Plan as described in Section 6.03 (Postponed Retirement).

If the Member has not elected to Retire and commence a postponed retirement pension under the Plan by December 1st of the calendar year in which the Member attains the maximum age as prescribed for this purpose under the Income Tax Act, this date will be deemed to be the Member’s Postponed Retirement Date for pension purposes.
Article 6 – Amount of Pension

6.01 Normal Retirement

On his or her Normal Retirement Date, a Member shall be entitled to an annual pension equal to:

1.4% of his or her Final Average Earnings not in excess of the average of the Year’s Maximum Pensionable Earnings for the year of Retirement and the four immediately preceding years,

plus

2.0% of his or her Final Average Earnings in excess of the average of the Year’s Maximum Pensionable Earnings for the year of Retirement and the four immediately preceding years,

multiplied by

his or her years of Credited Service.

6.02 Early Retirement

(a) At Least Age 62 But Less Than Age 65
A Member who Retires early in accordance with Section 5.02 and who is at least 62 years of age but less than 65 years of age, shall be entitled to the annual pension described in Section 6.01 above based on Credited Service, Final Average Earnings and average Year’s Maximum Pensionable Earnings as at his or her Early Retirement Date, with no reduction for commencement prior to age 65.

(b) At Least Age 55 But Less Than Age 62
A Member who Retires early in accordance with Section 5.02 shall be entitled to elect to:

(i) receive an immediate annual pension determined in accordance with Section 6.01 above based on Credited Service, Final Average Earnings and average Year’s Maximum Pensionable Earnings at actual Retirement date, reduced by one half of 1% for each month by which the Member’s Early Retirement Date precedes the date that the Member would have attained age 62. In no event will the reduced early retirement pension be less than the Actuarial Equivalent of the pension at Normal Retirement Date before the application of reduction factors, nor will the early retirement reduction be less than the minimum reductions set out in (c) below; or

(ii) be treated as a termination of employment and receive a deferred pension, determined in accordance with Section 6.01 above based on Credited Service, Final Average Earnings and average Year’s Maximum Pensionable Earnings at actual termination date, commencing on the first day of any calendar month up to and including the Member’s Normal Retirement Date, reduced by one half of 1% for each month by which the Member’s Pension Commencement Date precedes the date that the Member would have attained age 62. In no event will the reduced early retirement pension be less than the Actuarial Equivalent of the pension at
Normal Retirement Date before the application of reduction factors, nor will the early retirement reduction be less than the minimum reductions set out in (c) below.

(c) **Minimum Early Retirement Reduction**

Any reduced early retirement pension shall be reduced by at least by 1/4 of 1% per month for each month by which the Member's Pension Commencement Date precedes the earliest of the day on which:

(i) the Member will attain age 60;

(ii) the Member's age plus Continuous Employment (excluding periods of lay-off) would have equaled 80; and

(iii) the Member would have completed 30 years of Continuous Employment (excluding periods of lay-off).

6.03 **Postponed Retirement**

(a) Subject to Sections 6.03(b) and 6.03(c), a Member who postpones his or her Retirement in accordance with Section 5.03 shall continue making required Member contributions to the Plan pursuant to Section 4.01 until his or her Postponed Retirement Date, and shall commence receiving on his or her Postponed Retirement Date, an annual pension payable in equal monthly installments determined in accordance with Section 6.01 based on the Member's Credited Service, Final Average Earnings and average Year's Maximum Pensionable Earnings at his or her Postponed Retirement Date, subject to Section 6.07.

(b) Notwithstanding Section 6.03(a), a Member who is a faculty Employee employed by the University since prior to January 1, 1969 and who has been continuously employed since that time shall, if he or she elects by no later than his or her Normal Retirement Date to postpone his or her Retirement for a period of no more than three years following the first of the month coinciding with or next following the end of the Contract Year during which he or she attains age 65, also be entitled by no later than his or her Normal Retirement Date to:

(i) elect to discontinue making required Member contributions to the Plan pursuant to Section 4.01 as of his or her Normal Retirement Date; and (ii) commence receiving on his or her Postponed Retirement Date, an annual pension payable in equal monthly instalments which is the Actuarial Equivalent of the pension to which he or she would have been entitled if he or she had commenced receiving his or her pension on his or her Normal Retirement Date.

(c) Notwithstanding Section 6.03(a), a Member who is a non-union staff Employee employed by the University since prior to January 1, 1969 and who has been continuously employed since that time shall, if he or she elects by no later than his or her Normal Retirement Date to postpone his or her Retirement for a period of no more than three years following the first of the month coinciding with or next following his or her Normal Retirement Date, also be entitled by no later than his or her Normal Retirement Date to: (i) elect to discontinue making required Member contributions to the Plan pursuant to Section 4.01 as of his or her Normal Retirement Date; and (ii) commence receiving on his or her Postponed Retirement Date, an annual pension payable in equal monthly instalments which is the Actuarial Equivalent of the pension to which he or she would have been entitled if he or she had commenced receiving his or her pension on his or her Normal Retirement Date.
6.04 Transfer of Commuted Value

(a) A Member who Retires under Section 5.01 or 5.02 shall be entitled to elect to be treated as a termination of employment and transfer the Commuted Value of the annual pension determined under Section 6.01 or Section 6.02, as applicable, out of the Plan's fund in the manner described in Section 11.03.

(b) Notwithstanding (a) above, for a Member who Retires under Section 5.01 or 5.02 after January 1, 2014, the Commuted Value option will no longer be available, unless the Member has a child within the meaning of the Income Tax Act who is eligible for the impairment credit under the Income Tax Act.

(c) A Member who Retires under Section 5.03 and whose annual pension is determined under Section 6.03(b) shall be entitled to elect to be treated as a termination of employment and transfer the Commuted Value of the annual pension out of the Plan's fund in the manner described in Section 11.03, provided the Member's Retirement date is no later than three years following the first of the month coinciding with or next following the end of the Contract Year during which he or she attains age 65.

(d) A Member who Retires under Section 5.03 and whose annual pension is determined under Section 6.03(c) shall be entitled to elect to be treated as a termination of employment and transfer the Commuted Value of the annual pension out of the Plan's fund in the manner described in Section 11.03, provided the Member's Retirement date is no later than three years following the first of the month coinciding or next following his or her Normal Retirement Date.

6.05 Pension From Additional Voluntary Contributions

A Member who has made additional voluntary contributions to this or any predecessor plan shall be entitled to receive, at the Member's option:

(a) a lump-sum refund of the accumulated contributions with Credited Interest; or

(b) an indexed pension which can be provided at actual retirement date by the accumulated contributions with Credited Interest.
6.06 Maximum Member Cost

On Retirement, a Member's required contributions with Credited Interest shall not provide for more than 50% of the Commuted Value of the benefits earned determined in accordance with the provisions of the Pension Benefits Act.

The Pension Committee can offer one or more of the following options with respect to Excess Contributions arising from the application of this section:

(a) payment to the Member in a lump-sum cash settlement at Pension Commencement Date, as required by the Pension Benefits Act;

(b) used to purchase an additional amount of immediate or deferred life annuity from an insurer designated by the Member;

(c) transferred to another registered pension plan or tax exempt trust or plan designated by the Member;

(d) kept in the Plan as an additional voluntary contribution (this option is available only if the Member opts for a deferred pension); or

(e) used to purchase additional indexed pension from the Plan (this option is available only on Retirement if the Member opts for an immediate pension paid from the Plan).

6.07 Maximum Pension

Notwithstanding any other provision of this Plan to the contrary:

(a) Maximum Pension

The annual lifetime pension payable to a Member in the form of pension selected by the Member under this Plan, including a pension payable under any other registered pension plan sponsored by the University and any pension payable to a Member's Spouse or former Spouse pursuant to Section 16.04, determined at the date on which a determination of a Member's pension benefit is required, including but not limited to the Pension Commencement Date, shall not exceed the years of the Member's Credited Service multiplied by the lesser of:

(i) the lesser of the Defined Benefit Limit for the year and $3,200.00; and

(ii) 2% of the Member's highest average indexed compensation (as defined under the Income Tax Act) in any three non-overlapping periods of twelve (12) consecutive months;

reduced by ¼ of 1% for each month by which the Pension Commencement Date precedes the earliest of:

(i) the day on which the Member will attain age 60;

(ii) the day the Member's age plus Continuous Employment (excluding periods of lay-off) would have equaled 80;

(iii) the day the Member would have completed 30 years of Continuous Employment (excluding periods of lay-off); and
(iv) the day the Member becomes totally and permanently disabled, as defined under the Income Tax Act.

This Section 6.07(a) does not apply to additional benefits payable as a result of any Actuarial Equivalent adjustment in respect of postponed retirement, nor to that portion, if any, of the pension derived from a Member’s Excess Contributions or additional voluntary contributions.

Notwithstanding the foregoing, in no event will the annual lifetime pension payable to a Member in any form of pension provided under the Plan exceed the maximum set out above in this Section 6.07(a).

(b) Maximum Pension After Pension Commencement Date

The annual lifetime pension payable to a Member under this Plan, including a pension payable to a Member’s Spouse or former Spouse pursuant to Section 16.04, for each calendar year after the year in which the pension commences, shall not exceed the maximum pension determined according to Section 6.07(a) multiplied by the percentage increase in the annual Consumer Price Index from the date on which the Member’s pension commences.

If the pension payable in respect of a Member has been in payment for less than 12 months, the increase calculated pursuant to this Section 6.07(b) shall be pro-rated over the number of months for which pension payments have been made.

6.08 Pension Adjustment

In no event shall the benefit accrued in a calendar year under Section 6.01 result in a pension adjustment (as defined under the Income Tax Act) in excess of the limits prescribed by the Income Tax Act for any Member.
Article 7 – Post-Retirement Cost of Living Adjustments

7.01 Post-Retirement Cost Of Living Factor

For the purposes of this Article, the Post-Retirement Cost of Living Factor shall mean the factor obtained by dividing the Consumer Price Index for the preceding calendar year by the Consumer Price Index for the next preceding calendar year. In any year in which the Post-Retirement Cost of Living Factor is less than or equal to 1.05 it shall be applied in accordance with Section 7.02 and in any year in which the Post-Retirement Cost of Living Factor is in excess of 1.05, the Post-Retirement Cost of Living Factor may be reduced as described in the following paragraph, but not to a factor that is less than 1.05.

If in any one year, the Post-Retirement Cost of Living Factor is in excess of 1.05, it may be reduced to the extent deemed necessary by the Pension Committee on the advice of the Actuary.

If the post-retirement cost of living increase given in a year has been less than the Post-Retirement Cost of Living Factor as measured by the Plan, a catch-up will be given, on a cumulative and compounded basis, in the following year or as soon as Plan resources permit. There will be no retroactivity in any catch-up increase.

7.02 Application Of The Post-Retirement Cost Of Living Factor To Pensions In Payment

Subject to Section 6.07, the pension of each Member, Spouse or Beneficiary receiving pension payments shall be adjusted on July 1 of each year, on the condition that the Member has received at least one regular monthly pension payment prior to July 1, by multiplying the then current amount of such pension by the Post-Retirement Cost of Living Factor for such year.

If, on July 1 of each year, the Member, Spouse and Beneficiary have been in receipt of pension payments for less than twelve (12) months in aggregate, the Post-Retirement Cost of Living Factor shall be pro-rated over the number of months for which pension payments have been made.

In no event shall the multiple of all the Post-Retirement Cost of Living Factors applied since the pension payments originally commenced be less than 1.00.

Notwithstanding the foregoing, adjustments pursuant to this Section, following the adjustment at July 1, 2008, shall be as at May 1 of each year, with the first such adjustment occurring at May 1, 2009 rather than July 1, 2009. For this purpose, any reference to “July 1” under this Section shall read as “May 1” and the adjustment at May 1, 2009 shall be at the rate of ten-twelfths (10/12) of the Post-Retirement Cost of Living Factor for such year subject to further pro-ration, as described above, if the pension has been in payment for less than ten (10) months.
Subject to Section 6.07, a Member who has terminated employment and who is entitled to a deferred vested pension under the Plan shall be entitled to the adjustment provided below subject to the terms and conditions set out below:

(a) If the Member terminated employment prior to January 1, 2008, the adjustment in (d) below shall be applied to the Member’s entire deferred vested pension.

