

University of Waterloo
SENATE
Minutes of the Monday 19 September 2016 Meeting

Present: Jean Andrey, Katherine Bergman, Jessica Brake, Robert Bruce, Carmen Bruni, Jeffrey Bunn, Brian Cepuran, Jennifer Clapp, Andrew Clubine, Mario Coniglio, Eric Croiset, Ray Darling, David DeVidi, George Dixon, Michael Drescher, Bernard Duncker, Samir Elhedhli, Marlene Epp, Mavis Fenn, Paul Fieguth, Wendy Fletcher, Sacha Forstner, Shikha Gandhi, Mark Giesbrecht, Sally Gunz, Feridun Hamdullahpur, Dennis Huber, Mike Hudson, Marios Ioannidis, Craig Janes, Beth Jewkes, Spiro Karigiannis, Scott Kline, Alysia Kolentsis, Greta Kroeker, Robert Lemieux, Christos Lolas, Mungo Marsden, Barb Moffatt, Richard Myers, Mohammad Nasif, Daniel O'Connor, Ian Orchard, Douglas Peers, Angela Pereira, David Perrin, Neil Randall, Bruce Richter, James Rush, Erin Sargeant Greenwood, Mark Seasons, James Skidmore, Richard Staines, Gordon Stublely, Pearl Sullivan, Hamid Tizhoosh, Tomson Tran, Johanna Wandel, Stephen Watt, Dan Wolczuk, Alexander Wray

Guests: Bruce Campbell, Donna Ellis, Troy Glover, Sarah Hildebrandt, Peggy Jarvie, Jennifer Kieffer, Derek Madge, Chris Read, Julia Roberts, Allan Starr, Marilyn Thompson, Nickola Voegelin

Secretariat & Office of General Counsel: Logan Atkinson, Karen Jack, Emily Schroeder

Absent: Sandra Banks*, Hannah Beckett*, Annie Bélanger*, Catherine Booth*, Lutz-Alexander Busch*, Tara Collington*, Simon Courtenay*, Fraser Easton*, David Edwards*, Murray Gamble*, John Garcia*, Robert Gorbet*, Pallavi Hukerikar, Tom Jenkins, Karim S. Karim*, Shoufa Lin, Robin Mazumder, Michele Mosca*, Paul Murphy, Diana Parry*, David Porreca*, Tristan Potter, Christopher Pugh*, Susan Schultz Huxman*, Samantha Shortall*, Michael Stork*, Neil Thomson*, William Watson*, Ross Willard*

*regrets

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

The chair welcomed Rick Myers, the new principal at St. Paul's University College, attending his first meeting of Senate.

OPEN SESSION

1. DECLARATIONS OF CONFLICT OF INTEREST

Senators were asked to declare any interests they may have in relation to the items on the agenda in open session. No conflicts were declared.

Consent Agenda

Senate heard a motion to approve or receive for information the items on the consent agenda.

Orchard and Perrin.

2. MINUTES OF THE 20 JUNE 2016 MEETING

Senate approved the minutes of the meeting.

3. REPORTS FROM COMMITTEES AND COUNCILS

Graduate & Research Council

Senate received the report for information.

Undergraduate Council

Senate received the report for information.

4. REPORT OF THE PRESIDENT

Recognition and Commendation. Senate received the report for information.

5. REPORTS FROM THE FACULTIES AND RENISON UNIVERSITY COLLEGE

Senate received the reports for information.

6. COMMITTEE APPOINTMENTS

Senate approved appointments of the COU Academic Colleague (Marios Ioannidis, term to 30 June 2018) and to the University Committee on Student Appeals (Lindsay Daniels, graduate student representative, term to 30 April 2017).

The question was called, and the motion carried.

Regular Agenda

7. BUSINESS ARISING FROM THE MINUTES

Integration of mathematics' option in predictive analysis with arts. Coniglio advised that the option was primarily designed on the basis of the accrued importance of predictive analytics skills in the field of actuarial science. The best name for this option was thoroughly debated, and "predictive analytics" was the clear choice. The primary reason behind this choice is that most professional actuarial organizations refer to the skillset the students will acquire through the completion of this option by this generic label. To consider further, the following link may be helpful:

<https://www.soa.org/predictive-analytics/default/>

The Department of Statistics and Actuarial Science believes this is the best label for the option as employers will be most familiar with this terminology.

