

**FACULTY OF SCIENCE  
Meeting of Faculty  
Thursday, 21 May 2015  
Leacock Council Room – L232**

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

**DOCUMENTS:** **S-14-22** to **S-14-29**

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

**(1) ADOPTION OF AGENDA**

Item #9, Reports on Actions of Senate, on behalf of Senator Masad Damha, Senator David Harpp will report on the Senate meeting of March 18, 2015, after Item #6.

Prof. Mucci **moved**, seconded by Prof. Lydon, that the amended Agenda be approved.

**The motion carried.**

**(2) RESOLUTION ON THE DEATH OF SHEW-KUEY (TOMMY) MARK, SIR WILLIAM C. MACDONALD PROFESSOR EMERITUS OF PHYSICS**

**902.1** Professor Charles Gale from the Department of Physics, read the Resolution on the Death of Emeritus Professor of Shew-Kuey (Tommy) Mark.

Dear colleagues of the Faculty, it is with regret that I inform you of the passing of Macdonald Professor Emeritus of Physics Tommy Mark, on Friday March 13<sup>th</sup>, 2015, at the age of 78.

Tommy was an undergraduate and graduate student at McGill, and obtained his PhD in Physics here in 1965. After a postdoctoral stay at the University of Manitoba, he returned to McGill as a Faculty Lecturer in 1966, and was appointed Assistant Professor the following year. He rose through the ranks and was appointed full Professor in 1975. Tommy's research interests were diverse, but a central theme of his academic studies remained the many fascinating properties of the atomic nucleus and of nuclear matter. Early on in his career, his careful measurements of nuclear reactions fueled the development of the theoretical nuclear optical model. In 1971 – only a year after being promoted to associate professor – Professor Mark was named Director of the Foster Radiation Laboratory, succeeding such distinguished scientists as J. S. Foster and Bob Bell. He secured substantial new funding for the laboratory that brought new energy to the lab, which then made great strides in its new research on unstable nuclei. He also pursued other interests in physics outside the Foster Lab. For example, in collaboration with his students and colleagues, Tommy participated in experiments at l'Université de Montreal, at McMaster University, and at the Chalk River Nuclear Laboratories.

In 1982, soon after returning from a sabbatical leave, Professor Mark became Departmental Chair, a position he held for two consecutive terms, totaling eight years. Without question, Tommy was one of the most important and effective Chairs of Physics in the modern history of McGill, and led a major renaissance in the department. During his tenure as Chair, the undergraduate and graduate enrolment increased considerably, and the many strong appointments he made

have reshaped the department and indeed, much of Canadian physics. This influence is still felt today. His stellar career as an academic administrator was not limited to Physics: in addition to several positions at McGill, he was an elected member of the MAUT Council, and he served on the University Senate and on many of its sub-committees. Outside McGill, he has also served in various capacities in a number of scientific and professional organizations, learned societies and government agencies. After his terms as Chair, Tommy rolled up his sleeves, concentrated on research and entered the new field of relativistic heavy-ion physics. He was an active member of two successive experimental collaborations at the Brookhaven National Laboratory, in the US, before retiring in 2004. Tommy's lifetime of accomplishments was recognized in 2002 when he was named W. C. Macdonald Professor of Physics.

Professor Tommy Mark was one of the "iron men" of McGill, who has selflessly devoted himself to our university. His scientific and academic leadership are renowned. Throughout his career, he remained a source of inspiration to his students, be it in the lab or in the classroom. We have lost a colleague who greatly enriched the life of our institution. The Faculty of Science at McGill extends its condolences to his wife Pearl, and to his son Terence.

