

**FACULTY OF SCIENCE
Meeting of Faculty
Tuesday, 14 February, 2017
Leacock Council Room - L232**

Before the start of the Meeting, the following presentations were given:

i) **Ms. Carole Gaveline, Director of The McGill Media Relations Office (MRO)**, gave a verbal presentation about the role of the MRO. She said that the function of the MRO is to disseminate information on McGill's research, discoveries, events and expertise with stakeholders and the public, as well as responding to queries from the media. The MRO also provides media outreach assistance to members of the McGill community. This includes helping with or writing press releases and op-eds, and media and public relations training for faculty members and students. .

Dean Lennox said that one possibility would be for The MRO to provide small workshops in basic media training to faculty members.

ii) **Professor Christopher Thibodeaux** from the Department of Chemistry and **Professor Mylene Riva** from the Department of Geography, each gave a short research presentation.

Dean Lennox thanked Prof. Thibodeaux and Prof. Riva, two new Faculty of Science members, for their very interesting and informative talks. He said during the Soup & Science research presentations in September and January, there are 20 such presentations per week. He said that Science now has a total of 264 professors; including 9 new professors hired in 2016-2017.

ATTENDANCE: As recorded in the Faculty Appendix Book

DOCUMENTS: S-16-20 to S-16-26

Dean Lennox called the meeting to order at 3:02 p.m.

1) **ADOPTION OF AGENDA**

Prof. Grütter **moved**, seconded by Prof. Gyakum, that the Agenda be adopted.

The motion carried.

2) **RESOLUTION ON THE DEATH OF EMERITUS PROFESSOR DONALD DUKE PATTERSON,
DEPARTMENT OF CHEMISTRY**

602.1 Prof. Masad Damha, Chair, Department of Chemistry, read the Resolution on the Death of Prof. Donald Duke Patterson.

It is with great sadness that we announce the untimely passing of Emeritus Professor Donald Patterson at age 89. Donald Patterson was born on October 13, 1927, in Montreal where he excelled at school, first at Selwyn House and then at Westmount High. In 1944, he placed first in the province in the Québec high school final exams. He went on to study Mathematics and Physics at McGill University (B.Sc. '48 ; M.Sc. '50), and then chemistry for his PhD at the University of Bristol, England (1950-1953). After further research at the National Research Council (Ottawa), 1954-1956, he held academic positions at the Département de Chimie, Université de Montréal, 1956-1963. Following a visiting professorship (1963-1966) at the Centre de Recherches sur les Macromolécules, Université de

Strasbourg, he returned to McGill University in 1966, where he was Professor of Chemistry until his retirement in 1993.

Donald was highly productive, having published more than 160 papers in the open literature and turned out some of the best graduate students that this Department has seen. He was known internationally for his major contributions to theoretical and experimental studies of polymer solution thermodynamics, and various aspects of applied polymer science and technology. Among his most notable achievements is a modification of the Prigogine-Flory theory which allowed a deeper understanding of polymer-solvent miscibility, including the existence and nature of so-called lower critical solution temperatures. He supported his theoretical studies with particularly elegant and painstaking experimental verifications using techniques as microcalorimetry, vapour phase chromatography and infrared spectroscopy. His work was recognized by the Dunlop Lecture Award in 1985, and an Honorary Degree from l'Université Jean Monnet, St. Etienne, France in 1989.

Donald was an outstanding teacher happily teaching undergraduate and graduate students with his unfailingly gentle nature allowing any and all students to participate in the class without fear of criticism. His qualities as teacher, guide and friend to many of his graduate students he directed were particularly noteworthy. As one former PhD student recounts, Donald was like a second father to him: teaching him science, but also how to be a good person.

Donald's presence will be remain strong in the hearts of his wife of 51 years, Geneviève, his two daughters Juliette et Elisabeth, his sons-in-law Michel and Eloi, his two granddaughters Céleste and Zoé, as well as family, friends, former students, community members and many others who he touched in so many ways.

