

**FACULTY OF SCIENCE  
Meeting of Faculty  
22 May 2018  
Leacock Council Room - L232**

**ATTENDANCE:** As recorded in the Faculty Appendix Book

**DOCUMENTS:** S-17-31 to S-17-39

Dean Lennox called the meeting to order at 3:05 p.m. and welcomed members to the last Faculty of Science meeting of 2017-2018.

**(1) ADOPTION OF AGENDA**

At the time of his death, John was survived by his wife, Dr. Virginia Douglas, Emeritus Professor in the Department of Psychology, who passed away in December 2017.

With Dr. Lewis's passing, we extend our heartfelt condolences to his children Deborah, Judith and Michael and grandson Eric. In his personal and professional lives, John touched many people. Everyone who knew John felt the joy of his genuine care, warmth and gentle nature.

**The resolution was adopted unanimously.**

**902.2** On behalf of the Faculty, Dean Lennox said that a copy of the Death Resolution will be sent to the family of Prof. Lewis.

**(3) RESOLUTION ON THE DEATH OF VIRGINIA DOUGLAS, PROFESSOR EMERITA OF PSYCHOLOGY**

**903.1** Prof. John Lydon, Chair of the Department of Psychology, read the Resolution on the Death of Emerita Professor Virginia Douglas.

Virginia Isabel Douglas, an internationally renowned researcher and one of the most influential child psychologists in Canadian history, passed away on December 8, 2017. Dr. Douglas had a profound influence on how we conceive of and diagnose Attention Deficit Hyperactivity Disorder, and her support for the scientist-practitioner model was central to shaping the model of psychological training in Canada.

Dr. Douglas received her PhD from the University of Michigan in 1958, and came to McGill the same year and stayed here for her entire career. At McGill, she convinced the Chair, Don Hebb, that to advance our understanding of Clinical disorders, Clinical training had to be provided within a rigorous experimentally-based PhD program in science. She presented this "scientist-practitioner" model at a national conference in 1965 that was convened to determine the direction of professional training in psychology in Canada. This view was widely accepted and was adopted as a model. Professor Douglas became the First Director of Clinical Psychology at McGill, and led the program to become the first clinical psychology training program in Canada accredited by the American Psychological Association. In 1971, at age 43, she was elected President of the Canadian Psychological Association.

In her research at the Montreal Children's Hospital, Dr. Douglas was one of the first researchers to employ standardized neurological batteries and formal cognitive testing to characterize hyperactive children and to assess treatment effects. Her research showed that the central deficits in hyperactive children were poor attention and impulse control. She presented this view in a seminal paper "Stop! Look! Listen!" which became a citation classic. In 1980, the Diagnostic and Statistical Manual for Mental Disorders changed the diagnosis name from childhood hyperactivity to Attention Deficit Disorder based on her work.

Dr. Douglas received the Distinguished Contribution to Child Clinical Psychology Award from the American Psychological Association and the Gold Medal for Lifetime Contributions to Psychology from the Canadian Psychological Association. She was also the first (and thus far only) female Chair of the Department of Psychology.



Ms. Thériault joined the Faculty in 2014 as a Financial Administrator. She has had two promotions since then and is now Senior Financial Officer. Faculty finances are complicated matters, and Ms. Thériault stepped in early on in a year-end crisis, immediately bringing calm and reason to the situation, and managing to get the necessary documents in on time. As such, she has become the person of reference not only within Dawson Hall, but also for Chairs of the various departments, where her extensive knowledge of Faculty finances comes into play as an invaluable resource. One of her letters of recommendation, from a Chair, recounts in detail the difference she has made for the Chair's department. She has helped the Faculty transition to a state of financial clarity; another of her referees describes her contributions as moving from wearing five-inch-thick glasses to having 20-20 vision.

**(iii) Technical category - John Smeros of the Department of Physics**

University labs do not function well without highly-skilled technicians, and, thanks to John Smeros, the Center for Physics of Materials functions very well indeed. Equipment is delicate, faculty and students need help and there is a constant need for organization, for ensuring that the laboratory functions safely, and for having the various requests from research groups handled in a timely manner. John Smeros does all this in a friendly way, with the end user in mind. He recently stepped up to the plate during the dreaded HVAC renovation, ensuring the survival of the laboratory despite the presence of contractors, and garnered uniform praise for his role in this.

