



**Minutes of the Faculty Council Meeting of
Wednesday, December 11, 2013
12:10 - 2:00 p.m.**

Michael E. Charles Council Chamber, Galbraith Building

Present:

Tony Sinclair (Speaker)
Tarek S. Abdelrahman
Rachel Adams
Grant Allen
Cristina Amon (Dean)
Philip Anderson
Joe Baptista
J. Christopher Beck
Timothy Bender
Colin Bradley
Sharon Brown
Markus Bussmann
John Carter
Anthony Chan Carusone
Alan Chong
Matthew Daly
Jeremy Dang
Khuong Doan
Stark Draper
Greg J. Evans
Carolyn Farrell
Rodrigo Fernandez-Gonzalez
Penny Gilbert
William Graydon
Krisztina Harmath
John Harrison
Dimitrios Hatzinakos
Chen (Johnny) Huai
Ronnie Ireland
Gina John
Dawn Kilkenny

Penny Kinnear
Don W. Kirk
Mark Kortschot
Frank R. Kschischang
Hans Kunov
Raymond Kwong
Ben Liang
Antonio Liscidini
Susan McCahan
Barbara McCann
Paul Milgram
Adrian Nachman
Farid Najm
Jun Nogami
Lacra Pavel
Khoman Phang
Nelly Pietropaolo
Li Qian
Doug Reeve
Paul Santerre
Costas Sarris
Thomas Sears
Amer S. Shalaby
Jeffrey Siegel
Micah Stickel
Kenneth Tallman
Deborah Tihanyi
Shahrokh Valaee
Sorin P. Voinigescu
Peter Weiss
Safwat Zaky
Christopher Yip
Jean Zu

Regrets:

Jason Anderson
Levente Diosady
Natalie Enright Jerger
Michael Joy

Bryan Karney
Elias Kyriacou
Jeffrey Packer
Ted Sargent
David Zingg

Guests:

Narges Balouchestani Asli
Christina da Rocha-Feeley
Sonia De Buglio
Lobna El Gammal
Stephanie Gaglione
Madelyn Herschorn
Allison Lee
Doug Lee
Eric Ma
Lesley Mak

Jason Martins
Anthony Morra
Tom Nault
Josh Newman
Jon Obnamia
David J. Rees
Adam Rosenfield
Belinda Wang
Geoff Wichert
Tony Zhang
Caroline Ziegler

1. Welcome / Adoption of Agenda

The Speaker, Tony Sinclair, thanked members joining the second Faculty Council meeting of the 2013-2014 academic year and welcomed all present, in particular student members and guests.

He noted that the agenda and documents were distributed on November 27, and that Report 3414 and two memorial tributes were distributed on December 5, and revised Report 3407 was distributed on December 9.

On a motion duly moved, seconded and carried, it was resolved –

THAT the agenda be adopted.

2. Adoption of Minutes of the Previous Meeting

No errors or omissions were noted on the minutes of the previous meeting. On a regular motion duly moved, seconded and carried, it was resolved –

THAT the minutes of the meeting of October 18, 2013 be approved as circulated.

3. Memorial Tribute

(a) Ernest Stewart Lee

The Speaker acknowledged the presence of Doug Lee and Allison Lee, who joined the meeting to hear the memorial tribute to their father, the late Professor Emeritus Ernest Stewart Lee of the Edward S. Rogers Sr. Department of Electrical and Computer Engineering.

Professor Farid Najm read the memorial tribute:

E. Stewart Lee – Stewart to his friends – was born in Montreal on June 7, 1934. He earned a Bachelor of Engineering degree in Engineering Physics and a Master of Engineering degree in Electrical Engineering at McGill University, in 1956 and 1958 respectively. He completed his doctorate in 1965 at University of Toronto under the supervision of Professor Gordon R. Slemon, and was appointed as an Assistant Professor in both Computer Science and Electrical Engineering in 1966. He was promoted to Associate Professor in 1967. Professor Lee spent a sabbatical year as a Visiting Professor at the Imperial College of Science and Technology in London, England in 1973-74, before becoming a full Professor in both Electrical Engineering and Computer Science in 1975.

Professor Lee was a dedicated teacher and researcher whose influence on both ECE and Computer Science Departments is still felt today. He was enormously influential in incorporating computer engineering into what had historically been a purely electrical engineering department, and played a crucial role in creating the Computer Systems Research Group (CSRG) in 1968, uniting computing investigators in Electrical Engineering and Computer Science. He served as its founding chairman from 1969-73, and again from 1977-80. As a result of its success, it became the Computer Systems Research Institute (CSRI) in 1984, and continued into the 1990's.

Along with his colleague the late Professor Peter Boulton, Professor Lee was instrumental in establishing computing facilities, first in Electrical Engineering and then extending to the Faculty, becoming today's ECF. In addition to creating an extensive computer room in the Sandford Fleming building, they were responsible for the first IBM 360 computer at the University, a Model 44.

