

FACULTY OF SCIENCE
Meeting of Faculty
24 October, 2017
Leacock Council Room - L232

ATTENDANCE: As recorded in the Faculty Appendix Book

DOCUMENTS: S-17-2 (Revised), S-17-3 to S-17-5, S-17-8 to S-17-11

Dean Lennox called the meeting to order at 3:00 p.m.

1) ADOPTION OF AGENDA

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

The motion carried.

2) RESOLUTION ON THE DEATH OF EMERITUS PROFESSOR ALLAN S. HAY, DEPARTMENT OF CHEMISTRY

On behalf of Prof. David N. Harpp, Dean Lennox read the Resolution on the Death of Emeritus Professor Allan S. Hay.

It is with great sadness that we announce the passing of our friend and colleague Allan S. Hay, who passed away peacefully on August 14, 2017. Prof. Hay had an international reputation as one of the most creative and productive polymer synthesis chemists of all time. He made landmark discoveries in reactions leading to polymers/plastics that have had enormous impact on commercial products for the last 50 years.

Allan Hay received a B.Sc. and M.Sc. from the University of Alberta (1950, 1952), and a Ph.D. in Organic Chemistry from the University of Illinois in 1955. He was a research chemist and later manager at General Electric Research Laboratory in New York, where his creativity and remarkably ingenious organic reactions (e.g., "polymerization by oxidative coupling") led to development of GE's PPO® and Noryl® thermoplastic resins, which offered a lightweight, inexpensive alternative to metal alloys in a host of applications. PPO and its blends now have worldwide sales of over \$1.5 billion. He also oversaw the development and commercialization of ULTEM®, a high temperature polyimide resin manufactured worldwide.

Allan Hay retired from GE in 1987 and started his second career as a professor of polymer chemistry at McGill University, where he directed the research and supervised the training of several dozen masters, doctoral, and post-doctoral students. He held the GE/NSERC Chair of Polymer Chemistry (1987-95), and Tomlinson Chair in Chemistry (1997-2014). He was promoted to Emeritus to the rank of Emeritus Professor upon formally retiring in 2000; however, he remained active doing research in the Department until 2014, when he moved back to Niskayuna, New York. Prof. Hay published over 300 papers in international peer reviewed journals and was an inventor on over 100 U.S. patents. He was a fellow of the New York Academy of Sciences, the American Association for the Advancement of Science, the Royal Society of London, and the American Institute of Chemists. Prof. Hay's list of prizes and awards is representative of the breadth of impact that he had. Among these are the Society of Plastics Engineers International Award and Gold Medal (1975), the Achievement Award

of the Industrial Research Institute (1984), and the Macromolecular Science and Engineering Award of the Chemical Institute of Canada (1998). In 1987 he was awarded an honorary Doctor of Science degree from his alma mater, the U of Alberta.

He was predeceased by his wife of 48 years, Janet Hay, in 2004, and is survived by his four children, Randall, Bruce, Lauren and Susan and 10 grandchildren. Dr. Hay had a clear passion for science and mentoring younger colleagues. He also loved spending time at his second home in Glenburnie on Lake George, where he enjoyed reading, gardening, hiking, and outdoor activities with family and grandchildren.

The motion passed unanimously.

3) CANDIDATES FOR DEGREES (For Information)

203.1 Director (Advising Services) Nicole Allard said that due to the date of the Senate Steering Committee meeting, which was held prior to the current Faculty meeting, the B.A. & Sc. and B.Sc. degree lists were presented to Faculty for information only. The degree lists had been e-mailed to chairs/directors for approval, and as part of this process, the chairs/directors had given the Dean discretionary power to make such changes as would be necessary to prevent injustice.

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|--|---------------|
| a) Bachelor of Arts and Science | S-17-4 |
| b) Bachelor of Science | S-17-5 |

203.2 Director Allard said that there were 16 candidates for the B.A. & Sc. and 77 for the B.Sc. These numbers were very similar to those of the previous year.

Director Allard said that the honorifics cut-offs for the B.A. & Sc. and B.Sc. degrees were:

B.A. & Sc.:

- Dean's Honour List (top 10%) – 3.79 CGPA
- Distinction (next 15% below top 10%) – 3.68 CGPA

B.Sc.:

- Dean's Honour List (top 10%) – 3.93 CGPA
- Distinction (next 15% below top 10%) – 3.80 CGPA

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|----------------------------------|---------------|
| c) Diploma in Environment | S-17-6 |
| d) Diploma in Meteorology | S-17-7 |

Director Allard said there were no students graduating with either diploma.