Interdisciplinarity in mathematics' data science in computer science and actuarial science bachelor plans. Coniglio advised that the data science plans were created through the specialization of the existing joint statistics/computer science plan, and the statistical and computational focus of the program reflects these roots. During discussions while a requirement for one of more courses in business, economics, design, communications, etc., were considered, it was ultimately decided to concentrate on the core aspects. However, both the faculty and departments are conscious of the importance of communication skills. A combination of the newly required communications courses for all students and an emphasis on communicating technical results to lay audiences in statistics and actuarial science courses reinforces the importance of audience and message. It is expected that this issue will be re-visited by the curriculum committee once the program is up and running.

8. PRESENTATION

KELLY ANTHONY, LECTURER AND TEACHING FELLOW, SCHOOL OF PUBLIC HEALTH AND HEALTH SYSTEMS

Dr. Anthony was introduced by Coniglio. Anthony informed senators about "The Risk of Rewards and the Rewards of Risk" and her experiences as a teaching fellow in the Faculty of Applied Health Sciences. She observed that nothing diminishes interest in something like being rewarded for it, and we do a lot of this in teaching in higher education. She questioned whether the award of marks actually adversely affect the enthusiasm for learning. There is much to be learned in games research about how to motivate learning, where a very large percentage of users fail each time they participate in a game. There may be lessons to be learned from games research to enhance post-secondary teaching and learning related to rewarding failure and the enthusiasm to keep working as failures mount. Success and failure are often found by following the same path.

Slides used in the presentation may be seen here: <https://uwaterloo.ca/secretariat-general-counsel/sites/ca.secretariat-general-counsel/files/uploads/files/riskrewardanthony.pdf>.

9. REPORTS FROM COMMITTEES AND COUNCILS

Graduate & Research Council

Senate heard motions to the following effects:

Faculty of Applied Health Sciences, Recreation and Leisure Studies. To approve changes to the Master of Arts plan in recreation and leisure studies as presented in the report.

Dixon and Rush. Carried.

Faculty of Applied Health Sciences, Recreation and Leisure Studies. To add a research presentation milestone requirement for the doctoral plan as presented in the report.

Dixon and Rush. Carried.

Faculty of Arts, Economics. To approve the removal of the comprehensive examination in macroeconomics for the doctoral plan as presented in the report.

Dixon and Peers. Carried.

Faculty of Arts, Psychology. To approve a change to the Master of Arts in Psychology plan to add the fields “social” and “clinical” as presented in the report.

Dixon and Peers. Carried.

Faculty of Environment, Local Economic Development. To approve a degree name change from Master of Applied Environmental Studies in Local Economic Development to Master of Economic Development and Innovation, and changes to the degree plan, all as presented in the report.

Dixon and Andrey. Carried.

Faculty of Science, Biology / Nanotechnology. To withdraw the Department of Biology’s involvement in the collaborative graduate program in nanotechnology, as presented in the report.

Dixon and Lemieux. Carried.

Undergraduate Council

Senate heard motions to the following effects:

Faculty of Arts, Economics. To approve a new minor plan in economic theory, as presented in the report.

Coniglio and Peers. Carried.

Faculty of Arts, History. To approve a new academic plan in honours history with departmental co-op, as presented in the report.

Coniglio and Peers.

In response to a question about the likelihood that relevant placements will be found for students in this program, Senate was advised that a feasibility study was completed to support this motion, with a principal goal to market history students as students with a wide range of skills including skills in historical research.

Carried.

Senate heard one motion to the following effects:

Faculty of Science, Chemistry. To approve changes to the honours geochemistry plan, as presented in the report.

Faculty of Science, Chemistry. To approve changes to the honours co-operative geochemistry plan, as presented in the report.

Coniglio and Lemieux. Carried.

Faculty of Arts, Independent Studies. To inactivate the three-year general and four-year honours bachelor of independent studies plans, all as presented in the report.

Coniglio and Peers.