Dean Lennox congratulated all three winners for their accomplishments. He presented Julie Thériault with a framed certificate commemorating her receipt of the Faculty of Science Excellence Award in the Managerial category.

Due to other engagements, the winners in the Clerical and Technical categories, Laurena Deligny and John Smeros respectively, were not present at the current meeting.

Dean Lennox thanked Prof. Hurtubise and the members of the Committee for their valuable work. He said that the Faculty has long understood that staff members play important roles in contributing to the success of faculty members and students, and it is really important to validate their contributions.

**(5) LEO YAFFE TEACHING AWARD**

**905.1** Prof. Edith Zorychta, Chair of the Leo Yaffe Teaching Award and Principal's Prize for Excellence in Teaching Committee, introduced the Leo Yaffe Teaching Award for the Faculty of Science.



**905.4**

Dean Lennox congratulated Prof. Brouhard for having been selected as the successful winner of the 2017-2018 Leo Yaffe Teaching Award. He added that Prof. Brouhard has made a huge impact on his students' educational experience. Prof. Brouhard said that

The motion carried.

(8) **BUSINESS ARISING FROM THE MINUTES**

There was no business arising from the Minutes.

(9) **REPORTS OF COMMITTEES**

a) Scholarships Committee

**S-17-36**

909.1

Associate Dean Nilson, Chair, Science Scholarships Committee, gave the following report from the Scholarships Committee:

(i) The Scholarships Report, Document S-17-36, included Faculty and departmental awards and medals. For the 2017-2018 academic year, the CGPA cut-off for Faculty awards was 3.99. The departmental awards are selected by the relevant department.

(ii) The Governor General's Silver Medal has been awarded to **Frédéric Genest, First Class Honours in Mathematics and Physics**. The Governor General's Silver Medal is awarded to a graduating undergraduate student who obtains the highest academic standing in a bachelor's degree program at McGill. This year, Associate Dean Hundemer was the Science representative on the university-wide Governor General's Silver Medal Selection Committee. There are only two medals given each year for the entire university. The medal will be presented by Principal Suzanne Fortier at the Science Convocation ceremony on 1 June 2018.

(iii) The Moyse Travelling Scholarship has been awarded to **Miles Donald Cranmer, First Class Honours in Physics**. Out of 11 applications received, the Moyse Selection Committee (Associate Deans Nilson and Hundemer, Professors Jacques Derome and Gillian O'Driscoll) invited four candidates to an interview. Two Moyse Travelling Scholarships are awarded annually (one scholarship awarded by the Faculty of Arts and the other by the Faculty of Science). The Scholarships are tenable for one year of advanced study, preferably abroad (i.e., a Britthe yeardoctora6(y twu)5N The ent inabl.4(co3 Mc)]Pr3(p)-

**(2) Mathematics & Statistics**

MATH 583

Geometric Group Theory  
4 credits

**AC-17-93**

**909.3**

Associate Dean Hundemer explained that the proposed course, MATH 583, will be taught by a team in geometric group theory, which is



**(3) Physics**  
PHYS 519                      Advanced Biophysics                      **AC-17-92**  
Change in prerequisites  
3 credits

**909.7**                      Two prerequisite courses for PHYS 519 were being updated in order to rectify hidden prerequisites in two interdisciplinary biophysical programs (i.e., Major in Physiology & Mathematics Program, and Honours Program in Physics: Biological Physics Option)

Associate Dean Hundemer **moved**, seconded by Prof. Gyakum, that the changes be approved.

**The motion carried.**

**(4) Mathematics & Statistics**  
MATH 466                      Honours Complex Analysis                      **AC-17-94**  
Changes in number [from -366]; restrictions  
3 credits

**909.8**                      The course level for MATH 466 was raised (from MATH 366) to align it with other

PHGY 515	Blood-Brain Barrier: Hlth & Dis	<b>AC-17-110</b>
	Changes: title, description, prerequisites	
PHGY 516	Physiology of Blood	<b>AC-17-111</b>
	Change in title	

**909.11** The changes in title and description better reflected the course content of PHGY 515. In addition, the change in prerequisites will offer students more appropriate course content to successfully complete PHGY 515. The title change in PHGY 516 was necessitated by the course title change in the previous course, PHGY 515.