203.3 Director Allard thanked departmental and Faculty advisors for their hard work in putting together the degree lists.

4) MINUTES OF 12 SEPTEMBER, 2017 **S-17-3**

Prof. Stephens **moved**, seconded by Prof. Lydon, that the Minutes be approved.

The motion carried.

5) BUSINESS ARISING FROM THE MINUTES

There was no business arising from the Minutes.

6) **REPORTS OF COMMITTEES**

a) **Nominating Committee**

S-17-2 (Revised)

206.1 Dean Lennox said that the membership of the following three standing Committees was not approved at the Faculty meeting held on 12 September, 2017. The membership was now complete and it was being brought back to Faculty for approval.

(4) Committee on Student Standing

Prof. Roulet **moved**, seconded by Prof. Paquette, that the membership be approved.

The motion carried.

(7) Leo Yaffe & Principal's Prizes Committee

Prof. Grütter **moved**, seconded by Prof. Kemme, that the membership be approved.

The motion carried.

(8) B.A. & Sc. Program Administration Committee (PAC)

Prof. Lydon **moved**, seconded by Prof. Blanchette, that the membership be approved.

The motion carried.

206.2 Dean Lennox said that with regard to the Academic Committee, a member from the Department of Biochemistry will be announced at a future Faculty meeting.

b) **Academic Committee**

S-17-8

The following proposals were approved at the Academic Committee meeting on 26 September, 2017:

I. COURSE REVISIONS

(i) Cognitive Science

COGS 444, 444D1/D2, 444N1/N2

AC-17-1

Honours Research
Change in description
6 credits

206.3 Associate Dean Hundemer said that students were previously required to choose two areas of cognitive science, but with the proposed changes students will be required to focus on one area.

Prof. Grütter **moved**, seconded by Prof. Paquette, that the changes be approved.

The motion carried.

(ii) Mathematics & Statistics

MATH 700

PhD Comprehensive Exam Part A
Change in title
Credits: 0

AC-17-8

MATH 701

PhD Comprehensive Exam Part B
Change in title
Credits: 0

AC-17-9

206.4 Associate Dean Hundemer said that the new titles of the above courses better reflect the type of examination.

Prof. Neslehova **moved**, seconded by Prof. Stephens, that the changes be approved.

The motion carried.

(iii) Chemistry

CHEM 115	Acc Gen Chem: Giants in Sci Course retirement 4 credits	AC-17-11
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206.5 Associate Dean Hundemer said that CHEM 115, in an attempt to offer an accelerated Chemistry course (two courses in one), was being retired since it was not popular with students.

Prof. Mittermaier **moved**, seconded by Prof. Gyakum, that the changes be approved.

The motion carried.

CHEM 183	World of Chem: Drugs Removal of restriction 3 credits	AC-17-12
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206.6 Associate Dean Hundemer said that the change involved the deletion of an old course number in the restriction.

Prof. Mittermaier **moved**, seconded by Prof. Gyakum, that the changes be approved.

The motion carried.

CHEM 267	Intro Chemical Analysis Change in prerequisites 3 credits	AC-17-13
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206.7 Associate Dean Hundemer explained that since CHEM 115 (above) was being retired, CHEM 115 was being removed from the list of prerequisites.

Prof. Mittermaier **moved**, seconded by Prof. Stephens, that the changes be approved.

The motion carried.

CHEM 367	Instrumental Analysis 1 Change in prerequisites 3 credits	AC-17-14
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206.8 Associate Dean Hundemer said that the proposed change was to reflect that two courses (CHEM 287 and CHEM 297) had previously been consolidated into one course.

Prof. Mittermaier **moved**, seconded by Prof. Gyakum, that the changes be approved.

The motion carried.

CHEM 396	Undergraduate Research Project Change in restriction 3 credits	AC-17-15
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206.9 Associate Dean Hundemer said that the revised restriction explicitly stated that CHEM 396 can only be taken as an Elective course and cannot be taken to fulfill a program requirement. For consistency purposes, he would recommend that all 396 undergraduate research project courses include the restriction. Director Allard added that 396 courses were intended to be taken as Elective courses.