(b) If the Member terminated employment on or after January 1, 2008 and at date of termination was within ten (10) years of his or her Normal Retirement Date or had otherwise completed twenty (20) or more years of Continuous Employment, the adjustment in (d) below shall be applied to the Member’s entire deferred vested pension.

(c) If the Member is not covered under (a) or (b) above, the adjustment in (d) below shall be applied only to the portion of the Member’s deferred vested pension earned in respect of Credited Service prior to January 1, 2008.

(d) The applicable portion of the Member’s deferred vested pension pursuant to (a), (b) or (c) above, as the case may be, shall be adjusted on July 1st each year during the deferral period by multiplying the then current amount of such pension by a cost of living factor to be determined by the Pension Committee each year. In no event shall the multiple of all of the cost of living factors applied during the deferral period from January 1, 1987 exceed the percentage increase in the average wage from January 1, 1986, as defined in the Income Tax Act, during the deferral period. If, on such July 1, less than twelve (12) months have elapsed during the deferral period, the cost of living factor shall be pro-rated over the number of months of the deferral period prior to July 1.

(e) Notwithstanding the foregoing, the cost of living factor determined by the Pension Committee each year shall not be applied during the deferred period to any Member who terminated employment during the period from July 1, 1977 to December 31, 1986.

(f) Once the Member’s pension has commenced, the Post-Retirement Cost of Living Factor will take effect from July 1 of the calendar year after the Member’s Pension Commencement Date, on the condition that the Member has received at least one regular monthly pension payment prior to such July 1.

Notwithstanding the foregoing, adjustments pursuant to this Section, following the adjustment at July 1, 2008, shall be as at May 1 of each year, with the first such adjustment occurring at May 1, 2009 rather than July 1, 2009. For this purpose, any reference to “July 1” under this Section shall read as “May 1” and the adjustment at May 1, 2009 shall be at the rate of ten-twelfths (10/12) of the cost of living factor determined by the Pension Committee subject to further pro-ration, as described above, if less than ten (10) months have elapsed during the deferral period.
8.01 Normal Form Of Pension

The normal form of pension payable to a Member, shall be an annual pension payable in equal monthly instalments commencing on the Member’s Retirement date and payable on the first day of each month thereafter for life and guaranteed to continue to the retired Member or to the Beneficiary or estate, as the case may be, for a period of at least 120 months.

8.02 Joint and Survivor Pension

(a) Notwithstanding Section 8.01 above, a Member who has a Spouse on the Pension Commencement Date shall receive a joint and survivor pension which shall be the Actuarial Equivalent of the normal form of pension described in Section 8.01 payable during the Member’s lifetime, with 60% of the Member’s reduced pension continuing after his or her death to his or her surviving Spouse for the remaining lifetime of such Spouse.

(b) In lieu of the pension payable under paragraph (a) above, a Member who has a Spouse on the Pension Commencement Date may elect one of the optional forms of payment offered under the Plan, as adopted by the Pension Committee from time to time, provided that a Member may only elect a form of payment that provides a benefit to the Spouse that is less than 60% of the benefit paid to the Member, or a form of payment under Section 8.03 that provides no benefit to the Spouse, if:

(i) the Member delivers to the Pension Committee, within the twelve (12) month period immediately preceding the Pension Commencement Date, the written waiver of the Member and the Member’s Spouse in the form and manner as prescribed by the Pension Benefits Act; and

(ii) such waiver is not revoked by the Member and the Member’s Spouse prior to Pension Commencement Date.

8.03 Other Forms Of Pension

A Member who does not have a Spouse, or who has a Spouse and has waived the joint and survivor pension pursuant to paragraph (b) of Section 8.02, may elect to receive in lieu of the normal form of pension payable in accordance with Section 8.01 above, any other form of payment offered under the Plan, as adopted by the Pension Committee from time to time, that is payable only during the Member’s lifetime, or during the Member’s lifetime with a guarantee period. Any such optional form of pension shall be the Actuarial Equivalent of the normal form of pension payable as described in Section 8.01.
8.04 General Provisions Relative To Options

The optional forms of pension offered under the Plan shall be consistent with the provisions of the Pension Benefits Act and the Income Tax Act and shall be subject to the following terms and conditions, having due regard for the provisions of Section 8.02:

(a) An optional form of benefit may be irrevocably elected by a Member at any time prior to Pension Commencement Date by completing the form provided for this purpose.

(b) An Beneficiary designation may be made or changed by a Member at any time by completing the form provided for this purpose.

(c) A Member shall no later than the Member's Pension Commencement Date provide proof satisfactory to the Pension Committee of the age of his or her Spouse.

(d) If a Member is required to or has elected to receive a joint and survivor pension and

(i) if the Spouse dies before the Pension Commencement Date, the election shall become void;

(ii) if the Member dies before the Pension Commencement Date, the election shall become void and his or her Spouse shall instead receive a benefit determined in accordance with Section 10.01; and

(iii) if the Spouse dies after the Pension Commencement Date of the joint and survivor pension, the reduction applied to the Member's pension for the survivor benefit shall continue to apply.

(e) Revocation of the waiver of a joint and survivor pension and election of a joint and survivor pension or the revocation of the election of another optional form of pension may be made at any time before the Member's Pension Commencement Date.

(f) If on the death of a Retired Member there are payments outstanding in accordance with Section 8.01 or another form of guaranteed pension under Section 8.03, any benefits payable to the Member's Spouse may, at the written request of the Spouse be commuted and paid in a lump sum. However, any benefits payable to the Member's Beneficiary who is other than a Spouse, or to the representative of the estate of the Member or the Beneficiary, will be commuted and paid in a lump sum.

(g) Unless a form of pension under which pension payments are made during the Retired Member's lifetime only is elected, a Retired Member and his or her Spouse, Beneficiary and estate shall receive in total, benefits of an amount not less than the Member's required contributions made while a Member of the Plan, plus Credited Interest to the date of Pension Commencement Date and less Excess Contributions already paid to the Member.
8.05  **Shortened Life Expectancy**

Subject to the Pension Benefits Act, a Member, deferred vested Member or Retired Member with an illness or physical disability that is likely to shorten his or her life expectancy to less than two years and is either in receipt of a pension or is eligible to receive a pension, may apply to the Pension Committee for the withdrawal of his or her Benefits under the Plan, on a non-locked in basis, in the manner prescribed by the Pension Benefits Act.
Article 9 – Disability Benefits

9.01 Disability Benefit

A Member in active employment who is Totally Disabled shall cease making contributions under the Plan and the Member shall continue to accrue pension benefits as an active Member. Such Member shall for all purposes of the Plan, except in determining Excess Contributions, be deemed to have made required Member contributions at the normal rate based on Earnings in effect as at commencement of disability, adjusted each year thereafter up to and including July 1, 1984 by the post-retirement cost of living adjustment awarded to pensioners. Thereafter Earnings will be adjusted each July 1 as determined by the Pension Committee as described in Section 2.14. Notwithstanding the above, any reference to “July 1” under this Section shall read as “May 1” following the July 1, 2008 adjustment and the adjustment at May 1, 2009 shall be at the rate of ten-twelfths (10/12) of the cost of living factor as determined by the Pension Committee.

9.02 Cessation Of Disability

A Member who, having been Totally Disabled, ceases to be Totally Disabled shall cease to accrue pension credits. If such Member is returned to active employment by the University he or she shall immediately resume making required Member contributions under the Plan. If the Member is not returned to active employment by the University such Member shall receive the benefits to which he or she is entitled under Article 6 or 11 hereof.
Article 10 – Death Benefits

10.01 Death In Service Before Retirement

If a Member 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 Member would have been entitled under Section 11.02 in respect of service after December 31, 1986 and any Excess Contributions attributable to such service 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 can be payable to the Member's Beneficiary or estate.

In addition the Member's Spouse, Beneficiary or estate, as applicable, shall receive an amount equal to the Member's required contributions made up to December 31, 1986 and any additional voluntary contributions, all with Credited Interest to date of death.

10.02 Death After Termination Of Employment

If a Member who terminated employment and who is entitled to benefits under this Plan dies before commencement of his or her pension, the Commuted Value of the portion of the pension which is in respect of his or her service after December 31, 1986 together with any Excess Contributions attributable to such service 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 can be payable to the Member's Beneficiary or estate. In addition, the terminated Member's Spouse, Beneficiary or estate, as applicable, shall receive an amount equal to the Member's required contributions made prior to December 31, 1986 and any additional voluntary contributions, all with Credited Interest to date of death.

10.03 Optional Annuity Payment

In lieu of the lump-sum amounts payable to a Member's Spouse under Sections 10.01 and 10.02 above, the Spouse may elect, within 180 days of being advised of the entitlement under this Section, that payment be made to the Spouse in the form of an immediate or deferred life annuity commencing no later than the first day of the month coincident with or next following the Spouse's attaining age 65. Any life annuity elected shall not have a guaranteed period in excess of fifteen (15) years. If the Spouse fails to elect within 180 days of being advised of the entitlement under this Section, the Spouse will be deemed to have elected an immediate annuity without a guaranteed period. The post-retirement cost of living adjustment under Article 7 shall apply to any pension payable under this Section 10.03.

10.04 Death After Retirement

On the death of a Member after pension commencement, benefits will be paid in accordance with the optional form selected by the Member.
10.05 **Beneficiary**

Each Member may designate in writing a Beneficiary to receive any amounts payable on his or her death other than those which are required to be paid to the Member's Spouse, and may change such Beneficiary designation by completing and delivering to the Pension Committee the form prescribed for the purpose. If there is no Spouse or Beneficiary surviving on the death of the Member, payment shall be made to the Member's estate.

10.06 **Payment Of Death Benefits**

Any death benefit payable in a lump sum under the Plan shall be paid as soon as practicable after the Member's death.
Article 11 – Termination of Employment

11.01 Termination Prior To Statutory Vesting

On termination of employment other than Retirement or death and prior to completing two years of Plan membership, a Member shall receive a refund of his or her required Member contributions with Credited Interest or may elect to immediately vest and receive a deferred life annuity as described in Section 11.02.

A Member who is entitled to a refund of required Member contributions under this Section 11.01 may elect to transfer the refunded amount to a registered retirement savings plan.

11.02 Termination Following Statutory Vesting

On termination of employment other than Retirement or death, a Member who has completed two (2) or more years of Plan membership is vested and shall not be entitled to a refund of his or her required Member contributions as described in Section 11.01 above. Such Member is entitled to receive a deferred life annuity commencing at Normal Retirement Date calculated in accordance with Section 6.01 or earlier, subject to Section 6.02. Such deferred life annuity shall be paid in the form of pension described in Section 8.01 (Normal Form of Pension), 8.02 (Joint and Survivor Pension) or 8.03 (Other Forms of Pension), as applicable. Any Excess Contributions shall be dealt with as provided in Section 11.05.

Notwithstanding the above, a Member who terminates employment and who has not attained age 45 and completed ten (10) years of Continuous Employment may elect to receive a refund of his or her required contributions made prior to January 1, 1987 together with Credited Interest in which case he or she will receive a deferred life annuity calculated in respect of Credited Service after December 31, 1986.

11.03 Transfer Of Commuted Values

(a) On termination of employment prior to becoming eligible to Retire, a Member may request that an amount equal to the Commuted Value of the deferred pension be transferred:

(i) to the pension fund of another pension plan on a locked-in basis if the administrator of that plan agrees to accept it;

(ii) to a prescribed locked-in retirement savings arrangement; or

(iii) for the purchase for the former Member of a deferred life annuity from an insurer licensed in Canada, as designated by the Member, that will not commence before the earliest date on which the former Member would have been entitled to receive pension benefits under this Plan.

The amount of the annuity purchased shall be determined on a basis independent of the gender of the Member.
(b) The Pension Committee shall not permit a transfer or purchase under paragraph 11.05(a) unless the Pension Committee is satisfied that:

(i) the transfer or purchase is in accordance with the Pension Benefits Act;

(ii) any restrictions in the Pension Benefits Act with regard to the solvency of the Plan have been met; and

(iii) the transfer is made in accordance with Section 147.3 of the Income Tax Act.

(c) Amounts transferred in accordance with paragraph 11.03(a) on and after January 1, 1989 shall not exceed the maximum amount prescribed under the Income Tax Act, and the excess of the Commuted Value, plus Credited Interest, if any, over the amount transferred shall be paid to the Member in a lump sum as permitted under the Income Tax Act and the Pension Benefits Act.