**The resolution was adopted unanimously.**

**902.2** Dean Grant thanked Prof. Gale for the resolution and for his moving tribute to Emeritus Professor Mark.

**(3) REPORTS OF COMMITTEES**

**a) Faculty of Science Excellence Award**

**The Committee Members were:**

**Chair:** Hans Larsson, Redpath Museum

**"M" Category:** Maria Colonna, Biology  
Antonia Di Paola, Psychology

**"C" Category:** Louise Decelles, Physics  
Paula Domingues, Atmospheric & Oceanic Sciences

**"T" Category:** Mike Dalva, Geography  
Grace Koryszko, Chemistry

**Nominees (in alphabetical order):**

- Anthony Howell, Redpath Museum
- Mark Orchard-Webb, Physics
- Anne-Marie Sdicu, Biology
- Lang Shi, Earth & Planetary Sciences

**903.1** Dean Grant, on behalf of the Chair of the Committee, Prof. Hans Larsson, read the following citation.

The committee met on 31 March 2015 and selected among four nominations for the Technician level. A majority decision was made to award Mark Orchard-Webb.

Although the top place was crowded by several candidates, Mark Orchard-Webb was selected for his particular dedication to undergraduate teaching on campus. He has performed his technical duties with excellence, by playing an integral role in the maintenance, teaching, and advancement of the Measurement Laboratory (PHYS 339) and Modern Physics Laboratory (PHYS 359/459). Beyond this, he

further developed these laboratories on his own initiative to create a novel hands-on 'tinkerer' style of environment that involves designing and building lab machines from Arduino modules and in-house programming, rather than using specialized equipment. The committee appreciated this approach to teaching and the advanced involvement of students to actual problems and solutions in laboratory studies.

**903.2** Dean Grant congratulated Mr. Orchard-Webb and presented him with a framed certificate.

**903.3** Mr. Orchard-Webb said that he was completely surprised to receive Dean Grant's telephone call informing him of the award. He thanked the Department of Physics, and the Faculty of Science Excellence Committee, and he added that Physics was the best department in the Faculty.

**b) Leo Yaffe Teaching Award – Prof. Edith Zorychta, Chair**

**903.4** Prof. Edith Zorychta, Chair, Leo Yaffe Award/Principal's Prizes Committee thanked the Committee for all their work.

**The members of the Committee were:**

Mr. Simon Bilodeau, Physics Honours  
Prof. Gary Brouhard, Biology  
Prof. Eyal Goren, Mathematics & Statistics  
Prof. Richard Koestner, Psychology  
Prof. Bernhard Lehner, Geography  
Prof. Dmytro Perepichka, Chemistry  
Prof. Alvin Shrier, Physiology  
Prof. Denis Thérien, Computer Science  
Prof. Boswell Wing, Earth & Planetary Sciences  
Ms. May Yin-Liao, Biochemistry Honours

**The nominees (in alphabetical order) for 2014-2015 were:**

- Prof. Melanie Dirks, Psychology
- Prof. Vojkan Jaksic, Mathematics & Statistics
- Prof. Michael Langer, Computer Science
- Prof. Alex Maloney, Physics
- Prof. Carlos Morales, Anatomy & Cell Biology

**903.5** The winner of the Leo Yaffe Teaching Award was **Prof. Carlos Morales** from the Department of Anatomy & Cell Biology.

Prof. Zorychta read the citation for Prof. Morales.:

**903.6**

The Leo Yaffe Award is given each year to recognize a faculty member for superior teaching at the undergraduate level in the Faculty of Science. The recipient for 2015 is Professor Carlos Morales from the Department of Anatomy and Cell Biology. For 28 years Dr. Morales has been an exceptional teacher in the classroom, an educational innovator who has progressively transformed the experience of learning histology, and a mentor who has encouraged hundreds of undergraduates to become involved in research.

Carlos Morales received his initial university degrees and research training in Argentina, then obtained a PhD from McGill and conducted further research at Washington State University before joining our academic staff in 1987. He directs a productive research team investigating lysosomal proteins, and he

teaches anatomy, the main focus being a large undergraduate class in histology where students learn the structure and function of tissues and cells – knowledge that is fundamental to all of the biomedical sciences.