Prof. Mittermaier **moved**, seconded by Prof. Roulet, that the changes be approved.

The motion carried.

CHEM 400	Independent Study in Chemistry Change in restriction 1 credit	AC-17-16
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206.10 Associate Dean Hundemer said the revised restriction reflects the current practice that students request permission from the instructor to take CHEM 400, instead of the Director of Undergraduate Studies.

Prof. Mittermaier **moved**, seconded by Prof. Gyakum, that the changes be approved.

The motion carried.

CHEM 493, 493D1/D2	Advanced Physical Chem Lab Changes: description, prerequisites 2 credits	AC-17-17
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206.11 Associate Dean Hundemer explained that the changes involved the removal of two old courses (CHEM 253, CHEM 263) which were merged into one course (CHEM 283).

Prof. Mittermaier **moved**, seconded by Prof. Gyakum, that the changes be approved.

The motion carried.

II. PROGRAM REVISIONS:

(i) Pharmacology

- Major in Pharmacology
- Honours in Pharmacology

AC-17-2

AC-17-3

206.12 Associate Dean Hundemer said the proposed changes included a new course, COMP 204. Furthermore, a broad range of Complementary courses were added to provide flexibility.

Prof. Blanchette **moved**, seconded by Prof. Gyakum, that the changes be approved.

The motion carried.

(ii) Geography

- Major in Geography

AC-17-4

206.13 Associate Dean Hundemer said that the Major in Geography program was revised in Winter 2017, but one course was erroneously left out. The proposed changes will include GEOG 530 (Global Land and Water Resources) to the list of Approved Geography Courses.

Prof. Roulet **moved**, seconded by Prof. Kalacska, that the changes be approved.

The motion carried.

- Honours in Geography

AC-17-5

206.14 Associate Dean Hundemer said the changes in the Honours in Geography were to align it with the Major in Geography. The Honours in Geography program requires students to take two additional courses (nine credits).

Prof. Roulet **moved**, seconded by Prof. Kalacska, that the changes be approved.

The motion carried.

- Liberal Core Science Component in Geography

AC-17-6

206.15 Associate Dean Hundemer said the revised Liberal program will now align with the Major in Geography, with the exception of a lower program credit weight. The revised Liberal program has fewer Required courses, and offers more Complementary courses, allowing more flexibility.

Prof. Roulet **moved**, seconded by Prof. Kalacska, that the changes be approved.

The motion carried.

- Minor in Geography

AC-17-7

206.16 Associate Dean Hundemer said the proposed changes in the Minor in Geography offers more flexibility, and fewer Required courses.

Prof. Roulet **moved**, seconded by Prof. Gyakum, that the changes be approved.

The motion carried.

III. OTHER:

- Course and Program Consultations

206.17 Associate Dean Hundemer reminded members to take the course and program consultation process very seriously. Whenever departments submit course or program changes that may affect programs in other departments, it is really important to contact the relevant department in a timely fashion. If consultation for courses or programs are requested by other units, the departmental undergraduate curriculum committees should discuss and approve the proposals. He said that there have been issues in the past where only one person in a department responded to the consultation request, and as a result, no one else in the department had been aware of the issue. Associate Dean Hundemer recommended that consultation reports be brought to departmental undergraduate curriculum committees for formal approval, which would avoid needless complications and issues in the future.

206.18 Dean Lennox said that he fully supported the importance of proper consultation and that it should be viewed as a formal approval process. He said that a thorough review was crucial especially if the proposal stems from a Faculty outside the Faculty of Science. If necessary, Dean Lennox suggested that the proposer be invited to a departmental meeting for clarity and further information. He warned members that once the proposal was approved by the University, the decision was irrevocable.

7) DEAN'S BUSINESS

a) Announcements

Faculty Kudos

207.1 Congratulations to **Professor Peter Grütter**, *Department of Physics*, for being elected Fellow of the American Physical Society. Dean Lennox said that it was a great honour to have been elected, and very few Canadians are elected.

207.2 Congratulations to **Professor Daryl Haggard**, *Department of Physics*, for being chosen as a CIFAR-Azrieli Global Scholar, for her discovery of a gravitational wave caused by the merger of two neutron stars. The program is a two-year appointment to support young researchers.