The resolution was unanimously approved.

3) CANDIDATES FOR DEGREES

- | | | |
|-----------|-------------------------------------|----------------|
| a) | Bachelor of Arts and Science | S-16-21 |
| b) | Bachelor of Science | S-16-22 |

603.1 On behalf of Director (Advising Services) Nicole Allard, Associate Dean (Academic) Tamara Western, said there were 19 students graduating with the B.A. & Sc. degree, a decrease of 13 students compared to the previous year. She said there were 157 students graduating with the B.Sc. degree, an increase of 23 students compared to the same time the previous year.

Associate Dean Western **moved**, seconded by Prof. Grütter, that the above degree lists be recommended to the Senate Steering Committee for the Bachelor of Arts and Science degree, and for the Bachelor of Science degree.

The motion carried.

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|-----------|-------------------------------|----------------|
| c) | Diploma in Environment | S-16-23 |
| d) | Diploma in Meteorology | S-16-24 |

There were no students for the above Diplomas.

603.2 Associate Dean Western further **moved**, seconded by Prof. Gyakum, that the Dean be given discretionary power to make such changes in the degree list as would be necessary to prevent injustice.

The motion carried.

4) **MINUTES OF 10 JANUARY, 2017**

S-16-20

Prof. Damha **moved**, seconded by Prof. Gyakum, that the Minutes be approved.

The motion carried.

5) **BUSINESS ARISING FROM THE MINUTES**

- 605.1 Dean Lennox briefly updated members on the proposal concerning the Royal Victoria Hospital that had been sent to Québec for consultation and approval. He said the Faculty of Science was very much involved and that the Principal's Office will be circulating a document on the Academic Plan in the coming week. Dean Lennox said that meetings with the Architects were scheduled for March 2017, and he will report to Faculty at a future meeting.

6) **DEAN'S BUSINESS**

- a) Dean's Multidisciplinary Undergraduate Research List (DMURL)
(For Information Only) **S-16-25**
- 606.1 Associate Dean Western, on behalf of Director Allard, said that the DMURL recognizes students with at least 9 credits of graded research-based courses in at least two different units. A minimum GPA of 3.00 on these courses is required. The DMURL is added at graduation for B.Sc. and B.A. & Sc. students. There were 11 B.Sc. students and one B.A. & Sc. student on the DMURL.
- b) B.Sc. Global Designation (For Information Only) **S-16-26**
- 606.2 Associate Dean Western said the B.Sc. Global Designation is a recognition being given at graduation. Students must have at least three credits of a second language course, at least three credits of an independent research project course, plus a third component that is Global in nature, chosen from various preselected options. There were five B.Sc. students to graduate with the B.Sc. Global Designation.
- 606.3 Dean Lennox said that Prof. Philip Oxhorn, the new Deputy Provost (International), was interested in expanding the B.Sc. Global Designation by introducing recognition of students going beyond their campus and their programs to the rest of the university.
- c) Announcements
Dean Lennox made the following announcements:
- 606.4 **(i) Prof. Tomislav Frišćić of the Department of Chemistry** was awarded NSERC's E.W.R Steacie Memorial Fellowship. Prof. Frisic is one of six recipients of the Steacie Fellowship for his work in an innovative branch of chemistry that intends to develop environmentally friendly alternatives to solvent-based chemical processes.
- 606.5 **(ii) Prof. Maksym Radziwill of the Department of Mathematics and Statistics**, was awarded the prestigious Sloan Research Fellowship. Prof. Radziwill is considered one of the emerging research leaders among a new generation of analytic number theorists.
- 606.6 **(iii) AAU-STEM Mini-Grant - Associate Dean (Academic) Tamara Western**
A mini-grant was awarded to McGill by the American Association of Universities (AAU) to improve undergraduate education in science, technology, engineering, and mathematics (STEM) disciplines. A collaboration between Science, Engineering, Teaching and Learning Services, and the Office of Student Life and Learning, this grant provides partial funding

for a pilot project that will focus on four large freshman courses in the Departments of Biology, Chemistry, Mathematics, and Physics that serve both Science and Engineering students.