When describing Professor Morales, students consistently emphasize the organization, clarity and elegance of his lectures that convey a passion for histology and its relevance to molecular biology and to everyday life. They appreciate his many strategies to make learning enjoyable, even in classes of close to 400 students. He creates analogies to help them remember details, he has a gentle sense of humor, and he finds creative ways to keep everyone alert and interested, by providing questions, provoking discussions, and adding the unexpected, including music. In the words of one of his students: *“Dr. Morales is an amazing teacher! His lectures were clear, interesting and he made them fun and dynamic. I have never had a professor that was able to explain material so well. I appreciated when he found other ways of explaining concepts to ensure that we all understood. Thank you!”*

Teaching histology has always been a challenge, because classes and textbooks must be supplemented by hours of examining tissue specimens, traditionally using a light microscope. In 2006 Dr. Morales began the process of totally transforming this aspect of the curriculum. He digitized the entire collection of histological slides, using a precision scanner combined with state-of-the-art software that simulates the use of a microscope, so that students could examine a section of tissue using a computer. The histology laboratory now promotes interactive learning, with computer stations where groups of students and a demonstrator jointly examine histological slides and discuss their observations. Students can subsequently study and review the material at any time on their own. The experience is conveyed by a typical comment: *“I really enjoyed this course. At the beginning, I was looking at the histological slides thinking I would never be able to figure out what this ‘pink and purple’ stuff is. Now that we are at the end, I am confident in my abilities.”* Through the dedication and determination of Carlos Morales, McGill became the first university in Canada to implement digital histology, and the advantages are now universally recognized.

Carlos has extended his education to the public domain through a facebook site presenting digital images of cells and tissues as beautiful works of art. Each picture is accompanied by a clear explanation of the role of its cells in health and disease. The images are captivating, and uniquely effective in generating appreciation for the elegance and diversity of the cellular structures that we are made of.

Dr. Morales has been a tireless promoter of the importance of involving undergraduate students in experimental research, and he has personally supervised 70 undergraduate research projects in his own laboratory. This opportunity has been invaluable, and initiated a successful career for many former students who are now scientists and university professors around the globe. He has also provided advice and guidance to countless others, and students repeatedly comment on the significance of his care for them as individuals and his contributions in helping them succeed.

In summary, Professor Carlos Morales is an exceptional teacher and an innovative leader who has motivated thousands of McGill students and developed highly effective strategies to help them learn. His influence on education has extended to other universities and to the public at large, and he is an ideal recipient of the Leo Yaffe Award.

- 903.7 Unfortunately, Prof. Morales was unable to attend the meeting.
- 903.8 Dean Grant thanked Prof. Zorychta for her lovely citation. He congratulated Prof. Morales, in his absence, and said the award would be presented at Convocation.

(4) **CANDIDATES FOR DEGREES**

- 904.1 Director (Advising Services) Nicole Allard thanked everyone involved in preparing the degree lists.
- a) **Bachelor of Arts and Science** **S-14-23**  
 b) **Bachelor of Science** **S-14-24**

904.2 Director Allard said there were 96 graduands for the B.A. & Sc. degree, and 805 for the B.Sc. degree. The corresponding figures for 2014 were 86 and 822.

- 904.3 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 - 3.86 CGPA (same for 2014)  
 - Distinction – 3.69 CGPA (3.70 for 2014)
- B.Sc.:**  
 - Dean's Honour List - 3.93 CGPA (3.91 for 2014)  
 - Distinction – 3.80 CGPA (same for 2014)

Director Allard **moved**, seconded by Prof. Moore, 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.**

Director Allard further **moved**, seconded by Prof. Gale, 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.**

- c) **Diploma in Environment** **S-14-25**  
 d) **Diploma in Meteorology** **S-14-26**

There were no students graduating with either Diploma.

(5) **MINUTES OF MARCH 17, 2015** **S-14-22**

Prof. Mucci **moved**, seconded by Prof. Hurtubise, that the Minutes be approved.

**The motion carried.**

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

There was no business arising from the Minutes.