2017 Undergraduate Research Conference (URC)

207.3 The 13th annual Faculty of Science URC will be held on Thursday, 26 October, 2017. At 12 noon there will be a poster display followed by a panel of expert judges to adjudicate the projects, and certificates and awards will be awarded. Associate Dean (Research) Doina Precup will give the keynote address, entitled, "Artificial Intelligence in the 21st Century." Following the talk, there will be a Wine and Cheese Reception in the lobby of the Arts Building. Dean Lennox encouraged faculty members to attend this important and deserving event.

In discussion with the Teaching & Learning Services (TLS), Dean Lennox said that the Faculty of Science's URC will be the template for a University-wide undergraduate research day.

Bellairs Research Institute

207.4 A review of the Bellairs Research Institute in Barbados will begin in the near future. McGill has owned the Institute for 60 years. Some of the activities that are held at Bellairs are research workshops, the Barbados Interdisciplinary Tropical Studies (BITS) and the Barbados Field Study Semester (BFSS). There will be a series of reviews of the various field stations such as the: (i) Gault Nature Reserve (Mont-Saint-Hilaire, QC); (ii) McGill Arctic Research Station (Central Axel Heiberg Island, Nunavut); (iii) McGill Subarctic Research Station (Schefferville, QC); and (iv) Panama Field Study Semester (Smithsonian Tropical Research Institute, Panama). The long-term plan will be to amalgamate these stations into a network. Dean Lennox thanked **Prof. Virginie Millien**, the new Director of the Gault Nature Reserve, for leading the Bellairs' review with staff in the Faculty of Science. Dean Lennox said that the outcome he is seeking is a strategic academic and operational plan for field stations.

Teaching Initiatives

207.5 Dean Lennox said that some plans are being firmed up for both departmental and Dawson Hall initiatives in enhancing undergraduate teaching, whereas other plans are still in progress. Some of the projects that have been approved include the creation of a trans-departmental laboratory course at the Gault Nature Reserve, involving the Departments of Earth & Planetary Sciences, and Geography. Another initiative is to create a detailed mapping of departmental curriculum, all with a view to identifying gaps in topics and reduce repetition in courses and programs, to ensure students are being offered coherent programs. Another idea would be to design an accelerated review or a boot-camp introductory Calculus course for incoming students, with the aim that every student will be successful. Dean Lennox said that funds are available for implementing these initiatives.

Faculty Budget

207.6 Dean Lennox said the Faculty budget planning process for the following year had just started. In terms of delivering quality research and teaching, he said the budget would be entirely focused on filling the gaps in “human” infrastructure in the Faculty of Science.

Stewart Biology Building

207.7 The demolition of the Stewart's West Wing has been underway, and Dean Lennox was pleased to report that the demolition has been going very well.

b) Dean’s Multidisciplinary Undergraduate Research List (DMURL) S-17-9

207.8 Director Allard said that the DMURL provides recognition for students who have completed at least 9 credits of graded research-based courses in at least two different units, and who have a minimum GPA of 3.00 on these courses. She said that six B.Sc. students and one B.A. & Sc. student would be graduating with this honour. Director Allard said it was remarkable that out of the seven students, three students completed 12 credits of independent research course, and one student completed 15 credits.

c) B.Sc. Global Designation S-17-10

207.9 Director Allard said that the B.Sc. Global was a designation 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, chosen from various preselected options. For the upcoming graduation ceremony, there is one candidate who would graduate with the B.Sc. Global designation.

d) Enrolment S-17-11

207.10 Associate Dean Hundemer presented the 2017 Fall registrations for U0, U1, U2, U3, by Faculty and Year. He said that there was a 2.8% increase in the B.Sc. degree compared with Fall 2016. For the B.A. & Sc. degree, there was a decrease of approximately 10%, which was surprising. In the Faculties of Arts, and of Engineering, there was an increase in registration by 4.3% and 2.3%, respectively. He said the increase in these two Faculties have an impact on the Faculty of Science.

207.11 Associate Dean Hundemer went over the registrations for the previous years. In Fall 2012 and 2013, the Faculty of Science's registration was very high, and then there was a decrease in Fall 2014 and 2015. He noted that the registration for Fall 2017 was very close to the one in Fall 2012. To be considered in future years is whether to go back to Fall 2014 and 2015 registrations.