Professor Lee's research covered a wide range of topics in the area of computer software and computer networks, including network architecture, protocols and security. Perhaps he will be best remembered for his collaboration with Professor Peter Boulton resulting in the invention of Hubnet – a new conceptual structure for a fibre-optic network capable of operating at very high speed. A pilot model of Hubnet was built and used in the ECE department for many years, operating at 50 Mbits/sec, at the time the fastest operating network anywhere.

Professor Lee held many important administrative positions at the University, including being a Member of the Governing Council from 1977-81 and the Speaker of the Faculty Council from 1984-88. He was elected as a Chartered Engineer and a Fellow of the Institution of Electrical Engineers, a Fellow of the British Computer Society, as well as CGRT. He was awarded an M.A. from Cambridge University, and later accepted an appointment there as a Professor. His many graduate students from all over the world became friends and continued to regularly visit both in Canada and abroad.

Throughout his career, Professor Lee was much sought-after as a systems and software consultant, advising such clients as IBM, Marconi-Elliott Computer Systems Ltd., the Department of National Defence, Toronto Credits Ltd., and Metropolitan Toronto's Ambulance Services and Police Commission, among many others.

Professor Lee had a profound and wide-reaching effect on the ECE community. The sad news of his passing affected many of our professors, and several shared their recollections:

Upon my return to Toronto in 1965, I first met Stewart Lee. Interestingly enough, we both shared an unusual background—our Ph.D. studies were in the area of magnetics, and then we both drifted into computing, I with a hardware emphasis, and he with a software emphasis. Correspondingly, we quickly became the co-chairs of the newly established Computer Group in EE... Stewart had a natural inclination to think broadly and diversely.

K.C. Smith, Professor Emeritus and Department Chair, 1976-81

Stew's foresight had a lasting effect on our department. He was instrumental in bringing software into the Department of Electrical Engineering, and he played a key role in morphing "Electrical Engineering" into "Electrical and Computer Engineering." It was his efforts that resulted in our department having a lasting great, collaborative relationship with the Department of Computer Science... He was the one who brought me here to Toronto.

Michael Stumm, Professor

Stewart taught me Structures and Algorithms as an undergraduate and I remember how he had this great, sly humour in class that I found truly refreshing. He will be missed.

Khoman Phang, Professor

Professor Lee died suddenly at home in Orillia.

(b) Jerzy Ganczarczyk

Professor Amer Shalaby read the memorial tribute to the late Professor Emeritus Jerzy Ganczarczyk of the Department of Civil Engineering:

Professor Ganczarczyk passed away peacefully at the Toronto General Hospital on Friday, November 15, 2013 at the age of 85. He is predeceased by his beloved wife Elizabeth. He will be missed by his loving daughter Lynn and her husband Paul Hamilton and their two children, Peter and Claire.

Professor Ganczarczyk received his Master of Applied Science and Doctor of Science from the Silesian Technical University in Poland. He was awarded the Habilitation from the Warsaw Technical University in 1962.

Professor Ganczarczyk held several academic positions at the Silesian Technical University and the Research Institute of Water Management in Warsaw. In 1968, he was awarded Poland's Ministry of Construction Award for the development of a technology for biological treatment of kraft pulp mill effluents. In 1969, he was honoured with the Polish State Award for the design of an industrial wastewater treatment plant, the first one of its type in Europe.

Dr. Ganczarczyk joined the University of Toronto in 1969 as an Associate Professor in the Department of Civil Engineering. He was promoted to Professor in 1975 and retired in 1993. During his tenure in Department, he published a book on activated sludge processes and published many research papers in the wastewater field. His research on the fractal structure of wastewater flocs is highly cited.

(c) Harold Lawson Macklin

Professor Amer Shalaby read the memorial tribute to the late Professor Emeritus Harold Lawson Macklin of the Department of Civil Engineering:

It was with sadness and sorrow that we received the news of the passing of our dear colleague Professor Emeritus Harold Lawson Macklin on November 16, 2013 at the age of 93. He is survived by his wife Carol, children Jennifer and Hugh, and six grandchildren and seven great grandchildren.

Harold graduated in Civil Engineering from the University of Toronto in 1943 and subsequently completed postgraduate courses in surveying and photogrammetry. Following this, Harold joined the Department of Civil Engineering at the University of Toronto as a special instructor in 1945 and became an Assistant Professor in 1948, focusing on surveying and geodesy. He became an Associate Professor in 1957 and a Professor in 1977. From 1970 onwards, Harold taught on a part-time basis. He retired from the Department on May 31, 1985.

In 1951, Harold formed a consulting partnership with Professor O. J. Marshall. Marshall Macklin Monaghan (now MMM Group) was incorporated in 1957 and Harold became president in 1960 and Board Chairman in 1974. With an initial focus on surveying, the very successful company expanded to encompass planning, design and project management for community development, transportation, buildings, and infrastructure. Currently, MMM has 2,000 personnel in 50 offices around the world.