(7) **REPORTS OF COMMITTEES (CONTINUED)**

- c) **Scholarships Committee** **S-14-27**

**907.1** Associate Dean Kaspi said that there were four candidates interviewed for the Moyse Travelling Scholarship, and the Sub-committee selected **Mr. Lou Beaulieu-Laroche**, First Class Honours in Neuroscience. In addition, she announced that the Governor General's Silver Medal was awarded to **Mr. Alexander Gordon Hofkirchner**, First Class Honours in Biology, Quantitative Biology Option. She thanked Associate Dean (Academic) Tamara Western for fiercely fighting for the Science nominee to receive this medal. In the past 27 years, Science has received 26 of these medals. The medal will be presented at the Faculty of Science Convocation ceremony on 2 June 2015. Associate Dean Kaspi drew members' attention to the departmental awards in the Scholarships Report, S-14-27.

**d) Academic Committee S-14-28**

**907.2** On behalf of Associate Dean Western, Director Allard introduced the Academic Committee Report.

**The Academic Committee approved the following on Tuesday, 28 April 2015:**

**(1) MCGILL SCHOOL OF ENVIRONMENT**

***New Course:***

ENVR 421 Mtl Envr Hist & Sustainability **AC-14-75**  
3 credits

***New Course:***

ENVR 422 Mtl Urban Sustainability Anal **AC-14-76**  
3 credits

**907.3** Director Allard said that there had been some discussion at the Academic Committee meeting about the Participation grade, but that the issue had been resolved satisfactorily.

**907.4** A member pointed that the old course title for ENVR 421 (Unearthing Montreal) had been inadvertently used several times in the above course proposals.

**Secretary's Note:** The issue has now been rectified.

Director Allard **moved**, seconded by Prof. Roulet, that the above courses be adopted.

**The motion carried.**

**Courses Added to MSE Programs**

ENVR 421/ENVR 422 **AC-14-77**

**907.5** Director Allard **moved**, seconded by Prof. Roulet, that the addition of ENVR 421 and ENVR 422 to Environment programs, as described in Document #AC-14-77, be approved.

**The motion carried.**

**(2) GEOGRAPHY**

***New Course:***

GEOG 384 Principles of Geospatial Web **AC-14-78**  
3 credits

**907.6** GEOG 384 will be added as a Complementary course to the Minor in Geographic Information Systems and Remote Sensing.

Director Allard **moved**, seconded by Prof. Roulet, that the above course be adopted.

**The motion carried.**

**(3) CHEMISTRY**

**- B.A. & Sc. and B.Sc. Program Revisions:**

B.A. & Sc. Major Concentration in Chemistry

**AC-14-81**

**907.7** Director Allard said that the changes provided students with more background in physical chemistry, allowing students greater flexibility, and additionally provided more options at the 400- and 500-level.

Director Allard **moved**, seconded by Prof. Lydon, that the changes be approved.

**The motion carried.**

B.Sc. Liberal – Core Science Component Chemistry – Biological **AC-14-82**

**907.8** The changes corrected a previous mistake in credit count and also provided more flexibility.

Director Allard **moved**, seconded by Prof. Harpp, that the changes be approved.

**The motion carried.**

B.Sc. Liberal – Core Science Component Chemistry – General **AC-14-83**

**907.9** The changes reflected previous changes to the Major and Honours Programs in Chemistry, and provided students with more flexibility.

Director Allard **moved**, seconded by Prof. Harpp, that the changes be approved.

**The motion carried.**

B.Sc. Minor in Chemistry

**AC-14-84**

**907.10** The changes allowed students to expand their options.

Director Allard **moved**, seconded by Prof. Gale, that the changes be approved.

**The motion carried.**

**- B.Sc. Program Retirement:**

B.Sc. Liberal – Core Science Component Chemistry – Physical

**AC-14-85**

**907.11** Due to lack of enrolment, the program was being retired.

Director Allard **moved**, seconded by Prof. Lennox, that the program be retired.