Senate was advised that numbers in these programs have been declining, and that the Bachelor of Knowledge Integration is exciting and thriving, providing students a unique opportunity for interdisciplinary studies.

Carried.

10. REPORT OF THE PRESIDENT

Hamdullahpur informed Senators about recent activities, including most recent enrolment statistics (both undergraduate and graduate) for the fall 2016 term, with some comment on the continuing very high quality of entering students; international rankings and the university's steady position across the usual rankings; new faculty hires for 2016-2017; the fourth annual Waterloo Innovation Summit, with special recognition of the contribution of Walter Isaacson; university successes in securing \$91 million in funding from the Canada First Research Excellence Fund, with special thanks to Vice-President, University Research George Dixon, and the many others, who lead development of the funding submissions; congratulations to members of faculty recently admitted to the Royal Society of Canada; the president's participation in the HeForShe presentation at the United Nations in New York on 20 September, especially with respect to the participating universities' "parity report," detailing progress in the first year of the program; updates on the Vice President Advancement search, with Joanne Shoveller as the successful candidate, and the ongoing interviews for our new Vice-President, University Research.

Slides used in the president's presentation may be seen here: https://uwaterloo.ca/secretariat-general-counsel/sites/ca.secretariat-general-counsel/files/uploads/files/presidentsenatesept_192016.pdf.

11. Q&A PERIOD WITH THE PRESIDENT

In response to questions, Hamdullahpur and Orchard offered comment on the work of the Salary Anomalies Working Group, noting that the purpose of the work was to ensure that excellence is properly rewarded, and to discover historical anomalies and inequities that ought to be corrected.

With respect to the criteria for awarding the President's Scholarships, the impact of "grade inflation" has been considered by the university several times, and the university is convinced that the grades

presented on applications for admission are fairly determined. The bar for the award of a President's Scholarship is already fairly high, and this university's share of students with exceptional grades is increasing, lessening the impact of grade inflation if in fact it exists. A presentation will soon be made to Deans' Council to consider a full review of entrance awards.

The president was asked if there might be a benefit in shifting these funds to needs-based awards instead. In response, Hamdullahpur noted that the university has in place funding support programs for those in need, and the merit-based awards are intended to be a recognition of high achievement.

With respect to a projected drop in PhD enrolments for the current year, the president noted that this decline is based on a comparison with last year's numbers. The university has spent a great deal of time discussing this, and has moved toward building better packages for incoming PhD students and making this issue a top priority. The Associate Provost, Graduate Studies will be asked to bring forward a report on this issue to the next meeting of Senate.

The president offered to report to Senate on the completion rates for undergraduate students attending the university with entrance averages of 95% or greater.

It was noted that, while there is a seven percent increase in the incoming undergraduate class, it seems clear that demographics are going in the opposite direction. The president was asked about the anticipated trends in this respect over the next decade, and what might be the related projections in terms of faculty hiring and retirements over the same period? The president responded by saying that we are pleased to see that our enrolments continue to grow despite demographic challenges, based on the quality of education available at this institution. And, we are aware that we have hit a record percentage of international students at this university. We will continue to hire new faculty members, and will bring forward a breakdown of ranks and other features of our recent faculty hires.

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

There was no report from the Vice-President, Academic & Provost.

13. REPORT OF THE VICE-PRESIDENT, UNIVERSITY RESEARCH

The Vice-President's written report was submitted to the Senate secretary, and is appended to these minutes as appendix A. In addition, he mentioned the CIHR foundation grant to Jeff Fong (the largest foundation grant that CIHR has ever given); exceptional success rates in NSERC applications, including the highest success rate in Canada over the last year; SSHRCC insight grants have a similar high success rate; current Tri-Agency financial audit to be executed over the course of the fall; continuing work on review and analysis of federal research funding models, and the participation of the Office of Research and Associate Deans, Research in that process.

It was observed by a senator that, in connection with success rates, we might be better served by comparing ourselves to peer institutions rather than to the average. Dixon agrees, but uses the data from national averages because it is readily available. Data on individual institutions is available only through membership in, say, the U15, and that data is protected.

14. OTHER BUSINESS

There was no other business.