11.04 Early Commencement of Deferred Pension

(a) A Member who terminates employment and is entitled to a deferred life annuity under Section 11.01 or 11.02 may elect to commence receiving the deferred vested pension on the first day of any calendar month coincident with or next following the Member attaining age 55 and prior to the Member's Normal Retirement Date.

(b) Subject to the minimum early retirement reduction set out in Section 6.02(c), the amount of pension payable under Section 11.04(a) will be the Member's deferred vested pension payable at Normal Retirement Date reduced by one third of 1% per month for each of the first 60 months by which the Member's Pension Commencement Date precedes the Member's Normal Retirement Date and by one half of 1% for each additional such month. In no event will the pension be less than the Actuarial Equivalent of the pension at Normal Retirement Date before the application of reduction factors.

11.05 Maximum Member Cost

On termination of employment of a Member his or her required Member contributions with Credited Interest shall not provide for more than 50% of the Commuted Value of the deferred life annuity under Sections 11.02 above.

11.06 Treatment Of Excess Contributions and Additional Voluntary Contributions Made To The Plan Prior To January 1, 1999

On termination of employment, the Pension Committee can offer one or more of the following payment options with respect to any Excess Contributions arising under Section 11.05 and any additional voluntary contributions made by a Member to the Plan prior to January 1, 1999 in accordance with Section 4.03 plus Credited Interest:

(a) payment to the Member in a lump-sum cash settlement as required by the Pension Benefits Act;

(b) used for the purchase for the former Member of a deferred life annuity from an insurer licensed in Canada and as designated by the Member, that will not commence before the earliest date on which the former Member would have been entitled to receive pension benefits under this Plan;
(c) kept in the Plan as additional voluntary contributions provided the Member has elected to receive a deferred life annuity under Section 11.02; or

(d) transferred to another registered pension plan or tax exempt trust or plan designated by the Member.

The amount of any annuity purchased shall be determined on a basis independent of the gender of the Member.
Article 12 – Transfer of Monies To and From Pension Fund

12.01 Transfers To Pension Fund

An Employee who was a participant in a registered pension plan of a previous employer within six (6) months prior to the Employee entering the service of the University, may transfer to the Pension Fund monies payable from such registered pension plan provided the following conditions are met:

(a) the Pension Committee consents to the transfer;

(b) the Employee submits an application for such transfer to the Pension Committee within the later of:
   (i) six (6) months of entering the service of the University; and
   (ii) six (6) months of being first permitted to transfer the monies pursuant to the terms of the previous employer's registered pension plan and any applicable legislation;

(c) the Employee has provided:
   (i) certification from the previous employer that after the transfer to the Pension Fund, no benefits will remain payable to the Employee from the previous employer's registered pension plan; and
   (ii) a summary from the previous employer of the Employee's pensionable service and pension adjustment history under that employer's registered pension plan;

(d) if, in the six (6) months prior to entering the service of the University, the Employee was a participant in more than one registered pension plan, the Employee may only apply to transfer to the Pension Fund monies payable from the registered pension plan in which the Employee most recently participated prior to entering the service of the University; and

(e) the transfer is not from an Affiliated Organization as such a transfer must be made pursuant to Sections 20.03 and 20.04 of the Plan.

12.02 Credited Past Service and Calculation of Pension Benefits

As a result of the transfer to the Plan under Section 12.01 and subject to the certification of any past service pension adjustment (as defined under the Income Tax Act), the Member shall be granted the amount of Credited Service which can be purchased by the transferred amount, based on the recommendation of the Actuary, calculated using the financial and demographic assumptions used for the purpose of performing the last actuarial valuation of the Plan, using the service history of the Member with the previous employer, using Earnings of the Member, and using the assumption that the maximum pension described in paragraph 6.07(a)(i) will be indexed to increases in the Average Industrial Wage to the Member's Normal Retirement Date, as permitted by the Income Tax Act. For purposes of this Section 12.02, and Section 12.04, if applicable, such Credited Service shall be classified as Credited Past Service.
Notwithstanding any other provisions of the Plan:

(a) Credited Past Service under the Plan shall not be granted in excess of the pensionable service granted to the Member under the registered pension plan of the previous employer; and

(b) Upon the Member’s subsequent Retirement, termination of employment or death, the Member shall be entitled to receive a benefit equal to:

(i) the benefit payable in accordance with Articles 6, 10, or 11, as applicable, for Credited Service to the date the termination of the Member’s employment, exclusive of the Member’s Credited Past Service granted under this Section 12.02, and under Section 12.04, if any; plus

(ii) the benefit payable under Articles 6, 10, 11, as applicable, for the Member’s Credited Past Service granted under this Section 12.02, and Section 12.04, if any.

In no event shall the commuted value of the benefit with respect to the Credited Past Service be less than the amount transferred into the Plan pursuant to Section 12.01, plus the amount contributed to the Plan pursuant to Section 12.04 if any, credited each Plan Year with interest calculated at a rate equal to the rate of return as can reasonably be attributable to the Pension Fund, excluding the portion of the Pension Fund invested in real return bonds, net of expenses.

The benefit payable to a Member under this Section 12.02(b) shall be payable in the form and manner provided under Articles 6, 10 or 11, as applicable, except as provided in Section 12.03.

Any monies transferred pursuant to Section 12.01 and any contributions made by a Member pursuant to Section 12.04, and any Credited Past Service granted in respect thereof, shall be excluded in determining the Member’s Excess Contributions for purposes of Section 6.06 and Section 11.05.

12.03 **Vesting And Locking-In**

Upon subsequent termination of employment with the University or Retirement under the Plan, the amount transferred to the Plan pursuant to Section 12.01, or the amount contributed to the Plan pursuant to Section 12.04, and the benefits provided therefrom shall be fully vested and the Member shall receive only a pension benefit therefrom or a transfer pursuant to Section 11.03.

12.04 **Purchase Of Additional Credited Service**

Should the amount transferred to the Plan pursuant to Section 12.01 be insufficient to purchase Credited Service equal to the pensionable service credited to the Member in the previous employer’s pension plan, the Member may purchase Credited Service up to or equal to the difference, by contributing an amount or amounts to the Plan, as determined by the Actuary and calculated using the rules described in Section 12.02 to establish the amount of Credited Past Service attributable to the amounts transferred to the Plan. The purchase of Credited Past Service and the making of contributions for that purpose pursuant to this Section 12.04 shall be permitted only after certification of the appropriate past service pension adjustment (as defined under the Income Tax Act) is received from the Canada Revenue Agency, if applicable, and only as permitted pursuant to the Income Tax Act.
12.05  Transfers From Pension Fund

Any transfer of monies from the Pension Fund on behalf of a Member shall be dealt with in accordance with the appropriate paragraphs of Articles 6, 10 and 11.
Article 13 – Payment of Benefits

13.01 General

All amounts due under the Plan shall be payable in accordance with the provisions of this Article 13 and no payment shall be under the Plan unless the payor shall have been authorized by the Pension Committee to act on its behalf.

13.02 Duration Of Pension

Every pension payable hereunder to a Member shall commence as of the date of the Member’s Pension Commencement Date, subject to the provisions of Article 6, and shall be payable on the first day of each calendar month thereafter during his or her lifetime subject to the provisions of Article 8.

13.03 Re-Employment Of A Retired Member

The pension payable under the Plan to any Member who Retired and is re-hired by the University and is required to enroll in the Plan under Section 3, shall cease as of the Member’s date of re-hire, and shall resume as of the first day of the month following his or her subsequent Retirement, unless contrary to the terms of the Pension Benefits Act and other applicable legislation.

Where the payment of a pension is suspended on account of re-employment, the amount of the pension to be paid on subsequent Retirement, whether before or after Normal Retirement Date, shall be actuarially determined on the basis of the increased service, age, amount of benefit already paid prior to final Retirement, Member contributions and any other relevant factors, subject to any limits prescribed in the Income Tax Act.

Notwithstanding the foregoing, if at any time a Retired Member is in receipt of a pension from the Plan while employed by the University, no contributions shall be made to the Plan for the Member while the Member is in receipt of a pension from the Plan and the Member shall not accrue further benefits during the period.

13.04 Continuation Of Small Payment

In the event that the pension payable at Normal Retirement Date is less than an annual amount equal to two (2) percent of the Year’s Maximum Pensionable Earnings in the year of the Member’s Retirement or termination, the Pension Committee may direct that in lieu of the periodic payments, the Commuted Value thereof be paid to the Member in a lump sum.
13.05 Payments To Minors And Incompelets

If the Pension Committee shall receive evidence satisfactory to it that a Member, Spouse or Beneficiary entitled to receive any benefit under the Plan is, at the time when such benefit becomes payable, a minor or is physically or mentally incompetent to receive such benefit and to give a valid release thereof and that another person or an institution is then maintaining or has custody of such Member, Spouse or Beneficiary, and that no Committee, guardian or other representative shall have been duly appointed, the Pension Committee may authorize payment of such benefit otherwise payable to the Member, Spouse or Beneficiary to such other person or institution, as permitted by law, and the release of such other person or institution shall be valid and complete discharge for the payment of such benefit.

13.06 Mis-Statement In Application To Enter Plan

If a Member in his or her application to enter the Plan, or in response to any request of the University or the Pension Committee for information, makes any statement which is erroneous or omits any material fact or fails before receiving his or her first pension payment to correct any information previously incorrectly furnished to the University or the Pension Committee for its records, the amount of any overpayment or underpayment theretofore made to such Member shall be deducted from or added to his next succeeding payments as the Pension Committee shall direct.
Article 14 – Pension Fund

14.01 Pension Fund

(a) The University has established and shall maintain a Pension Fund into which shall be paid the contributions made under the terms of the Plan. The Pension Fund shall not form any part of the revenue or assets of the University.

(b) At no time shall any part of the corpus or income of the Pension Fund be used for, or diverted to, any purposes other than for the exclusive benefit of Members, their Spouses and Beneficiaries. No person shall have any interest in or right to the Pension Fund or any part thereof, except as expressly provided in the Plan.

14.02 Payment Of Expenses

All normal and reasonable expenses incurred in the operation and administration of the Plan shall be paid from the Pension Fund, unless paid directly by the University. The outside providers of any services related to the operation and administration of the Plan shall be deemed to be retained by the Pension Committee regardless of whether their expenses are paid from the Pension Fund or paid directly by the University.

14.03 Annual Actuarial Examination

At least once in each year the Pension Committee shall cause the liabilities of the Plan to be evaluated by the Actuary who shall report to the Pension Committee as to:

(a) the soundness and solvency of the Pension Fund in relation to the aforesaid liabilities and the requirements of any applicable legislation; and

(b) the amount of the contributions by the University for the year in question which would be sufficient to provide for the accruing benefit liabilities.

14.04 Investments

The investments of the Pension Fund shall be restricted to the securities and loans permitted by the Pension Benefits Act and the Income Tax Act or other applicable legislation and shall be made in accordance with the written statement of investment policies and goals for the Plan.
Article 15 – Administration

15.01 Pension Committee

The University through its Board of Governors shall be the administrator of the Plan. The Plan administrator shall have all such powers as may be necessary to carry out the provisions hereof, subject to the terms of the Plan and the powers and obligations provided to the Pension Committee (may also be referred to as the Pension & Benefits Committee) pursuant to Section 15.02. The membership of the Pension Committee and the method of appointing members to the Pension Committee will be as determined from time to time by the Board of Governors.

The Secretariat will function as Secretary to the Pension Committee.

Day-to-day operation of the Plan will be a function of the Human Resources Department with operating decisions based on rules and regulations adopted by the Pension Committee.