606.7 Dean Lennox said that the McGill submission was one of 12 successful proposals, and that he would like to express his appreciation to Associate Dean Western for her diligent work for the success of the AAU-STEM Mini-Grant.

(iv) NSERC Undergraduate Student Research Awards (USRAs) & Science Undergraduate Research Awards (SURAs)

606.8 There has been a tremendous increase in the number of SURAs, over the last year. For 2016-2017, there are 88 SURAs compared to 49 in 2015-2016, and 73 NSERC USRAs. Dean Lennox thanked the Science Advancement Office for their excellent work.

Dean Lennox congratulated everyone and wished them continuing success.

(v) Oxford University, Department of Zoology & Experimental Psychology

606.9 The Tinbergen Building that housed the Department of Zoology & Experimental Psychology at Oxford University was closed almost overnight after asbestos had been detected in parts of the building where it had not previously been detected. The building will remain closed for about two years. Dean Lennox noted that this underlines the urgency for the renovation of the Stewart Biology Building that is commencing, as we would like to avoid such a disaster at McGill.

7) REPORTS OF DIRECTOR & ASSOCIATE DEANS

a) Director (Advising Services) Nicole Allard

Due to Director Allard's absence at the current meeting, there was no report.

b) Associate Dean (Graduate Education) Laura Nilson

– **Allocation of Graduate Fellowships, held at the University Level and the Faculty Level, for the 2017-2018 Academic Year**

607.1 (i) Information about fellowships allocated by formula was transmitted to the units at the end of December 2016.

607.2 (ii) Some fellowships are allocated by competition, namely: (1) Tomlinson Doctoral Fellowships and (2) Leong Doctoral Fellowships. For 2017-2018, there was one Tomlinson available and two Leong fellowships. Each unit submitted a maximum of one application, and the Faculty Review Committee met last week to rank the applications. The winners have been notified, and if any applicant does not accept the fellowship, then the award will be offered to the runner up.

607.3 (iii) The second round of the Graduate Mobility Awards (GMA) are currently being reviewed by the Faculty Review Committee on 22 February 2017. The GMAs are funds provided by the University to support graduate student research travel.

607.4 (iv) A reminder that each unit is eligible for a certain amount of funding to support prospective Canadian Ph.D. students who have been offered admission. Departments will be contacted by the end of February 2017 on the progress of this initiative.

c) Associate Dean (Research) Doina Precup

607.5 (i) Nominations for the Royal Society College of New Scholars are due on 8 March 2017. Members were encouraged to nominate junior colleagues (within 15 years of the Ph.D.) as soon as possible, and to inform her of the nominee. As there are several members in the

Faculty, nominations could be arranged. McGill also has three institutional slots. Details at: <https://rsc-src.ca/en/college/college/protocols>

- 607.6** (ii) The NSERC Discovery funding envelope has increased, and current grant holders will be receiving extra money (\$1000 to 5,000/year, depending on the current amount). Presumably, the amounts are determined by the Committee on Grants and Scholarships (COGS). More funds will be available in the current competition.
- 607.7** (iii) A reminder that the deadline for the NSERC Engage Grants was 17 Feb 2017.
- 607.8** (iv) The NSERC Strategic Grants LOI stage: 13 submissions received from Science, and a total of 50 from McGill.
- 607.9** (v) The NSERC Discovery Frontiers (DF) Grant: there is a Call for Proposals in the area of Biodiversity and Adaptation of Biosystems. The LOI deadline will be 17 April 2017. The DF connects very well with the McGill Sustainability Sciences and Technologies Initiative (SSTI), and the Faculty of Science should build a strong submission from McGill. More details at: http://www.nserc-crsng.gc.ca/Professors-Professeurs/Grants-Subs/DFProposal2017-FDPropositions2017_eng.asp
- 607.10** (vi) The SSTI Grand Challenges Call for Proposals had received 40 NOIs, with assistance from Dr. Heather McShane, the Deans and Associate Deans (Research) from the Faculties of Science, Engineering, and Agricultural & Environmental Sciences, will be grouping these into broad themes. Faculty members will be kept informed about the progress.
- 607.11** (vii) The Healthy Brains for Healthy Lives (HBHL) hiring plan and gap analysis remain a work in progress. Thematic workshops for the different research axes will take place in the next few months, and will precede the request for applications. Call for Proposals will be much earlier, likely in March-April. Members will be apprised of all future developments.
- 607.12** d) Associate Dean (Academic) Tamara Western
In an effort to increase student engagement and response rate for course evaluation questions, a Subcommittee on Course Evaluation Questions had recommended a set of standardized course evaluation questions for all units in the Faculty of Science. The Subcommittee's Report has been distributed to Chairs and Academic Committee Members for feedback and will be discussed at the February 21 Academic Committee meeting.