207.12 Associate Dean Hundemer said that U1 students apply to one of three groups:

- Biological, Biomedical and Life Sciences (BBL group)
- Physical, Earth, Math and Computer Science (PEMC group)
- Neuroscience (NEUR group)

207.13 Concerning newly admitted Science students for Fall 2016 and 2017, Associate Dean Hundemer said that the BBL group increased, and the increase surpassed the Provost's target. In the PEMC group, enrolment decreased from Fall 2016 to Fall 2017, but less than the Provost's target. He said the total percentage of students in the PEMC group was slightly lower than in Fall 2016. In Fall 2016, the long term goal was to increase the PEMC group to roughly 40%. There was quite an increase in the NEUR group, considerably above the Provost's target.

207.14 As part of the admissions process, applicants to McGill are split into different pools: CEGEPs, Ontario high schools, rest-of-Canada high schools, U.S. high schools and overseas high schools. Associate Dean Hundemer said that the registration from CEGEP students was higher than the target for the B.Sc. degree. There was some concern in previous years that there was a decline in incoming CEGEP students. The

increase from CEGEPs was perhaps an attempt at recruiting more students from CEGEPs.

- 207.15** Associate Dean Hundemer went over the R Score cut-offs for newly admitted students from CEGEPs. In the BBL group, he said the R Score average of students admitted in Fall 2017 was 31.3, whereas the average for students admitted to the PEMC was 31.5. He pointed out that the R Score cut-off for both groups was considerably lower (28) than the average. In the NEUR group, the R Score average was 33.7, which was higher than the R Score cut-off (32.5). Note that the Neuroscience programs are limited-enrolment. Associate Dean Hundemer said that he had just received the R Score cut-offs, and that he would be circulating them.
- 207.16** In reply to a member, Associate Dean Hundemer said that he had had a few questions about computer science programs as a second degree. Also, he would look into the breakdown of CEGEP and Non-CEGEP students registering for the BBL group vs. PEMC.
- 207.17** Dean Lennox said that the Faculty of Science was in the process of examining the number of B.A. and B.Eng. students enrolled in Science courses.

8) REPORTS OF ASSOCIATE DEANS

a) Director (Advising Services) Nicole Allard

There was no report.

b) Associate Dean (Academic) Axel Hundemer

There was no report.

c) Associate Dean (Graduate Education) Laura Nilson

- 208.1** Associate Dean Nilson reminded members that once again, the GPS has distributed funding for research travel awards, the Graduate Mobility Awards (GMAs). The GMAs were intended to encourage graduate students to travel abroad (anywhere outside Québec) to complement or enhance their research projects. The GMAs were not intended to support travel to conferences. Associate Dean Nilson said that the budget for the 2017-2018 academic year was approximately \$170,000. As was done in 2016-2017, three competitions were being held, and in addition, the GMA applications will be reviewed on an ad hoc basis, if necessary. She said that the Faculty sends periodic email announcements for these competitions, however, it had come to her attention that perhaps the announcements were not being communicated to everyone. Associate Dean Nilson said that the Faculty will continue to send email announcements, and she hoped that members would help in getting the word out about the GMAs at a departmental meeting, etc. She encouraged members to take advantage of this important opportunity for graduate students.

d) Associate Dean (Research) Doina Precup

- 208.2** On behalf of Associate Dean Precup, Dean Lennox announced that five out of eight NSERC Strategic Grants awarded to McGill were given to members of the Faculty of Science, which received a total of \$3.2M over three years. McGill was ranked as number one in Canada in terms of Strategic Grants. He would like the recipients of the Strategic Grants to share their experience in putting together the grant applications. Dean Lennox said he would like to encourage more NSERC Strategic Grants and NSERC Collaborative Research and Development Program (CRD).

9) **REPORT ON ACTIONS OF SENATE**

The report of the Senate meeting held on 12 September, 2017, will be postponed to the next Faculty meeting.

10) **MEMBERS' QUESTION PERIOD**

There were no members' questions.

11) **OTHER BUSINESS**

There being no further business, Prof. Roulet moved, seconded by Prof. Lydon, that the meeting be adjourned at 4:10 p.m.

The motion carried.