15.02 Powers Of Pension Committee

The Board of Governors delegates the responsibility for and control of the administration of the Plan as this directly affects Employees and Members, to the Pension Committee as set out below in this Section 15.02. The Pension Committee’s powers and responsibilities shall include, but not be limited to, the following:

(a) to make and enforce such rules, regulations as it shall deem necessary or proper for the efficient administration of the Plan;

(b) to make recommendations for changes to the Plan to comply with legislation and to keep the Plan current;

(c) to appoint and monitor a consulting actuary and to recommend to the Board of Governors the appointment of custodians/trustees and fund managers;

(d) to interpret the Plan provisions, its interpretation thereof in good faith to be final and conclusive, subject to the Board of Governors and the provisions of the Pension Benefits Act;

(e) to make determinations with regard to eligibility to participate in the Plan;

(f) to compute the amount of benefits or other payments which shall be payable to any Member, Spouse, Beneficiary or estate in accordance with the provisions of the Plan, to determine the person or persons to whom such amount shall be paid, and to authorize such payments;

(g) to prepare accounts and records showing the detailed operation of the Plan and to make an annual report to the Board of Governors;

(h) to arrange for the annual audit of such records and accounts by independent auditors and review the annual audit;
to recommend to the Board of Governors for approval an investment policy as described in
the Statement of Investment Policies and Procedures; and

to delegate any of these powers and responsibilities to other parties as it sees fit, subject to
any limits set by the Board of Governors.

15.03 Uniform Administration

Whenever, in the administration of the Plan, any action by the Pension Committee, the Board of
Governors or the University is required, such action shall be uniform in nature as applied to all
persons similarly situated.

15.04 General

Members of the Pension Committee may participate in the benefits under the Plan provided they
are otherwise eligible to do so. Except as otherwise provided by the Board of Governors, no
member of the Pension Committee shall receive any compensation for his or her services as such.
No bond or other security shall be required of any member of the Pension Committee in such
capacity in any jurisdiction, except as expressly provided by law.

In administering the Plan neither the Pension Committee, nor any member thereof, nor the Board of
Governors, nor any officer or employee thereof, shall be liable for any acts of omission or
commission, except for his or its own individual, willful and intentional malfeasance or misfeasance.
The University and its officers and directors, and each member of the Pension Committee shall be
entitled to rely conclusively on all tables, valuations, certificates, opinions and reports which shall be
furnished by an Actuary, accountant, trustee, counsel or other expert who shall be employed and
engaged by the University or the Pension Committee.
Article 16 – General Conditions of Membership

16.01 Limitation On The Rights of Members And The Obligations Of The University

The rights of any person entitled to receive any payment or benefit under this Plan shall be limited to the assets of the Pension Fund as existing from time to time. No right or claim of any Employee or other person entitled to receive any payment or benefit under this Plan shall be asserted or made against the University, the Pension Committee or the Officers or Governors of the University by reason of this Plan or of the Trust Agreement except in respect of a benefit provided for by this Plan which has become due and payable in accordance with the provisions hereof.

16.02 Plan Not A Contract Of Employment

Nothing contained in this Plan or in the Trust Agreement shall confer or imply any right in any person to be retained in the service of the University.

16.03 Non-Alienation

Except as specified in Section 16.04 money payable under the Plan is subject to the following restrictions:

(a) Non-Enforceable Transactions:

Any transaction that purports to assign, change, anticipate, surrender, or give as security any right of a person under the Plan or money payable under the Plan shall not be enforceable against the Plan; and

(b) Exemption From Seizure

Money payable under the Plan is exempt from execution, seizure or attachment.

16.04 Alienation Of Benefits On Marriage Breakdown

Upon the breakdown of a Member’s spousal relationship, a portion of the pension benefits accrued by the Member under the Plan during the spousal relationship, calculated in accordance with the requirements of the Pension Benefits Act and subject to any limits thereunder, may be assigned pursuant to a court order, domestic contract or arbitration award as permitted by the Pension Benefits Act.

16.05 Explanation To Members and Notice of Amendment

Each Member shall be given a written explanation of the terms and conditions of this Plan and amendments thereto applicable to him or her together with an explanation of his or her rights and duties with respect to the benefits available to him or her under the terms of this Plan.

Each Member, or any other person entitled to payment from the Pension Fund, who is affected by an amendment to the Plan, shall be provided a notice and written explanation of the amendment within the applicable time period prescribed under the Pension Benefits Act.
16.06 **Severability**

If any provision of the Plan is held to be invalid or unenforceable by a court of competent jurisdiction, its invalidity or unenforceability shall not affect any other provision of the Plan and the Plan shall be construed and enforced as if such provision had not been included therein.

16.07 **Annual Statement**

Each active Member shall be provided with a written statement containing the information prescribed under the Pension Benefits Act in respect of the Member's benefits under the Plan.
Article 17 – Amendment and Termination of the Plan

17.01 Amendment and Termination

The University expects and intends to maintain the Plan in force indefinitely but necessarily reserves the right to amend, terminate or wind-up the Plan in whole or in part at any time. No amendment, termination or wind-up of the Plan shall result in a reduction of any accrued benefits of Members, pensioners, Spouses or Beneficiaries including any cost of living adjustments granted except where due to insufficient funds in the Pension Fund upon termination or wind-up, a reduction of benefits is authorized by the provincial regulatory authorities.

Where an amendment results in a certifiable past service pension adjustment (as defined under the Income Tax Act) in respect of a Member, the amendment shall not apply to such Member prior to certification of the past service pension adjustment in accordance with the Income Tax Act.

If the Plan is wound-up in whole or in part, and in the event of insufficient funds, the University shall make further contributions to the Pension Fund, as required, equal to the difference between the normal cost and the contributions that were remitted in accordance with Section 4.02.

In the event of the termination or wind-up of the Plan, such wind-up will be carried out in accordance with the provisions of the Pension Benefits Act and the Income Tax Act.

17.02 Distribution Of Surplus

Any surplus remaining in the Pension Fund after the satisfaction of all benefit rights or contingent rights accrued under the Plan shall be allocated among all Members, pensioners, Spouses and Beneficiaries in proportion to the Commuted Value, as determined by the Actuary, of the benefits other than voluntary contributions to which they are entitled, subject to the maximum benefit paid under Section 6.07, and subject to certification of any past service pension adjustment under the Income Tax Act.
Article 18 – Applicable Law

18.01 This Plan shall be construed and interpreted in accordance with the laws of the Province of Ontario.
Article 19 – Optional Ancillary Contributions and Optional Ancillary Benefits

19.01 Purpose and Implementation

This Article 19 was added to enable Plan Members to make optional ancillary contributions to the Plan in order to enhance the ancillary features of their pension otherwise payable under the defined benefit component of the Plan. This section is being added to the Plan for the sole purpose of improving Plan Members' ability to save for Retirement on a tax sheltered basis.

The additional benefits associated with this Article 19 are to be fully Member paid. For greater certainty, the maximum member cost rule prescribed by Section 6.06 shall be applied to the pension otherwise payable from the defined benefit component of the Plan, without regard to the optional ancillary benefits associated with this Article 19.

In the event the addition of this Article 19 to the Plan would have the effect under applicable pension legislation of increasing the cost to the University or otherwise providing benefits under the Plan, this Article will be terminated as of its original effective date, and any Member contributions to the Plan made in accordance with this Article 19 will be returned to the affected Members, with interest credited in accordance with Section 19.04.

Notwithstanding any other provision of the Plan, a Member who joins the Plan on or after January 1, 2012, shall not be permitted to make optional ancillary contributions or to participate in the optional ancillary benefits provisions contained in this Article 19. Only those Members who have a balance in a Post-1989 Optional Ancillary Account as at December 31, 2011 shall be permitted to make further optional ancillary contributions to the Plan between January 1, 2012 and December 31, 2013. Effective January 1, 2014, no Member shall be permitted to make any further optional ancillary contributions to the Plan.

19.02 Definitions

The following phrases shall for the purposes of this Article 19 have the following meanings:

**Net Contribution Account** means “net contribution account” as defined in the Income Tax Act.

**Post-1989 Optional Ancillary Account** means the account established by the University in the name of the Member, to which shall be credited all the Member's optional ancillary contributions made in accordance with Section 19.03(a) plus applicable interest and/or investment earnings.

19.03 Optional Ancillary Contributions

(a) Subject to Section 19.03(c) and (g), a Member may elect to make optional ancillary contributions to the Plan in the manner prescribed by the University. Such contributions shall be credited to the Member's Post-1989 Optional Ancillary Account.
(b) The Member’s election to make such optional ancillary contributions, or to vary, suspend, or terminate the amount of such contributions are subject to any terms and conditions as prescribed by the University from time to time, such terms and conditions which shall be submitted to the Canada Revenue Agency.

(c) The optional ancillary contributions made by a Member in a calendar year shall not exceed the amount, if any, by which

(i) the lesser of:

(1) 9% of Member’s compensation for the year from employers participating in the Plan; and

(2) $1,000 + 70% of the Member’s defined benefit pension credits for the year under the Plan,

exceeds

(ii) the amount of current service contributions (other than optional ancillary contributions) the Member makes in the year under the defined benefit component of the Plan.

(d) Each Member’s optional ancillary contributions shall be remitted to the Pension Fund within 30 days following the month the amount was deducted or received, and credited to the Member’s Post-1989 Optional Ancillary Account in the Pension Fund.

(e) The amount in a Member’s Post-1989 Optional Ancillary Account must be used to provide optional ancillary benefits as described in Section 19.05 and may not be used for any other purpose. Subject to Section 19.07, the Member’s Post-1989 Optional Ancillary Account may not be refunded to the Member, the Member’s Spouse or Beneficiary, as the case may be.

(f) The University shall provide to Members who elect to make optional ancillary contributions to the Plan pursuant to this Section 19.03, information described in Section 19.09 in order to assist Members in monitoring their Post-1989 Optional Ancillary Account balances.

(g) No Member who joins the Plan on or after January 1, 2012 shall be permitted to make optional ancillary contributions to the Plan. Only those Members who have a balance in a Post-1989 Optional Ancillary Account as at December 31, 2011 shall be permitted to make further optional ancillary contributions to the Plan between January 1, 2012 and December 31, 2013. No Member shall be permitted to make any further optional ancillary contributions to the Plan after December 31, 2013.

19.04 Interest on Optional Ancillary Contributions

Each Member’s Post-1989 Optional Ancillary Account shall be credited in each Plan Year with interest calculated at a rate equal to the rate of return as can reasonably be attributed to the Pension Fund in respect of such Plan Year.
Benefits on Termination/Retirement

When a Member Retires, or terminates prior to pension commencement, the Member’s Post-1989 Optional Ancillary Account shall be applied to purchase optional ancillary benefits in respect of the pension otherwise payable to the Member from the defined benefit component of the Plan in respect of the Member’s service on or after January 1, 1990.

Such optional ancillary benefits shall include the following:

(a) Early Retirement Pension

Provide an early retirement benefit as described in Section 6.02(a), except that the pension described in Section 6.01 based on Credited Service, Final Average Earnings and average Year’s Maximum Pensionable Earnings at actual retirement date is reduced by 1/4 of 1% per month for each month by which early retirement precedes the earliest of the dates on which:

(i) the Member will attain age 60;

(ii) the Member’s age plus Continuous Employment (excluding periods of layoff) would have equalled 80; and

(iii) the Member would have completed 30 years of Continuous Employment (excluding periods of lay-off);

(b) Bridge Benefit

Provide a bridge benefit, payable monthly, commencing on the Member’s Early Retirement Date and payable until the earlier of his or her death or the first of the month in which the Member attains age 65. The amount of such bridge benefit shall be limited as follows:

(i) The maximum annual bridge benefit shall be equal to an amount up to but not exceeding the sum of the maximum benefits payable to the Member under the Canada Pension Plan, as applicable, and the maximum Old Age Security benefit, that would be payable if the Member were age 65 as at the Member’s Pension Commencement Date.

(ii) The maximum annual bridge benefit described in paragraph (i) above shall be reduced by the minimum amount required by the Income Tax Act, which is a proportional reduction in the case of a Member who has completed less than 10 years of Credited Service at the Pension Commencement Date, and a further reduction of 1/4 of 1% for each month by which the Pension Commencement Date precedes the date that the Member will attain age 60.