8) **REPORTS ON ACTIONS OF SENATE**

– **Senate Meeting of January 18, 2017 - Prof. John Gyakum:**

Section I

1. Approval of Senator Nicell as Chair of the January 18, 2017 Senate Meeting

Because of Principal Fortier's absence, Senator Nicell was approved to be Chair of this meeting.

2. Welcoming remarks

The Chair welcomed all to the meeting. Principal Fortier expressed regrets for not being at the meeting, as she was attending the World Economic Forum in Davos, Switzerland, where McGill was well represented. The Chair reminded everyone on the rules of electronic device usage, namely that the devices are permitted for viewing meeting documents, but that recording of audio or video, and the dissemination of Senate deliberations is prohibited.

3. Memorial tributes

There were no memorial tributes.

4. Report of the Steering Committee [Consent item]

a. The minutes of Senate (December 7, 2016) were approved.

b. Speaking rights were granted to Professor Frédéric Bachand for item IIB1 (**Report and Response: Open Forum on the recommendations of the 2016 CAMSR Report on Divestment (Information)**), and Professor Dimitrios Berk, Ombudsperson for Students, for item IIB3 (**Annual Report of the Ombudsperson for students (2015-16) (Information)**).

c. Approval of the agenda
Senate approved the Report of the Steering Committee.

5. Business arising from the December 7, 2016 Senate Minutes

5.1 Additional information concerning indirect costs of research (verbal update)

Dr. Rose Goldstein, Vice-Principal (Research and Innovation)

Senator Goldstein provided information concerning the allocations of the indirect costs that McGill University receives from funding agencies.

Federal Indirect Cost allocation:

Of these funds received (Federal Research Support Fund; RSF), the central administration retains 75%, and 25% is returned to the various Faculties. During each of the past three fiscal years (FY14-16), McGill University has received approximately \$25 million. Hospital-based research involves 80% of the Federal RSF to be transferred to the appropriate research institute. So, about \$5 million and \$7 million are distributed to the Faculties and affiliated hospitals, annually. In addition to their 25% share, the Faculties receive 50% of the incremental Federal and provincial indirect cost rates beyond a base value that is calculated from a three-year mean.

Provincial Indirect Cost allocation:

McGill University has received approximately \$18 million annually from the Quebec government (Frais indirect de recherche; FIR) The current model includes a 27% rate on direct research support (eg, FRQNT) for administration and other services, and an allocation for research facilities. For FY17, McGill University expects to receive about \$19-21 million. These indirect costs are redirected to an institutional fund under the purview of the Provost and of the VP (Academic).

Indirect Costs (Contracts and Grants from other sponsors)

Faculties receive one-third of the overhead revenues. If the research takes place at affiliated institutions, the breakdown is 30% (Faculties), 60% (hospitals), and 10% (University). The Faculties receive annual amounts of about \$2.4 million, and hospitals receive ~\$0.84 million.