Associate Dean Hundemer **moved**, seconded by Prof. Hurtubise that the above course changes be approved.

**The motion carried.**

<b>(8)</b>	<b>Computer Science</b>		
	COMP 499	Ugrad Bioinformatics Seminar	<b>AC-17-116</b>
		Course retirement	
		3 credits	

**909.12** COMP 499 is being retired since it is no longer part of any program, and it has been replaced with BIOL 395 (Quantitative Biology Seminar 1).

Associate Dean Hundemer **moved**, seconded by Prof. Kemme, that the changes be approved.

**The motion carried.**

### III. Program Revisions

<b>(1)</b>	<b>Mathematics &amp; Statistics</b>		
	Honours in Mathematics		<b>AC-17-95</b>
	Honours in Applied Mathematics		<b>AC-17-96</b>
	Honours in Mathematics & Computer Science		<b>AC-17-97</b>

**909.13** MATH 222 was being added to the above programs to explicitly state that it is a Required course for students who have not previously taken a course equivalent to MATH 222.

Associate Dean Hundemer **moved**, seconded by Prof. Stephens, that the above changes be approved.

**The motion carried.**

<b>(2)</b>	<b>Biochemistry</b>		
	Honours in Biochemistry		<b>AC-17-103</b>
	Major in Biochemistry		<b>AC-17-104</b>
	Liberal – Core Science Component in Biochemistry		<b>AC-17-105</b>

**909.14** The change was the addition of COMP 204 (Computer Programming for Life Sciences) to provide students in the field of biomedical sciences a more appropriate course than COMP 202. Also, to offer U1 students more options, MIMM 214 has been moved from U3 to U1 in the list of Complementary courses.

Associate Dean Hundemer **moved**, seconded by Prof. Fussmann, that the changes be approved.

**The motion carried.**

**(3) Physiology**

Honours in Physiology	<b>AC-17-112</b>
Major in Physiology	<b>AC-17-113</b>
Liberal – Core Science Component in Physiology	<b>AC-17-114</b>
Major in Physiology & Mathematics	<b>AC-17-115</b>

**909.15** In the above four programs, the proposed revisions were to replace COMP 202 with COMP 204 (Computer Programming for Life Sciences) for students in the biomedical sciences. Other changes were merely housekeeping in nature.

Associate Dean Hundemer **moved**, seconded by Prof. Roulet, that the above program changes be approved.

**The motion carried.**

**IV. Other - For Information Only**

**- Faculty of Engineering, Electrical & Computer Engineering**

- Program Changes:

B.Sc. Minor in Electrical Engineering **AC-17-106**

- New Courses:

ECSE 206 Intro to Signals and Systems **AC-17-107**

ECSE 331 Electronics **AC-17-108**

ECSE 335 Microelectronics **AC-17-109**

**909.16** The changes were the result of curriculum revisions made in 2015 to the Electrical Engineering programs, but the changes to the Minor in Electrical Engineering were inadvertently omitted at the time. New courses were introduced and will replace the old

Director Allard thanked Ms. Martine Dolmière, Science Internship & Field Studies Officer, for her dedicated work on the list (Document #S-17-39) of students graduating with a B.Sc. Global designation.

c) **Dean's Announcements**

**(I) Budget**

As reported by La Presse on 17 May 2018, after many years of negotiations between Québec universities and the Québec government, a solution was worked out for the funding formula, specifically with respect to the allocation of funds per undergraduate student in different disciplines, and per Master's and Doctoral students. This is the core funding that the University receives and at present generates 49% of McGill's \$1B budget. In the opinion of the Quebec government, different disciplines have different delivery costs at all levels. All departments in the Faculty of Science, with the exception of the Department of Mathematics & Statistics, are assigned the top value per capita per student for undergraduates and for doctoral students, i.e., \$37,450 per student for 3.6 years. This is the origin of the funds, for example, that faculty salaries are paid from. This new funding formula makes a small number of positive changes for the Faculty of Science. Other positive changes that will affect McGill include the doctoral degree in the Faculty of Arts – McGill will receive approximately \$37,000 per student for 3.6 years. The net revenue coming into McGill is thus significantly greater. Some Québec institutions, such as HEC and Polytechnique, are very vulnerable to funding changes. Across the province, funding per student in Engineering has been reduced significantly, because they are “all-Business” or “all-Engineering” in mission. This is really good news for McGill and for the Faculty of Science.