(iii) In addition, the annual bridge benefit (payable under this Section) combined with the annual lifetime pension (payable under Section 6.02 and under an associated defined benefit provision as defined for this purpose by the Income Tax Act, all provided in respect of periods after December 31, 1991), shall not exceed (1) plus (2) as follows:

1. the Defined Benefit Limit, multiplied by the Credited Service of the Member after December 31, 1991; plus
2. 1/35th of 25% of the average of the Year's Maximum Pensionable Earnings for the year of Retirement and each of the two immediately preceding years, multiplied by the Credited Service of the Member after December 31, 1991, not exceeding 35 years;

(c) Survivor Benefits

(i) Replace the normal form of pension for a Member with a Spouse as provided in Section 8.02(a) with a joint and survivor pension payable in an unreduced amount for the lifetime of the Member and then reduced to an amount not exceeding the 66-2/3% on the death of the Member, with or without a guarantee of up to 60 monthly payments; or

(ii) Replace the normal form of pension for a Member without a Spouse as provided in Section 8.01 with a pension payable in an unreduced amount for the lifetime of the Member, with or without a guarantee of up to 180 monthly payments;

The cost of purchasing such optional ancillary benefits shall be equal to the Commuted Value of the optional ancillary benefits in respect of the Member.

In the event of the Member’s Post-1989 Optional Ancillary Account balance exceeds the Commuted Value of the optional ancillary benefits elected by the Member in respect of the Member’s service on or after January 1, 1990, the Member shall not have any entitlement to such excess amount, and such excess amount shall be reallocated from the Member’s Post-1989 Optional Ancillary Account in the Pension Fund to the unallocated assets in respect of the defined benefit component of the Plan in the Pension Fund.

19.06 Portability

Alternatively to Section 19.05, in the event a Member Retires, or terminates prior to pension commencement, and elects to transfer the Commuted Value of his or her pension otherwise payable from the defined benefit component of the Plan in accordance with Section 11.05 of the Plan, the transfer amount shall include the Commuted Value of the optional ancillary benefits elected by the Member.

In the event the Member’s Post-1989 Optional Ancillary Account balance exceeds the Commuted Value of the optional benefits elected by the Member in respect of the Member’s service on or after January 1, 1990, the Member shall not have any entitlement to such excess amount, and such excess amount shall be reallocated from the Member’s Post-1989 Optional Ancillary Account in the Pension Fund to the unallocated assets in respect of the defined benefit component of the Plan in the Pension Fund.

For the purpose of greater clarity, the limit prescribed under Section 11.05(c) shall apply to the transfer amount inclusive of the Commuted Value of the optional ancillary benefits elected by the Member.
19.07 **Refund of Net Contribution Account**

Notwithstanding the prohibition on the refund of part or all of the Member's Optional Ancillary Account described in Section 19.03(e), and notwithstanding the reallocation of the excess portion of the Member's Post-1989 Optional Ancillary Account described in Sections 19.05, 19.06 and 19.08, in the event

The Member's post-1989 Optional Ancillary Account balance, plus the required Member contributions made under the Plan, plus Credited Interest, credited to his or her Net Contribution Account in respect of the defined benefit component of the Plan

*exceeds*

the Commuted Value of the Member’s pension otherwise payable from the defined benefit component of the Plan, plus the Commuted Value of the optional ancillary benefits elected by the Member,

the Member shall be entitled to a refund of such excess amount.

19.08 **Pre-Retirement Death**

In the event a Member dies prior to pension commencement, the Member’s Post-1989 Optional Ancillary Account shall be applied to purchase optional ancillary benefits as if the Member had terminated employment the day before he died. The Member’s Spouse shall elect the optional ancillary benefits on the Member’s behalf. If the Member does not have a Spouse on the date of death, the University shall elect the optional ancillary benefits on the Member’s behalf.

In the event the Member’s Post-1989 Optional Ancillary Account balance exceeds the Commuted Value of the optional ancillary benefits elected in respect of the Member’s service on or after January 1, 1990, the Member’s Spouse or Beneficiary, as applicable, shall not have any entitlement to such excess amount, and such excess amount shall be reallocated from the Member’s Post-1989 Optional Ancillary Account in the Pension Fund to the unallocated assets in respect of the defined benefit component of the Plan in the Pension Fund.

For greater certainty, the form of the benefit payable to the Spouse, or to the Beneficiary, pursuant to this Section 19.08, shall be in the same form elected by the Spouse, or payable to the Beneficiary, pursuant to Sections 10.01, 10.02, or 10.03, as applicable.

19.09 **Information to Members**

In addition to the information required by the Pension Benefits Act to be included on the Member’s annual statement, the University shall include a statement of the amount in the Member’s Post-1989 Optional Ancillary Account as at December 31 of the statement year.

19.10 **Designated Plan**

Optional Ancillary Contributions cannot be made in any year that the Plan is a designated plan as defined in the Income Tax Act. Optional ancillary benefits cannot be provided for any period in a year in which the Plan is a designated plan as defined in the Income Tax Act.
Article 20 – Affiliated Organizations

20.01 Plan Interpretation

References to the University shall be interpreted to include the Affiliated Organizations in the following circumstances:

(a) **Definition of Employee**
The definition of Employee shall include employees of the University and employees of the Affiliated Organizations who otherwise meet the criteria set out in Section 2.15;

(b) **Eligibility Requirements and Enrolment**
The eligibility requirements for Employees with less than one third annual commitment set out in Section 3.03(a) shall include earnings while working for one or more Affiliated Organizations and the requirements set out in Section 3.03(b) shall include hours worked for one or more Affiliated Organizations.

(c) **Definition of Earnings**
The official payroll records of the University in the definition of Earnings at Section 2.14 shall include the official payroll records of the Affiliated Organizations in relation to Employees who are employed by an Affiliated Organization;

(d) **Periods of Employment or Re-employment**
Any periods of employment or re-employment with the University shall also include periods of employment with one or more of the Affiliated Organizations;

(e) **Leaves and Reduced Work Load**
Any periods of leave with or without pay and periods of reduced work load that are authorized by the University shall include similar periods that are authorized by an Affiliated Organization, as appropriate;

(f) **Disability**
The long term disability insurance plan of the University referred to in Section 2.33(a) shall include any long term disability insurance plan of an Affiliated Organization. Under Section 9.02 (Cessation of Disability), active employment by the University shall include active employment by an Affiliated Organization;

(g) **Transfers to Pension Fund**
Service with the University shall include service with an Affiliated Organization for the purposes of Section 12.01 (Transfer to Pension Fund);

(h) **Plan Expenses**
The University shall include any Affiliated Organization under Section 14.02 (Payment of Expenses); and

(i) **General Conditions of Membership**
The University shall include the Affiliated Organizations under Sections 16.01 (Limitation On The Rights of Members And The Obligations Of The University) and 16.02 (Plan Not a Contract of Employment).
20.02 Contributions by Affiliated Organizations

(a) Each Affiliated Organization shall each year make contributions to the Pension Fund as are required, based on the certification of the Actuary, to provide:

(i) the normal cost of the benefits currently accruing to any Members under the Plan while employed by the Affiliated Organization; and

(ii) the Affiliated Organization's share of the proper amortization of any unfunded liability or solvency deficiency, in relation to the Members currently accruing benefits while employed by the Affiliated Organization,

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

(b) No contributions shall be made by the Affiliated Organization to the Pension Fund unless it is an eligible contribution as defined by the Income Tax Act.

(c) If at any time while the Plan continues in existence the Actuary certifies that there is Funding Excess in respect of the benefits defined in the Plan, the Affiliated Organizations' contribution obligations under Section 20.02(a) may be reduced by an equal amount or by a lesser amount, all as determined by the University based on the recommendation of the Pension Committee and subject to any protocols established by the Pension Committee and any limitations prescribed by the Pension Benefits Act.

(d) If at any time while the Plan continues in existence there is a prior year credit balance as defined by the Pension Benefits Act, the Affiliated Organization's contribution obligations under Section 20.02(a) may be reduced by an equal amount or by a lesser amount, all as determined by the University based on the recommendation of the Pension Committee and subject to any protocols established by the Pension Committee and any limitations prescribed by the Pension Benefits Act.

(g) The Affiliated Organizations' contributions in respect of the normal cost of benefits under Subsection 20.02(a)(i) shall be paid in monthly instalments within 30 days following the month for which the contributions are payable. The Affiliated Organizations' contributions in respect of special payments to amortize an unfunded actuarial liability or solvency deficiency under Subsection 20.02(a)(ii) shall be payable in equal monthly instalments throughout the year.

(h) Any portion of an overpayment that is returned to the University out of the Pension Fund under Section 4.02(f) that can be attributed to an Affiliated Organization(s) may be forwarded to the Affiliated Organization(s), all as determined by the University based on the recommendation of the Pension Committee and subject to any protocols established by the Pension Committee.

(i) If the Plan is wound-up in whole or in part, and in the event of insufficient funds, the Affiliated Organizations shall make further contributions to the Pension Fund, as required, equal to the difference between the normal cost of the benefits accrued to Members while employed by the Affiliated Organization and the contributions that were remitted in accordance with this Section 20.02.
20.03 Transfers between the University and an Affiliated Organization

If an Employee of the University is transferred to an Affiliated Organization, such Employee’s participation in the Plan shall continue as if no transfer had taken place, except that the Affiliated Organization shall be responsible for making contributions where required under Section 20.02.

If an Employee of an Affiliated Organization is transferred to the University, such Employee’s participation in the Plan shall continue as if no transfer had taken place, except that the University shall be responsible for making contributions where required under Section 4.02.

Benefits payable under the Plan shall be calculated on the basis of:

(a) the Member’s Continuous Employment which shall include the Member’s employment with the University and the Affiliated Organization;

(b) the Member’s Credited Service, which shall include employment with the University and the Affiliated Organization; and

(c) the Member’s Final Average Earnings taking into account Earnings received from the University and the Affiliated Organization, as appropriate.
Schedule A – List of Affiliated Organizations

Conrad Grebel University College
Renison University College
St Paul's University College
St Jerome's University
Hildegarde Marsden Co-operative Day Nursery
Paintin' Place Co-operative Day Care Centre Inc.
Imprint
Canadian Water Network
University of Waterloo Research & Technology Park Accelerator Centre
Appendix – Historical Provisions

A.1.01 Past Member Contribution Rates

The chart below sets out past required Member contribution rates that preceded the rates currently set out in Section 4.01(a) and (b) of the Plan which came into effect on May 1, 2009. In the chart below:

(A) applies to that portion of the Member’s Earnings or Reduced Earnings (as the case may be) which does not exceed the Year’s Maximum Pensionable Earnings for the year of contribution;

(B) applies to that portion of the Member’s Earnings or Reduced Earnings (as the case may be) which exceeds the Year’s Maximum Pensionable Earnings for the year of contribution, up to two times the Year’s Maximum Pensionable Earnings for the year of contribution if (c) is applicable; and

(C) applies to that portion of the Member’s Earnings or Reduced Earnings (as the case may be) which exceed two times the Year’s Maximum Pensionable Earnings for the year of contribution.

<table>
<thead>
<tr>
<th>Applicable Dates of Service</th>
<th>Contribution Rates</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(A)</td>
</tr>
<tr>
<td>July 1, 2008 to April 30, 2009</td>
<td>5.05%</td>
</tr>
<tr>
<td>July 1, 2007 to June 30, 2008</td>
<td>4.80%</td>
</tr>
<tr>
<td>January 1, 2003 to June 30, 2007</td>
<td>4.55%</td>
</tr>
<tr>
<td>May 1, 2002 to December 31, 2002</td>
<td>2.73%</td>
</tr>
<tr>
<td>May 1, 2001 to April 30, 2002</td>
<td>1.82%</td>
</tr>
<tr>
<td>May 1, 2000 to April 30, 2001</td>
<td>1.1375%</td>
</tr>
<tr>
<td>May 1, 1999 to April 30, 2000</td>
<td>2.4375%</td>
</tr>
<tr>
<td>May 1, 1998 to April 30, 1999</td>
<td>1.1375%</td>
</tr>
<tr>
<td>May 1, 1997 to April 30, 1998</td>
<td>2.4375%</td>
</tr>
<tr>
<td>September 1, 1995 to April 30, 1997</td>
<td>4.875%</td>
</tr>
<tr>
<td>September 1, 1993 to August 31, 1995</td>
<td>4.3875%</td>
</tr>
<tr>
<td>January 1, 1987 to August 31, 1993</td>
<td>4.875%</td>
</tr>
</tbody>
</table>

Prior to January 1, 1987, the required Member contribution rate was 6.50%, less the Member’s contribution to the Canada Pension Plan.
A.1.02  Past Pension Formula

Prior to the current pension formula in the Plan which came into effect as of January 1, 1999, the pension formula under Section 6.01 was as follows.