Finally:

Deans determine the allocations of their received indirect costs. The University Budget Book contains more detailed information on the indirect cost allocations, with a breakdown by each Faculty.

Questions:

A question regarding whether there was a further breakdown in the indirect cost allocations for each Faculty, to which Senator Goldstein responded that only Faculty amounts are shown.

A question arose concerning changes to the tax status of postdoctoral fellows. Senator Manfredi responded the University is not able to comment on such matters, as labor negotiations are still in progress.

6. Principal's Remarks

The Principal's remarks were distributed electronically prior to the meeting. Highlights germane to the Faculty of Science include:

The Principal's attendance at the World Economic Forum in Davos, Switzerland (Jan. 17-20) has highlighted by McGill University's membership in the Global University Leaders' Forum (the only Canadian member). The presentation of an Ideas Lab was led by Professors Andy Gonzalez, Elena Bennet, and Graham MacDonald, on the theme of "Shaping a Sustainable World."

Kudos included the announcement of Professor CJ Li's (Chemistry) election as one of 40 new Fellows of the World Academy of Sciences, and Professor Victoria Kaspi (Physics) being named as a Companion of the Order of Canada. McGill alumnus Lorne Trottier was promoted to Officer of the Order. Professor Henri Darmon (Mathematics and Statistics) won the 2017 CRM-Fields-PIMS Prize. Quebec Science Magazine, selecting its 10 Discoveries of the Year for 2016, included recognition of Senator Grütter (Physics) for the work, entitled "Rewiring an artificial Neuron."

Section II

Part "A" – Questions and Motions by Members

1. Question Regarding University Governance Best Practices

Senators Ger and Sobat submitted the following questions:

- a. What opportunities exist for Senators, and Senate as a whole, to provide recommendations regarding governance practices to the Board of Governors?
- b. Given that the cyclical review process has recently been extended to include administrative units, would the University consider implementing this model for a review of governance bodies?

Senator Manfredi's written response included a) a discussion of opportunities available for Senators to provide input to the Board of Governors or to the Chair of the Nominating, Governance and Ethics Committee, to provide feedback to the Senators who are also members of the Board, or to any Senator who is serving on the various Board committees. Senators are also invited to submit requests as questions to the Board community sessions, the first having been held on February 2, 2017. To b), Senator Manfredi responded that the Board of Governors is the body to which all other University areas are ultimately answerable, and it has "final authority over the conduct of all academic, business, and financial affairs of the University." Therefore, evaluating university governance by means of a cyclical review process would be ill-advised, because it would create a situation in which the core units of the University (Provost and the VP-Academic) would define the scope and terms of a review of the bodies to which it reports, and which are charged with oversight and approval of the academic and administrative University objectives. Governance assessment is carried out regularly by the Board's Nominating, Governance, and Ethics Committee.

Questions:

A question by Senator Saroyan addressed the criteria the Board uses for its evaluation, to which the Secretary-General responded that such information is available on the Board website, with the most recent review presented at the December 1, 2016 Board meeting.

Part "B" – Motions and Reports from Organs of University Government

Open Session

1. Report and Response: Open Forum on the recommendations of the 2016 CAMSR Report on Divestment (*Information*)

Senator Manfredi presented the item for information. Professor Frédéric Bachand acknowledged the Office of the Provost and VP (Academic) for its support, and thanked the participants in the Open Forum for contributing to the discussion. Much of the discussion focused on the contents of the CAMSR (Committee to Advise on Matters of Social Responsibility) report, rather than on the three subsequent Open Forums held in

September 2016. The concerns raised included the perception that an inadequate response to questions on the CAMSR Report by students and other members of the McGill community. The suggestion was made that the CAMSR Report lacks credibility, not disclosing the identities of experts consulted. Further, the suggestion was made that the Board's actions disregarded the concerns of many concerning investments in the fossil fuel industry. It was suggested that the Board examine its decision-making process.