Senate convened in confidential session.

20 September 2016

Logan Atkinson
University Secretary & General Counsel
Secretary to Senate

CONFIDENTIAL SESSION

Confidential minutes have been removed.

APPENDIX A

Senate Report Vice-President, University Research September 19, 2016

- 2015/16 Total sponsored research awards \$182,635,727
 - Federal Tri-Council 26%
 - Federal (excluding Tri-Council) 26%
 - Provincial 17%
 - Other 16%
 - Industry 15%
- CFREF
 - Fund invests approximately \$200M per year
 - 13 initiatives funded in the most recent round
 - Waterloo successful with ‘Transformative Quantum Technologies’ - \$76,277,000
 - David Cory
 - Waterloo also partnered with Saskatchewan ‘World Water Futures: Solutions to Water Threats in an Era of Global Change’ - \$77,840,000
 - Philippe van Cappellen leads the Water Quality Theme of the project
 - Waterloo’s share \$15M
- CIHR
 - Foundation Grant – Geoff Fong receiving \$11,318,248 over 7 years
 - The largest of all 120 CIHR Foundation Grants awarded
- Geoff Fong, Dave Hammond & Mary Thompson, PIs on a large NIH project grant. Led by the Medical University of South Carolina, the uW investigators are leading projects 1, 3 and the Data Management Core, respectively. A total of \$6.6M USD over 5 years awarded to the Waterloo teams.
- 21 researchers receiving \$2.3M in Ontario funding:
 - 11 Early Researcher Awards (\$140k each)
 - 10 Ontario Research Fund – Research Infrastructure (ORF-RI)
- NSERC
 - RTI – Waterloo received 21 of 39 submitted totaling \$2.62M and a 53.8% success rate
 - Discovery Grants 2016-17
 - 128 of 147 awarded for a total of \$4,345,360
 - Waterloo success rate of 87.1% - national average is 66.1%
 - Success rates are substantially higher than the national average from 2011/12 through 2016/17
- SSHRC
 - Insight Grants 2016-17
 - 16 of 43 submitted were successful for a total of \$2,364,682
 - 37.2% success rate; the national average was 31.1%
 - Insight Development Grants 2016-17
 - 10 out of 24 submitted were awarded for a total of \$524,747
 - 41.7% success rate – the national average was 45.4%
 - Partnership Grant 2016-17
 - 1 submitted and awarded, Philip Beesley - \$2,476,738
- The Tri-Agency will be conducting a financial monitoring review of Waterloo in Fall 2016
- Research Partnerships 2015-16 research highlights:
 - Zhongwei Chen - \$3M of industry funding over 3 years for battery technology development (Newtech Power)
 - John Sykes - \$700k for work with NWMO

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- Lockheed Martin (various faculty) - \$1.4M after matching
 - Ten large NSERC CRD projects awarded for \$200k each
 - Aerospace/Defence Research Partnership meeting held in April; 104 attendees including 21 companies
 - Waterloo became the first non-Alberta university to join COSIA (Canada's Oil Sands Innovation Alliance); proposals are in development
 - **Waterloo International**
 - Funding:
 - 2014/15 - \$3,139,411
 - 2015/16 - \$8,212,002
 - **Commercialization Highlights – Fiscal 2015-16**
 - AC JumpStart (FedDev – Waterloo funding partnership) = 14 uW grad student startups seed funded (\$1M)
 - Wattech Power Inc. (Zhongwei Chen, Chem Eng) – Zn-Air battery (for stationary power storage, eg. Solar)
 - \$1M seed financing (some directed to uW-R&D)
 - NewTech Power Inc. (Zhongwei Chen, Chem Eng) – Li-ion battery technology
 - \$5M seed financing (\$3M in uW – R&D contract)
 - Quspin Inc. (Rolf Horn, IQC) – Entangled photon source
 - \$1M seed financing
 - KA Imaging
 - \$500k seed financing (\$1M Grand Challenges award – Summer 2016)
 - **Next Research Talks**
 - Friday, September 23 @ 12:00 noon in the Quantum-Nano Centre, room 0101
 - Linda Nazar
 - “New vistas in electrochemical energy storage”