For Retirements on or after May 1, 1998 and prior to January 1, 1999:

1.4% of his or her Final Average Earnings not in excess of the average of the Year's Maximum Pensionable Earnings for the year of Retirement and the three immediately preceding years,

plus

2.0% of his or her Final Average Earnings in excess of the average of the Year's Maximum Pensionable Earnings for the year of Retirement and the three immediately preceding years,

multiplied by

his or her years of Credited Service

For Retirements on or after January 1, 1998 and prior to May 1, 1998:

(i) for the payment period from his or her Normal Retirement Date to May 1, 1998, an annual pension equal to:

1.3% of his or her Final Average Earnings not in excess of the average of the Year's Maximum Pensionable Earnings for the year of Retirement and the two immediately preceding years,

plus

2.0% of his or her Final Average Earnings in excess of the average of the Year's Maximum Pensionable Earnings for the year of Retirement and the two immediately preceding years,

multiplied by

his or her years of Credited Service; and

(ii) for the payment period on and after May 1, 1998, a recalculated annual pension equal to:

1.4% of his or her Final Average Earnings not in excess of the average of the Year's Maximum Pensionable Earnings for the year of Retirement and the three immediately preceding years,

plus

2.0% of his or her Final Average Earnings in excess of the average of the Year's Maximum Pensionable Earnings for the year of Retirement and the three immediately preceding years,

multiplied by

his or her years of Credited Service.
For Retirements on or after May 1, 1997 and prior to January 1, 1998:

(i) for the payment period from his or her Normal Retirement Date to May 1, 1998, an annual pension equal to:

1.3% of his or her Final Average Earnings not in excess of the average of the Year's Maximum Pensionable Earnings for the year of Retirement and the two immediately preceding years,

plus

2.0% of his or her Final Average Earnings in excess of the average of the Year's Maximum Pensionable Earnings for the year of Retirement and the two immediately preceding years,

multiplied by

his or her years of Credited Service; and

(ii) for the payment period on and after May 1, 1998, a recalculated annual pension equal to:

1.4% of his or her Final Average Earnings not in excess of the average of the Year's Maximum Pensionable Earnings for the year of Retirement and the two immediately preceding years,

plus

2.0% of his or her Final Average Earnings in excess of the average of the Year's Maximum Pensionable Earnings for the year of Retirement and the two immediately preceding years,

multiplied by

his or her years of Credited Service.

For Retirements on or after January 1, 1987 and prior to May 1, 1997:

1.3% of his or her Final Average Earnings not in excess of the average of the Year's Maximum Pensionable Earnings for the year of Retirement and the two immediately preceding years,

plus

2.0% of his or her Final Average Earnings in excess of the average of the Year's Maximum Pensionable Earnings for the year of Retirement and the two immediately preceding years,

multiplied by

his or her years of Credited Service.
For Retirements on or after July 1, 1977 and prior to January 1, 1987:

1.3% of his or her Final Average Earnings not in excess of the average of the Year's Maximum Pensionable Earnings for the year of Retirement and the two immediately preceding years,

plus

2.0% of his or her Final Average Earnings in excess of the average of the Year's Maximum Pensionable Earnings for the year of Retirement and the two immediately preceding years,

multiplied by

his or her years of Credited Service not in excess of forty years, with proportionate allowance for completed months.
### A.1.03 Form of Pension

Prior to the current Plan provisions which have been in effect since February 3, 2009, the Normal and Optional Forms of Pension available under Article 8 (other than a joint and survivor pension) were as set out in the chart below. The joint and survivor option for Members who have a Spouse at Retirement has always been a pension option under the Plan and became mandatory for Members who have a Spouse at Retirement when the Plan was restated effective January 1, 1987, subject to the Spouse completing a waiver of his or her entitlement.

<table>
<thead>
<tr>
<th>Effective Date of Change</th>
<th>Applicable Retirement Dates</th>
<th>Normal Form of Pension if no Spouse at Retirement, or if Spouse waives entitlement to joint and survivor pension (Section 8.01)</th>
<th>Other Forms of Pension (Section 8.03)</th>
</tr>
</thead>
<tbody>
<tr>
<td>May 1, 2000</td>
<td>May 1, 2000 and prior to March 1, 2009</td>
<td>Life guaranteed for 120 months.</td>
<td>Life only; Increased pension payable for life guaranteed for 60 months; Reduced pension for life guaranteed for 180 months; or Level income option.</td>
</tr>
<tr>
<td>May 1, 1998</td>
<td>May 1, 1998 and prior to May 1, 2000</td>
<td>Life guaranteed for 120 months.</td>
<td>Life only; Increased pension payable for life guaranteed for 60 months; Reduced pension for life guaranteed for 180 months; or Level income option.</td>
</tr>
<tr>
<td>May 1, 1997 and prior to May 1, 1998</td>
<td>Life guaranteed for 60 months payable each month until and including April 1, 1998; and Life guaranteed for 120 months each month on and after May 1, 1998.</td>
<td>Life only; Reduced pension for life guaranteed for 120 months for the period of May 1, 1997 to May 1, 1998 and increased pension payable for life guaranteed for 60 months for the period on and after May 1, 1998; Reduced pension for life guaranteed for 180 months; or Level income option.</td>
<td></td>
</tr>
<tr>
<td>January 1, 1992 and prior to May 1, 1997</td>
<td>Life guaranteed for 60 months.</td>
<td>Life only; Reduced pension for life guaranteed for 120 months; Reduced pension for life guaranteed for 180 months; or Level income option.</td>
<td></td>
</tr>
<tr>
<td>Effective Date of Change</td>
<td>Applicable Retirement Dates</td>
<td>Normal Form of Pension if no Spouse at retirement, or if Spouse waives entitlement to joint and survivor pension (Section 8.01)</td>
<td>Other Forms of Pension (Section 8.03)</td>
</tr>
<tr>
<td>--------------------------</td>
<td>----------------------------</td>
<td>-------------------------------------------------------------------------------------------------</td>
<td>-----------------------------------</td>
</tr>
<tr>
<td>January 1, 1992</td>
<td>January 1, 1992 and prior to May 1, 1997</td>
<td>Life guaranteed for 60 months.</td>
<td>Life only; Reduced pension for life guaranteed for 120 months; Reduced pension for life guaranteed for 180 months; or Level income option.</td>
</tr>
<tr>
<td>January 1, 1987</td>
<td>January 1, 1987 and prior to January 1, 1992</td>
<td>Life guaranteed for 60 months.</td>
<td>Life only; Reduced pension for life guaranteed for 120 months; Reduced pension for life guaranteed for 180 months; or Reduced Joint and Survivor with contingent annuitant who is not Spouse; or Level income option.</td>
</tr>
<tr>
<td>July 1, 1977</td>
<td>July 1, 1977 and prior to January 1, 1987</td>
<td>Life guaranteed for 60 months.</td>
<td>Life only; Reduced pension for life guaranteed for 120 months; or Level income option.</td>
</tr>
</tbody>
</table>
ANNUAL REPORT
INDUSTRY CANADA

INSTITUTE FOR QUANTUM COMPUTING

May 1, 2010 to April 30, 2011

UNIVERSITY OF WATERLOO | IQC Institute for Quantum Computing
1. INTRODUCTION

1.1 Overview of IQC: The Future Re-imagined

IQC was officially created in 2002, sparked by the vision of Mike Lazaridis and then-University of Waterloo President David Johnston, to foster pioneering research into the next revolution in technology, quantum information. Harnessing the quantum laws of nature promises powerful new advances in fields spanning computing, communications and sensors — and IQC was created to lead this charge.

Throughout history, humans have learned to tame and control the forces of nature — fire, steam, electromagnetism — to improve their lives. IQC is now harnessing the original force of nature — the quantum fabric that underlies all things. The results of this research will transform the future in ways we have only begun to imagine.

Building on the University of Waterloo’s longstanding strengths in engineering, math and computer science, IQC quickly attracted world-class researchers in computer science, providing the nucleus of excellence to entice experimentalists. Today, IQC is a highly successful partnership between the University of Waterloo, the private sector and both federal and provincial governments. David Johnston envisioned Waterloo becoming the world’s “Quantum Valley,” and IQC is turning this dream into a reality.

“Innate human curiosity has always been the driving force behind innovation.”

Raymond Laflamme
Executive Director, Institute for Quantum Computing

In just 10 years, IQC has grown to become the world’s largest research centre devoted to quantum information science and technology. It has created a unique training program for postdoctoral fellows and students unrivaled around the globe. It is intensifying communication and outreach programs to share the knowledge created and ignite widespread fascination in quantum science. Canada — and IQC — are becoming internationally recognized as leaders in the global quantum race.

A milestone in the coming year will be the move to an extraordinary new home, the Mike & Ophelia Lazaridis Quantum-Nano Centre. In what will be the biggest building at the University, scientists will study and manipulate the tiniest building blocks of nature. This ‘think
tank with labs’ will feature a state-of-the-art cleanroom, the most cutting-edge experimental infrastructure in the world and innovative spaces designed to foster collaboration and dialogue between researchers. It’s a simple recipe: attract the best scientists in the field, give them the best possible research environment and a place to share ideas and test them, and breakthroughs will happen.

1.2 IQC’s Guiding Principles

Vision
Harnessing quantum mechanics will lead to transformational technologies that will benefit society and become a new engine of economic development in the 21st century.

Mission
To develop and advance quantum information science and technology at the highest international level through the collaboration of computer scientists, engineers, mathematicians and physical scientists.

Strategic Objectives
1. To establish Waterloo as a world-class centre for research in quantum technologies and their applications
   1. Conducting research in quantum information
   2. Recruiting researchers
   3. Collaborating with other researchers
   4. Building, facilities and laboratory support

2. To become a magnet for highly qualified personnel in the field of quantum information
   5. Attracting, educating and training highly qualified personnel

3. To establish IQC as the authoritative source of insight, analysis and commentary on quantum information
   6. Disseminating knowledge
   7. Communications and outreach strategy

8. Administrative support is connected to all three strategic objectives.
The strategic objectives, broken down into eight supporting tactics developed in partnership with Industry Canada, serve as a roadmap for all IQC’s activities and is also the organizing framework for this report.

1.3 Executive Summary

This annual report is the second in a series of five reports that evaluate IQC’s activities and outcomes as they relate to the $50 million grant from Industry Canada. The performance period is May 1, 2010 to April 30, 2011 (the 2011 fiscal year) unless otherwise stated.

The purpose of the report is to demonstrate how Industry Canada’s funding has enabled IQC to expand and make significant progress in achieving its three strategic objectives, which tightly align with the four long-term outcomes that support the IQC vision, developed with input from Industry Canada:

1. Increased knowledge in quantum information
2. New opportunities for students to learn and apply new knowledge
3. Canada becoming branded as a place to conduct research in quantum technologies
4. Canada becoming positioned to take advantage of the economic and social benefits of research

Canada’s support of quantum research reinforces this country’s scientific and technological leadership; that visionary investment is critically important as the quantum frontier is just beginning to be explored.

Within the report is an overview of scientific achievements, objectives set in fiscal 2011, a summary of the activities undertaken with the grant, the results achieved, objectives and expected results for fiscal 2012, specific activities and timelines, as well as a risk assessment and risk mitigation strategies. Additional explanatory information and supporting documentation is contained in the appendix.

In a nutshell, IQC has met or exceeded all its growth and development targets, and is well-positioned to meet next year’s objectives — a positive return on investment. The proof is in the science: IQC continues to attract the highest calibre researchers in the world who made significant discoveries this year, are constantly adding to the body of knowledge in this field, and moving ever closer to realizing the limitless possibilities in taming the quantum universe.
A brief summary (below) of the year’s many high points, as they relate to the three strategic objectives, is a snapshot of the tremendous potential being realized daily at IQC; more detail follows in the report and appendices:

1. To establish Waterloo as a world-class centre for research in quantum technologies and their applications:

   IQC continued to build a team of theoretical and experimental researchers who are leaders in computer science, engineering, math, chemistry and physics. Prof. David Cory, three research assistant professors and 18 postdoctoral fellows joined IQC in 2011.

   To support this world-class team, IQC has continued to invest in experimental infrastructure and is now reaping the benefits — developing quantum devices, implementing quantum protocols and building on the successful feasibility study for quantum communication using satellites. At the same time, good connections have been maintained with quantum computer scientists who are devising new protocols and applications for quantum processors that deepen our understanding of quantum information processing.