**The motion carried.**

**(4) EARTH & PLANETARY SCIENCES**

EPSC 549

Hydrogeology

**AC-14-79**

Change in course activities

3 credits

**907.12** The change reflected current content of the course.

Director Allard **moved**, seconded by Prof. Lennox, that the changes be approved.

**The motion carried.**

(5) **BIOLOGY**

BIOL 352

Vert Evol: Dinosaurs & Mammals

**AC-14-80**

Changes: title, description, prerequisites

3 credits

**907.13** The title and description changes better reflected the current course content. An alternative prerequisite was being added.

Director Allard **moved**, seconded by Prof. Green, that the changes be approved.

**The motion carried.**

(6) **BIOCHEMISTRY**

BIOC 404

Biophysical Methods in Biochem

**AC-14-86**

Changes: title, description, restriction

3 credits

**907.14** The changes better reflect the course as currently taught. Additionally, housekeeping changes were made.

Director Allard **moved**, seconded by Prof. Mucci, that the changes be approved.

**The motion carried.**

(8) **DEAN'S BUSINESS**

(a) **Dean's Multidisciplinary Undergraduate Research List**

**S-14-29**

**908.1** 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 the B.Sc. students and B.A. & Sc. students listed in Document #S-14-29 would be graduating with this honour.

(b) **Announcements**

**908.2** Dean Grant made the following announcements, and congratulated those recognized.

**908.3** - **Fessenden Professorships in Science Innovation**

**Ranked 1<sup>st</sup>**

Prof. Kaleem Siddiqi, School of Computer Science

Project: The award recognizes Prof. Siddiqi's work in **Modeling Heart Wall Myofibers**

**Ranked 2<sup>nd</sup>**

Prof. C.-J. Li, Department of Chemistry

Project: The award recognizes Prof. Li's work in **Catalytic Conversion of Methane and Natural Gas into High-Valued Aromatics, Hydrogen, and Liquid Fuels**

**908.4** - **Principal's Prize for Outstanding Emerging Researcher**

Paul François, Department of Physics

Joelle Pineau, School of Computer Science

This prize celebrates outstanding early-career researchers at McGill, and will be presented at Convocation.

**908.5 - Killam Prize for the Natural Sciences**  
Victoria Kaspi, Department of Physics

**908.6 - Chairs, Directors, Associate Dean  
Outgoing Chair/Director:**  
Jacques Hurtubise, Department of Mathematics & Statistics  
David Green, Director, Redpath Museum  
Jennifer Kambhampati, Director of Development

Dean Grant thanked Prof. Hurtubise, Prof. Green and Ms. Kambhampati for their excellent work over the years in the Faculty of Science.

**908.7 Incoming Chair/Director**  
David Stephens, Department of Mathematics & Statistics  
Hans Larsson, Redpath Museum

Dean Grant welcomed Prof. Stephens and Prof. Larsson to their new positions.

**908.8 Outgoing Associate Dean (RAGE)**  
Vicky Kaspi, Department of Physics  
Dean Grant thanked Associate Dean Kaspi for her service as Associate Dean (RAGE). Her term will finish at the end of June 2015.

**Incoming Associate Dean (RAGE) – TBA**

**908.9 - Anthony Kiang Recognition Event**  
Dean Grant said that the third annual Anthony Kiang Recognition event had been held prior to the current meeting, in the courtyard of RVC. Hamburgers, hot dogs, beer and lemonade had been served. Dean Grant said that the event would be held again each year before the final Faculty meeting. He mentioned the event had been endowed by Prof. Jim Prentice and his wife. Prof. Prentice was a now-retired professor from the University of Toronto, and he had originally wished to endow the event at U. of T., but the university had refused the gift. Consequently, the endowment was given to McGill's Faculty of Science. If anyone had missed the event this year, Dean Grant recommended that they attend in future years.