2. **477th Report of the Academic Policy Committee (Approval)**

Senator Manfredi presented the report, which included two proposals: a) a Professional Development Certificate in Parliamentary Governance, and b) a B. Eng., Major in Mining Engineering.

Both proposals were adopted.

3. **Annual Report of the Ombudsperson for students (2015-16) (Information)**

Professor Dimitrios Berk presented the annual report. The Office of the Ombudsperson for Students offers informal, independent, impartial and confidential dispute resolution services to students. He noted an increase in the numbers of requests for assistance in 2015-16, though indicating this is not unusual, owing to year-to-year variability. Most cases were associated with marks, and research/thesis supervisory practices.

In response to a question by Senator Robaire as to whether the cases were preferentially associated with particular Faculties, Professor Berk indicated that the cases are distributed broadly across the Faculties. He indicated that most of the issues with supervisors are resolved with Graduate and Postdoctoral Studies.

Senator Dow asked for more clarity concerning the relationship between the Ombudsperson and the new Senior Equity and Inclusion Officer. Professor Berk indicated that the Ombudsperson does not provide formal mediation, and will refer cases of harassment and discrimination to the Senior Equity and Inclusion Officer.

Senator Dow expressed concern that the new position of Senior Equity and Inclusion Officer should be located in the Office of the Ombudsperson, so as to be at arms-length from the central administration. Senator Campbell responded that the terms under which the Senior Equity and Inclusion Officer Pascale Legros are not yet fully defined, but that the functions of each office do overlap to an extent. Senator Campbell noted that Pascale Legros is a lawyer who is trained in mediation. Individuals who wish to consult an Assessor under the Policy on Harassment, Sexual Harassment and Discrimination Prohibited by Law one of eleven Assessors, as an alternative to consulting the Senior Equity and Inclusion Officer.

4. **Annual Report on Research and Innovation (2016) (Information)**

Senator Goldstein presented this report. Its goal is to provide a broad view of McGill's achievements in gaining funding in major funding programs, commercialization of inventions, and to highlight researchers' achievements. She reported that McGill has done well in securing funding in a minimal funding growth environment, indicating that funding for the respective sources NSERC, CIHR, and SSHRC funding has increased by 2.73%, 8.51%, and 9.96%. She also stated that McGill's share of provincial research funding has increased during that past five years. McGill has also done well in innovation activities, ranking 1st in new patent applications, 2nd in invention disclosures, and 2nd in cumulative active licenses among Canadian universities. Senator Goldstein noted that in 2016, McGill hired its first Associate VP of Innovation and Partnerships, Angelique Mannella. The AVP has established a McGill Startup Space, an innovation fellowship, and a Startup Legal Clinic.

In response to Senator Hebert's query as to how McGill plans to assist early and mid-career investigators to sustain their research, Senator Goldstein indicated that mid-career

researchers in particular require more support.

In response to a question as to whether there is a relationship between success of early career researchers and subsequent challenges affecting mid-career researchers, Senator Goldstein responded that though McGill has less startup funds to offer new hires, there is no evidence to suggest that early-career researchers suffer. Senator Grütter, taking issue with this statement, indicated that it would not be possible to hire new faculty in the absence of a generous start-up package.

5. Report from the Board of Governors to Senate (*Information*)

Senator Harpp presented this report. The Board has made several important appointments recently: New Board Chair, reappointments of the Chancellor and Dean of Medicine, and three new VPs. The Board also approved several Senate recommendations, including the Policy against Sexual Violence, the creation of the School of Population and Global Health, and proposed amendments to the Terms of Reference of the Joint Board-Senate Committee on Equity. The Board will also be holding community sessions in the future.

6. Other Business

There was no other business. The meeting adjourned just a few minutes prior to 4:00 PM.

9) MEMBERS' QUESTION PERIOD

There were no members' questions.

10) OTHER BUSINESS

There being no further business, Prof. Damha **moved**, seconded by Prof. Lydon, that the meeting be adjourned at 4:26 p.m.

The motion carried.

Next Meeting: Tuesday, 14 March 2017