   IQC researchers achieved significant results and breakthroughs — in photonics, quantum error correction and superconducting qubits, to name a few, which led to articles in such eminent journals as Science, Nature, Nature Physics, Nature Photonics and Physical Review Letters. Researchers produced a total of 160 articles this year.

The nature of the research at the institute necessitates and encourages strategic joint research projects with key scientists from a variety of fields in and outside of IQC. In 2011, researchers published papers with 166 researchers from 96 institutes located around the globe. The number of collaborative publications grew from 141 in 2010.

The new Mike & Ophelia Lazaridis Quantum-Nano Centre is a state-of-the-art facility unlike any other, which will offer ideal research conditions, promoting multi-disciplinary research that will be a tremendous draw for the world’s top researchers. The construction completion date for the facility is July 2011. Commissioning is complex and will extend into the fall of 2011 with plans to begin migrating people and laboratories into the building in January 2012.
In 2012, the research focus will be to continue leading-edge investigation of theoretical approaches to quantum information processing in order to better understand the impact of quantum mechanics for information processing and to investigate new potential applications. Researchers at IQC will continue developing approaches to quantum information using photonic, nuclear and electron spins, quantum dots, superconducting technologies and proceed with studying the requirements needed to design an earth-to-satellite quantum cryptography systems.

2. To become a magnet for highly qualified personnel in the field of quantum information:
   While IQC possesses a critical mass of leading researchers in quantum information science, it is imperative for the future of the institute to recruit, educate and train the next generation of leaders in the field.

   In partnership with the faculties of Math, Science and Engineering at the University of Waterloo, IQC launched a multi-disciplinary quantum information graduate program last year. The institute fielded 117 applications for 20 available spaces in the collaborative program in quantum information; as well, 78 Waterloo students indicated an interest in quantum computing on applications to other graduate programs.
   Including all programs at IQC, there was an increase to 195 applications in 2011 from 104 in 2010.

   To attract the best, IQC attended graduate fairs at the University of Waterloo, McGill University, the University of Alberta, the University of Western Ontario, the University of British Columbia, the Canadian Undergraduate Physics Conference, Beijing Normal University, Tsinghua University and Peking University, sharing information with and fielding questions from thousands of attendees.

   In 2012, IQC plans to hire up to four faculty members, six to 10 postdoctoral fellows and 20 graduate students.

3. To establish IQC as the authoritative source of insight, analysis and commentary on quantum information:
   IQC’s third strategic objective is about disseminating quantum information through a number of means: researcher commentaries on key quantum developments and analyses published in leading journals or presented at conferences that add to the body of quantum knowledge is one such method. The IQC website will continue to be
enhanced so that it becomes a sought-after source of quantum information and IQC’s people are positioned as leaders in this field.

It is also vital to inform many audiences — in addition to the scientific community — about the ‘quantum revolution’ and inspire the next generation of quantum scientists who will build on the seminal work being done today. Educating the first quantum-informed workforce will pave the way for productive partnerships with industry. Raising awareness about the role quantum science will play in our future, Canada’s leadership, and the international excellence of IQC reinforce the importance of the major investment being made in quantum research and will secure the future of that investment.

To these ends, IQC has expanded its communication and outreach function to focus on knowledge dissemination, attracting students to IQC, raising awareness, and inspiring interest and support from all stakeholders.

The communications and outreach team launched a revamped website in September 2010 with enhanced interactivity, audience-specific features, expanded scientific information, and greater use of social media platforms. A new video library with over 30,000 total channel views explains quantum science in both easily accessible and more scientifically complex videos. Media coverage has nearly doubled over the past year.

IQC significantly increased the number of visitor and student tours, launched a new distinguished lectures series and participated in a variety of key community events such as TEDxWaterloo and Doors Open Waterloo.

The communications and outreach strategy for the next 12 to 18 months encompasses developing and implementing a plan of communications, outreach, events and other activities linked to IQC’s 10th anniversary celebrations marking a decade of achievement and progress in quantum development; launching research and creative work that will identify key audiences, stakeholders and messages needed to help showcase the world-class science as broadly and effectively as possible; developing tools and processes for communications; and building relationships with key stakeholders and donors.

The report will take you into greater depth and detail about the science — and the people who are making it happen — at IQC. The future is bright.
### 1.4 Budget & Financial Statement ($000s)

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FOR APPROVAL

School of Public Health and Health Systems [see Attachment 1 for the Executive Summary]

Motion: That the Board of Governors approve transforming the name and mission of the Department of Health Studies and Gerontology to create a School of Public Health and Health Systems within the Faculty of Applied Health Sciences.

Background: The proposal received the approval of the AHS Faculty Council at its meeting on March 25, 2011 and of the Senate at its May 16, 2011 meeting.

The full proposal is at:
The Faculty of Applied Health Sciences (AHS) proposes to transform the Department of Health Studies and Gerontology into a dynamic and distinctive School of Public Health and Health Systems. The Department of Health Studies and Gerontology (HSG) has a 34 year history of excellence and innovation. It was the first transdisciplinary department in Canada dedicated to health promotion and disease prevention, the first to offer a PhD in gerontology and the first to offer a distance based Masters in Public Health. Other institutions have taken notice of our success and attempted to duplicate it. By creating an exciting array of new objectives, structures, products, and services the creation of a School will once again position the University of Waterloo and the Faculty of Applied Health Sciences as a global innovator. It will address emerging challenges in the world, and establish a new standard of performance and impact.

Mission, goal and objectives. The mission of the School of Public Health and Health Systems will be to advance learning, knowledge, practice and capacity in the fields of public health and health systems through strategic partnerships and excellence in teaching, research, and service. Our goal is to be recognized by students, peers, and other stakeholders as Canada’s most innovative and influential school of public health and health systems. Objectives are aligned with UW’s Sixth Decade Plan, as well as those of the local, provincial, national and international public health and health systems communities. The objectives address six broad areas: enhancing graduate teaching and training; improving undergraduate teaching and training; internationalization; advancing the amount, relevance, and creativity of our research; improving our ability to rapidly transform policy, practices, structures and tools for health and health systems; and enhancing our resource base. Specific objectives for the next six years include increasing our total graduate enrolment from 150 FTEs to 255 FTEs; increasing first year graduate intake targets from 73 to 136; increasing total undergraduate enrolment from 408 FTEs to 505 FTEs; increasing our first year undergraduate intake targets from 110 FTEs to 149 FTEs; ensuring every student at the graduate and undergraduate level participates in either a research or inquiry based learning project; improving rates of student success and retention; increasing the international student population in our undergraduate programs from a current rate of <1% of FTEs to 12% of FTEs; increasing the international graduate student population from 2% of FTEs to 20% of FTEs; establishing at least two new “2+2” undergraduate program agreements with international institutions; increasing the proportion of students and faculty who win major external research and teaching awards; increasing the per capita number and amount of faculty led research grants (especially tri-council funding); creating new linkages with key external agencies by developing innovative service units and joint faculty positions; facilitating new connections with external partners, alumni and friends of the university; creating new development and contract funding opportunities.

Scope. The focus of the new School will be on CIHR pillars 3 (health services) and 4 (population and public health), with only modest research and training directed at pillars 1 (biomedical science) and 2 (clinical sciences). For example, our current BSc program in Health Studies will continue to use a transdisciplinary curriculum to prepare students for admission into graduate schools and professional careers in medicine, dentistry, nursing, chiropractic, etc. However, significant emphasis will be on public and population health, defined as "the science and art of preventing disease, prolonging life and promoting health through the organized efforts and informed choices of society, organizations, communities and individuals" (Winslow, 2002). It is distinguished from other health professions and fields by (1) its emphasis on health enhancement and the prevention of disease and injury; (2) its emphasis on health at the level of communities and populations rather than individuals; (3) a concern for reducing inequalities in opportunities for health and health status; and (4) the development and application of interventions that aim to alter collective factors and conditions (social, economic, political, cultural, educational, environmental, and geographic), structures, processes, policies, and programs) particularly as they intersect with intra person determinants (e.g., genetics, biological responses, cognitive and emotional responses).
The new School will also be explicitly designed to produce people and research adept at responding systematically. Our people and research will enhance integration, effectiveness, user satisfaction, and efficacy of the policies, programs, processes, and structures which impact on the health of the public, including but not limited to health services. It is more than a classic school of public health. The health systems component will emphasize the dynamic interrelationships of variables at multiple levels (e.g., from cells to society) while also attempting to understand the impact of systems on health and health care over time. A systems orientation is useful for making implicit assumptions about complex phenomena explicit, developing interventions that account for dynamic interactions and conducting simulation models to generate “alternative futures” (allowing decision makers to simulate the impact of various policy decisions and how they play out over time before actually putting them into practice). While students will be introduced to aspects of formal systems theory and systems science, our use of the expression “health systems” is intended to represent a set of perspectives and broad principles rather than strict adherence to a specific theory, existing body of literature, or discipline. A systems orientation will make the School of Public Health and Health Systems unique in Canada, and enable us to join a leading edge group of universities around the world concerned with systems approaches to public health and for integrating and improving health care policies and services.

**Opportunities.** The School will enable the Faculty of Applied Health Sciences, and UW more generally, to respond to a number of emerging opportunities and challenges in Canada and around the world including: an increased demand for highly skilled, graduate trained, evidence informed professionals capable of improving public health and health care in systematic, transformational ways; the health and health care challenges associated with an aging population; building public health and health system capacity; and functional public, private and non-profit partnerships that create commercial innovations in socially and environmentally responsible ways. The demand for additional human resource capacity is especially acute given the proportion of the current public health and health systems workforce on the verge of retirement, the increasing desire of adults to retain into health related careers, and existing health professionals need to advance their knowledge, skills and effectiveness. In the wake of unsustainable growth in health care costs, and public health threats such as growing rates of chronic disease, inequalities in health, water and food borne illness, the new School is a response to recommendations in many recent national commissions to create more public health capacity, and facilitate health care integration and efficiency.

**Distinctiveness and operation.** The proposed School will be distinctive in several ways. First, our School will focus on the development of capacity, tools, processes and structures (e.g., governance, policy, mass communication, community mobilization, surveillance, and evaluation) to reorganize, integrate and shape the complex systems and organizations which facilitate or undermine population health and the integrated, efficient delivery of health care. Every student will have foundational knowledge about how health systems are organized, as well as how and why it is important to understand health (and health care) as a system. Second, unlike other schools that spend inordinate resources on describing problems, we propose to focus training and research on solving significant national and international challenges in public health and health systems. The problem areas have been chosen to (i) reflect the Department’s current strengths, (ii) the potential to link and create synergy with other UW departments and research centres/institutes, (iii) feedback from strategic external partners about their primary needs, (iv) the ability to distinguish ourselves from and complement activates in other departments and universities, and (v) potential opportunities to leverage new resources. Specifically, we intend to build critical mass related to: chronic disease prevention and management; health and aging; health care integration and efficiency; food and water safety, security and governance; reducing health inequalities; and health and the environment. Third, we will cultivate much stronger direct links to regional, national and international public health and health system leaders to help us select and maintain our attention on the largest, most relevant problems and challenges. These partners will ensure our research products are practical, relevant, efficient, and rapidly integrated into policy and practice. They will ensure our graduates have advanced knowledge, skills, and experience that are practical and relevant to the present and future. Forth, the curriculum will emphasize “hands on” problem based learning. Students will participate in placements in applied practice/policy settings, a research centre or both. Fifth,
the school proposes to create a limited number of “service centres” related to challenges such as program/policy planning and evaluation, health communication, knowledge integration and visualization. These centres will as serve as a platform for training students, provide services to community agencies and partners (creating further connectivity between the school and external partners), and include a state of the art facility for showcasing tools and products developed by UW students, staff, and faculty. We propose to create joint faculty appointments with external partners that will further facilitate research and training relevance as well as rapid employment of our graduates and research. A sixth distinguishing feature is that we our training programs will be more accessible, responsive, relevant and attractive by emphasizing on-line learning and cooperative education. The School will explore mechanisms such as fast tracking, joint degree programs, concentrated summer schools, executive programs, more continuous admission cycles, domestic and international practicum placements. Seventh, the new School will foster greater integration, trans-disciplinary thinking, and improved resource efficiency by having faculty members and students affiliate with one or more existing or new research centres, institutes or research clusters. In addition to supporting existing centres related to chronic disease prevention, water, and healthy and aging, we will foster new transdisciplinary research and service clusters (in collaboration with other academic units) in each of our areas of focus. Eighth, unlike other schools of public health which focus on child and maternal health, we will place special emphasis on health systems and public health for aging populations. Despite dropping “gerontology” from our unit’s name, our commitment to health and aging will be enhanced through new training programs and research infrastructure. Finally, the School will provide products to prepare students for two general trajectories: (1) a career as an evidence informed health professional; or (2) a career as practice and policy based researcher and academic. It will offer bachelors, masters and doctoral training in both trajectories.