**(9) REPORTS ON ACTIONS OF SENATE**

**909.1** Please note that the entire Minutes of Senate are available on the Web at <http://www.mcgill.ca/senate/senate-2014-2015/senate-meeting-documents>

Senate Meeting of March 18, 2015 - Senator David Harpp on behalf of Senator Masad Damha:

In her remarks from the Chair, Principal Fortier described the proposal to develop the soon-to-be-vacant Royal Victoria Hospital into an academic and research space, and Minister Robert Poëti announced that the government will be working with McGill to study this concept; costs for the study will be split half-and-half between McGill and Quebec. Chancellor Emeritus Steinberg will be chairing an advisory committee on McGill's upcoming 2021 bicentennial; the celebration will span one-and-a-half years, from January 2020 to June 2021.

The provincial government announced that it had granted approximately \$9M to McGill to support green chemistry. Principal Fortier indicated that these funds had been requested by McGill in connection with the recent establishment of a Canada Excellence Research Chair in Green Chemistry and Green Chemicals, and V.P. Goldstein added that the funds would be used to pay for infrastructure.

The next agenda item was the report from Graduate and Postdoctoral Studies, which was presented by Dean Kreiswirth. In the discussion that followed, Senator Zorychta drew attention to the space issues affecting the students who have moved to the MUHC Research Institute at the Glen site. Dean Kreiswirth responded that space issues are very critical in some portions of the University, and that the question to consider is whether we can make sure that space problems are reported and dealt with. He indicated that McGill is working on the problem. Senator Murray stated that PGSS has received many complaints about the move to the Glen site, and that information and resources on this issue -- which was already raised in Senate last fall -- are still lacking. She proposed that a working group be set up to look into how students and faculty at the Glen site are managing, and that this group present a preliminary report to Senate in May. Dean Kreiswirth indicated that he would consult with the Dean of Medicine and get back to Senate on this matter.

Provost Masi and V.P. DiGrappa presented the McGill University staffing report for 2014 ([https://www.mcgill.ca/senate/files/senate/d14-45\\_staffing\\_report\\_2014\\_with\\_appendix\\_1.pdf](https://www.mcgill.ca/senate/files/senate/d14-45_staffing_report_2014_with_appendix_1.pdf)). Senator Cooke asked whether the figures for administrative and support staff could be broken down into categories for permanent and non-permanent staff; she noted that this would be helpful in view of the risks of McGill losing non-permanent staff, whose valuable training is lost when they leave the University. V.P. DiGrappa responded that this could be done in a later report; he added that staff departures from McGill are not limited to non-permanent staff.

Provost Masi reported that these numbers are not easy to sort out, but noted that lecturers at McGill include people in many different situations for whom teaching is not a full-time job -- for example, graduate students who teach during the summers, individuals employed outside McGill who teach one or two courses at one of the University's professional schools, and hospital staff members who teach medical courses without being full-time academics. McGill's practice is to try to have undergraduate teaching handled by tenure-track academic staff, except in those cases where it is necessary to do otherwise.

Deputy-Provost Dyens and University Registrar Massey presented the annual report on Enrolment and Strategic Enrolment Management.

Senate Meeting of April 22, 2015 – Senator Graham Bell will present his report at a future Meeting.

Senate Meeting of May 12, 2015 – Senator David Harpp will present his report at a future meeting.

**(10) MEMBERS' QUESTION PERIOD**

There were no members' questions.

**(11) OTHER BUSINESS**

**911.1** Prof. Hurtubise said that although many of Dean Grant's achievements in his ten years as Dean, including staff renewal, undergraduate research, Fessenden Professorships and Prizes, government grants and the Anthony Kiang Recognition Event, had already

been acknowledged, he would like to point out that Dean Grant's role in Chairing Faculty meetings that were enjoyable, not boring and fun, particularly for the Science Senators who were recognized for their reports, had been greatly appreciated by Faculty members. For these reasons, and many more, Prof. Hurtubise said he would like to move a vote of thanks to Dean Grant on behalf of all Faculty members. Prof. Gale said he would like to second the vote of thanks to "*Dean Martin*."

Although Dean Grant suggested that the motion be adopted unanimously, a vote was called.

**The motion carried.**

There being no further business, the meeting adjourned at 3:50 p.m.