**(II) Faculty Event**

- **Dr. Leonard Pinchuk**, a McGill Faculty of Science alumnus, will be giving a one-hour talk at 7 p.m. on 5 June 2018 at the IEEE Montreal Keynote Event: Inventors and Entrepreneurs to be held at McGill in Room 112 of the Otto Maass Chemistry Building. The talk will be on his inventorship and his development of life-saving devices, including 104 patents on heart stents. He will discuss his successful invention of the angioplasty balloon, heart stents and his latest invention for glaucoma treatment devices. Dr. Pinchuk's devices have saved millions of people's lives worldwide. Prof. Harpp, who was Dr. Pinchuk's mentor as an undergraduate Chemistry student, will be giving the opening remarks. Dean Lennox said that Dr. Pinchuk is an inspirational speaker for students and faculty, and encouraged members to attend the talk.

**(III) Awards**

- **Professor Joelle Pineau, School of Computer Science**, received one of NSERC's

developing high-risk projects which could potentially be high-impact research projects. Out of 29 applications received, the following six professors have been granted a Tomlinson Science Award for 2017-2018:

- **Professor Karine Auclair**, Department of Chemistry  
Project title: Replacing antibiotics with bacterio-modulators to break the vicious cycle of resistance

- **Professor Henri Darmon**, Department of Mathematics & Statistics  
Project title: Towards a solution of Hilbert's Twelfth Problem

- **Professor Paul Francois**, Department of Physics  
Project title: Computational model for the evolution of the gene network underlying morphological division of labour in ants

- **Professor Yajing Liu**, Department of Earth & Planetary Sciences  
Project title: Surface deformation associated with hydraulic fracturing and seismicity in the Western Canadian Sedimentary Basin

- **Professor Anna Weinberg**, Department of Psychology  
Project title: Neural development in anemic Bangladeshi infants before and after iron supplementation

- **Prof. Timothy Merlis**, Department of Atmospheric & Oceanic Sciences  
Project title: Real-time climate change attribution of extreme weather events

Dean Lennox would like to invite the above recipients to give an update on their very interesting and creative projects at the Faculty meeting on 21 May 2019.

**(2) Dr. John Blachford**, a generous and devoted philanthropist, is an entrepreneur at heart. Dr. Blachford designated a very large endowment for annual professorships and prizes in the Faculty of Science that would fund pre-commercial activities for ingenious ideas that could be converted into a prototype or be scaled up so that the inventor could then go further and bring the researcher's invention to market. There are two types of Fessenden Awards: (i) The Fessenden Professorship Awards and (ii) the Fessenden Innovation Prizes, which are available to undergraduate and graduate students to support ideas that may develop into technologies or services. The Fessenden Program has funded 20 projects in the last 10 years, resulting in nine start-up companies. For the 2017-2018 competition, there are two recipients of the Fessenden Professorship Awards, and four recipients of the Fessenden Innovation Prizes:

**(i) Fessenden Professorship Awards:**

- **Prof. David Cooke**, Department of Physics  
Project title: Novel particle accelerator platform based on terahertz waveguides  
Value: \$70,000 for one year

- **Prof. Theo van de Ven**, Department of Chemistry  
A novel process for producing textile from chemical pulp  
Value: \$60,000 for one year

**(ii) Fessenden Innovation Prizes (Value up to \$5000 depending on the project):**

- **Sisi Chen (Atmospheric and Oceanic Sciences) \$3,500**

Project title: SeeClouds: A Machine-Learning Based Cloud Identification Application for Everyone

- **Charles Xu (Biology) \$5,000**



and students. One main business item was the final presentation of the University Budget for 2018-19. Provost Senator Manfredi noted that salaries are the largest expenditures and their growth must be kept at a reasonable level. He explained that stronger controls