**Academic programs.** The School will continue to offer all the current programs in the Department of Health Studies and Gerontology, including a BSc in Health Studies (honours and regular, minors in informatics or gerontology); a distance based MPH; thesis based MSc and PhD programs in population health; and participate in joint doctoral degrees in Aging, Health and Wellbeing, as well as a joint program in Work and Health. The School will prepare separate proposals to add new programs and degrees in three phases over the next six years. Phase one will involve new professional, distance based masters programs in health evaluation and a new public health specialization for UW’s existing Master of Health Informatics.

Traditionally our BSc in Health Studies has attracted students with strong backgrounds in natural science, most of who aspire to become clinical health professionals in areas such as medicine. However, increased competition from other universities and programs, and the change in our name and focus to public health and health systems may slightly reduce our ability to continue attracting sufficient numbers of top students with this orientation. Therefore, the School proposes to broaden its potential “market” by introducing two new bachelors programs in phase two of its expansion. A Bachelor of Public Health would be designed for entry after two years of university study and appeal to students who, through the course of their studies, have become interested in a career in population and public health (as opposed to a career in clinical health care). Students with an interest in clinical health care or research oriented graduate school would continue to pursue our existing BSc in Health Studies (possibly re-named as Health Sciences). The School also intends to develop a small Bachelor of Health Promotion program designed for students that have strong backgrounds in social science rather than natural science and are interested in health promotion related careers. The addition of the two new undergraduate programs will ensure our enrolment numbers and the quality of students remain high by appealing to a wider audience. They will also serve as a source of prospects for the School’s professional graduate programs (MPH, MHI, MHE). Phase two will also include the introduction of Canada’s first English language Doctorate of Public Health (DrPH). Unlike research intensive PhDs, DrPH’s provide advanced professional training, particularly for the rapidly growing number of individuals who have an MPH. Phase two will also include the creation of some new streams and joint degree options for students in the masters of public health program. For example, in addition to a general MPH, and a special stream in the socio-behavioural aspects of public health, we intend to create a new environmental stream. To complement our other on-line masters program, we will also explore the creation of special streams in public health science and occupational health.
informatics. Finally, we will explore the creation of joint degrees such as a MHI/MPH, a MHPE/MPH, a MSW/MPH (with Renison), or a joint degree in management science and a MPH.

Phase three of the School’s academic expansion will involve the creation of additional research oriented graduate training. For example, we may increase the number of streams in our research oriented MSc programs to include health informatics research, as well as research to improve health program and policy evaluation. They would be parallel to the aforementioned professional degree options. It may also include new graduate degrees in areas such as knowledge exchange and translation for health, health systems planning, and health and aging.

Rather than create a ubiquitous, unfocused global health degree (as has been done at a couple of other Canadian institutions), we propose to integrate global and international health into all programs. This will be done by developing new courses, integrating a more global perspective into existing curriculum, creating international exchanges, as well as developing new international partnership agreements for research and training. The net result will be greater appeal to international students and the production of graduates with specific knowledge and skills in areas such as population intervention, health informatics, health evaluation, and health care system design, that also have knowledge and experience relevant to solve health challenges (e.g. chronic disease prevention, healthy aging, food and water security and safety, etc.) in a domestic and international context.

The current proposal is for the creation of a School that will provide and oversee the infrastructure for these new programs. This proposal is NOT intended to displace the usual approval process for the new academic programs described above. These additional approvals will be sought in due course and with proper documentation.

Scan of related schools and programs. Six Canadian universities currently have schools of public health and two others have departments or institutes which provide graduate training. All are organized along highly traditional disciplinary ways. All specialize in areas different from the proposed new UW school. Eight Canadian universities offer professional graduate training in public health (i.e., an MPH) while two others have MPH programs in development. These programs are predominantly delivered through on site-based learning, although three have started to introduce some distance based courses. Most public health schools and programs have expertise in child and maternal health but none explicitly deal with aging populations. Only one program has substantive expertise in public health informatics. Two schools have developed graduate programs in health informatics but, unlike the UW proposal, they are highly generic. No institutions in Canada have a specific emphasis on health systems. At least two American institutions have recently created departments of health systems within a School of Nursing (Johns Hopkins) or a School of Public Health (University of Memphis), putting our proposal on the leading edge of units which embrace a systems orientation. While some Canadian institutions offer training in the management and administration of specific health care agencies (e.g., hospitals), or health services research, no programs train professionals to think about and adapt whole human systems for health and integrated health care. No other institutions offer a program dedicated to health specific program and policy evaluation. Only one institution has a Bachelor of Public Health degree (Brock). All other bachelor programs are in broad fields such as health studies, health science, or community health similar to the Department of Health Studies and Gerontology’s current BSc program. Only a couple accommodate students that do not have a background in natural science. Only one Canadian institution offers a doctorate in public health but it requires proficiency in French. Finally, there are a handful of research based PhD programs in related fields such as epidemiology, but these are research intensive rather than practice oriented programs.

Potential partnerships and linkages. The new School aspires to create new opportunities and linkages for sister departments, schools, and research centres within the Faculty of Applied Health Sciences and across campus. We aspire to expand existing and create new joint ventures in areas such as water and food safety and security, environmental aspects of health, work and health, leisure and health, and knowledge exchange. We aspire to create linkages with campus partners in areas such as health informatics (Computer Science), evaluation (SiG), digital media (Arts), health statistics (Statistics and
Actuarial Science), the environment (Geography, Planning), social work and social development (Renison). The school aspires to create new partnerships with public, private and non-profit sector agencies including regional health departments and integration networks, Ministries of Health, public agencies, non-profit organizations, and leading edge companies. Provided they create relevant and timely innovation and human resource capacity, we believe it may be possible to mutually leverage funds that build upon existing agreements with the Canadian Cancer Society, the Agfa Corporation, and others. The School will pursue new reciprocal agreements with universities and colleges (e.g., the University of Guelph) to share complementary resources, collaborate on projects and exchange students.

Organization and accountability. On a designated date (e.g., September 1, 2011), the School of Public Health and Health Systems would replace the Department of Health Studies and Gerontology as one of the three academic units within the Faculty of Applied Health Sciences. Collegial leadership within the School will come from a director (as per UW policy 40), four associate directors, as well as faculty member caucuses and standing committees. In order to provide research and training infrastructure in the most efficient way possible, and to facilitate interdepartmental and cross faculty collaboration, the School will develop a series of internal MOUs to support, affiliate with and create a limited number of research (new and existing) and service centres. A handful of new collaborations are expected to emerge, but the goal is to facilitate collaboration and improve resource efficiency in a manner that strengthens the institution and Faculty of Applied Health Sciences at large.

Resources. Initial resources will come from the Department of Health Studies and Gerontology. This includes 20 FTE regular faculty positions, plus one pending tenure track position, one FTE faculty position bridged to a retirement in 2012, and some definite term appointments. Collectively, this group has the necessary breadth of expertise required to maintain existing programs and start development of the proposed new programs and research themes. Existing resources also include four FTE staff and designated space and equipment in Burt Mathews Hall, and the Lyle Hallman Institute for Health Promotion. While the School has the necessary breadth of expertise, it lacks sufficient critical mass and capacity to fully implement the proposed expansions. The shared revenue generated from projected enrolment increases (in both domestic and international students) will cover the cost of adding at least nine regular full time faculty positions, three new full time staff positions, and other related costs (approximately $1.58 million for Faculty of Applied Health Sciences at full implementation plus additional funds for central administration in accordance with standard revenue sharing formulas). Initially, two thirds of these positions would be required to develop new curricula and programs about 12 months before enrolment begins (especially those delivered online). The remaining positions would be phased in until enrolment targets have been met. To take advantage of graduate growth funds and generate interim revenue, admission targets in our MPH and BSc (co-op) programs were temporarily increased for September 2011 and will continue until arrival of students in the new professional masters programs can commence.

Our goal is to further enhance research and training capacity by seeking external agencies to jointly fund additional “professional practice faculty positions”. Faculty in these positions would spend a portion of their time working for UW and a portion working for/at the external agency. These are the public health equivalent of clinical faculty positions that are common in medicine. These joint professional faculty positions are not absolutely required to design and implement the program, but would provide us with important credibility, linkages to strategic partners, and capacity that will help lower student to faculty ratios. It is anticipated that external agencies would provide at least 50% of the costs, with the remainder coming from the Provost in the form of matching money. In return for their investment, external agencies might receive 30 to 40% of the person’s service time, as well as return on the 30% of time they spend on research directly related to the sponsoring agencies challenges. The remaining 30 to 40% would be dedicated to teaching, graduate supervision, and mentorship.

The School will also facilitate an increase in the number of faculty members who seek external funding awards. The relief money provided will be used to fund post doctoral fellows, visiting scholars, definite term appointments, and contract staff.
The Department of Health Studies and Gerontology’s current allocated space can be re-organized to accommodate up to five new faculty and staff, after which we will need additional resources. Naming rights for the school, previous capital credits from graduate growth, applications for CFI, capital grants from the MTUC, and other opportunities will all be used to help fund and maintain a new, high profile, building to reduce acute shortages of classroom, research, graduate student, and administrative space across the Faculty of Applied Health Sciences. We expect that the distinctive features of the new School will make it attractive to prospective donors and friends of the university who want to join us in becoming positive change agents and transformers for health and education.

Since the vast majority of student growth is for online professional programs and undergraduate degrees, we will not require substantially new money for student funding (although some funds will be required for top ups, practicums, and other items) or student office space. Some funds will be set aside for other campus resources such as CEL to assist in the development of online courses, etc.

The full proposal includes detailed rationale, plans, as well as enrolment projections and budgets.

**Timelines and communication plan (2011).**

The proposal to transform the department received the unanimous support of the Department of Health Studies and Gerontology in June, 2010. Moreover, this proposal for a strategic and operational plan was overwhelmingly approved by the Department on February 22, 2011. Our next steps include:

Formally distribute draft proposal to AHS faculty and staff – by March 7  
Discuss with AHS Faculty Council Executive on March 11  
Seek feedback from Dean’s Council on March 16  
Seek approval of AHS Faculty Council on March 25  
Seek endorsement of UW Executive Council – April 4  
Distribute to Senate for May 16 meeting  
Distribute to Board of Governors for June 14 meeting  
Send media release to internal and external partners on June 8 (pending Board approval).  
Announcement at CPHA annual meeting June 19; Society for Epidemiology June 21  
Official transition from Department to School – September 1, 2011.  
Open house and public launch - October, 2011

This ambitious time line has been developed because (1) the Department’s existing BSc, MSc and PhD programs in the Department of Health Studies and Gerontology are due to be reviewed in 2012 (and we want to demonstrate that we are proactively dealing with challenges); the MPH is scheduled for review in 2013; we wish to seize what may be the final opportunity to secure “graduate growth” money from the province of Ontario; to quickly set ourselves apart from existing and emerging schools; to proactively address potential recruitment challenges; to enable the school to contribute to UW’s sixth decade plan as soon as possible; and to contribute as rapidly as possible to Canada’s training and innovation needs related to public health and healthy systems.

**Conclusion.** The new School of Public Health and Health Systems has been designed to improve the health of Canadians and populations by training professionals and researchers who can anticipate and transform the social, geographic, political, legal and economic structures, policies, and systems that facilitate or undermine population health and health services in Canada, and across the globe. The School will raise the bar on both the quality and quantity of public health and health systems research in Canada, making Canada and UW the place to go for solutions to national and global problems. It will set new standards for closer functional linkages between the university and public, non-profit and private sector partners. It will provide a platform to showcase, promote and commercialize leading edge products and ideas.