Harold made many contributions to the engineering profession over his lifetime. In recognition of his contributions and influence he was awarded Fellowships in the Engineering Institute of Canada and the Canadian Society for Civil Engineering. He was the President of the Engineering Institute of Canada from 1984-1985. He was

awarded the Queen's Silver Jubilee Medal in 1977; the Julian C. Smith Medal in 1978; and the James A. Vance Award in 1983.

At the conclusion of the memorial tributes, the Speaker assumed concurrence with the resolutions that the Faculty record with deep regret the death of Professors Emeriti Lee, Ganczarczyk and Macklin, and that a record of their service be inscribed into the minutes of this Council. Members stood in observance of one minute of silence in honour of our former Council members.

4. Report of the Dean

Dean Amon welcomed members to Faculty Council and provided the following remarks.

(a) Trip to Asia

The Dean was in Asia the latter half of November, meeting with alumni hosting an alumni dinner in Hong Kong and an alumni lunch in Taipei, and hosting alumni events at the Canadian Embassy in Seoul and at the High Commissioners' official homes in Jakarta and Singapore. It was an extremely intense but rewarding and inspiring trip, where we officially launched campaigns in these countries to support the CEIE. Alumni were very enthusiastic and grateful for their education at the University, and have made significant progress toward their fundraising goals, for example, Hong Kong has already raised more than \$4M of its \$5M goal. The Faculty plans to name some of the CEIE meeting rooms in honour of the nationality alumni groups in each of these five countries. The Dean looks forward to returning to Asia in the spring and building on the momentum established there.

(b) Centre for Engineering Innovation & Entrepreneurship Update

Since the last report in October, there have been some minor changes to the design of the new building. Based on input from the community and the University's Design Review Committee, the two connected buildings originally proposed have been changed to one eight-story building with a separate smaller building that will house the entrance to the parking garage and waste management services. This change will accommodate a requirement that the dome of Convocation Hall be visible from Russell Street and that a walk-through path to Simcoe Hall be maintained. We are pleased with the new shape and have started the detailed design. We began University governance last month and the next steps are submission to the Planning & Budget Committee and Business Board in January, followed by City approval of permits. We hope to take this to the City's Committee of Adjustment rather than rezoning, as this is a shorter process. Provided we raise another \$10 million, and once we get the City permits, we are on track to break ground in September 2014.

(c) Faculty and Staff Campaign

Dean Amon reminded members that the Faculty recently initiated the Boundless Faculty & Staff Campaign, and acknowledged campaign co-chairs Professor Brenda McCabe, Engineering Dean Emeritus Michael Charles, Faculty Registrar Barbara McCann, and Business Officer Arlene Smith. Faculty and staff are encouraged to make one-time donations or pledge over five years to help the Faculty either raise the additional \$10 million needed for the CEIE to break ground, or to contribute to other campaign priorities as they wish. The Dean directed members to the campaign website for more information.

(d) Engineering Instructional Innovation Program

We have issued a call for proposals for our Engineering Instructional Innovation Program, now in its second year. The focus of this program is the creation or substantial renovation of a specific large, required undergraduate course, closely related group of courses, or learning experience. Interested faculty must submit a letter of intent to Susan McCahan, Vice-Dean, Undergraduate by January 20, 2014.

(e) Task Force on Professional Development

A task force has been established to review all aspects of the professional development services offered to our students, such as the Engineering Career Centre, UofT Career Centre and student groups, to name a few, with the goal of delivering a comprehensive and integrated suite of professional development services. The membership of the task force is yet to be determined but will include representatives from the Faculty, Engineering Society, students and alumni. The Dean looks forward to receiving the task force's report in the spring, and crafting an implementation plan.

(f) Engineering at UTM Pathway – Update

At the last meeting of Council, members discussed a draft proposal to create a 2+3 Engineering pathway with UTM. The Dean thanked members for their thoughtful comments and said that based on this feedback, we have decided to gather more input and conduct further market research, thus postponing the potential launch of the program for a year.

5. Collaborative Program in Engineering Education

Markus Bussman, Chair of the Engineering Graduate Education Committee, presented Report 3407 Revised, a proposal to establish a collaborative program in Engineering Education at the master and PhD levels. The program will be led by our Faculty and involve our departments of Mechanical and Industrial Engineering, Chemical Engineering and Applied Chemistry, and Civil Engineering, and OISE's department of Curriculum, Teaching and Learning. Professor Bussmann also described the changes to the report since it was first circulated, namely that upon consultation with the Vice-Provost, Academic Programs, the optional practicum in the PhD program was removed.

At the conclusion of the presentation, the following regular motion was moved –

THAT a new graduate collaborative program in Engineering Education be approved and introduced in the 2014-2015 academic year.

In response to a question from a member, Professor Bussmann confirmed that the program will likely receive final approval from Quality Council in April or May.

The motion was carried.

6. IBBME Fields

Markus Bussman presented Report 3408, a proposal to close IBBME's existing general field of Biomedical Engineering (MAsc and PhD), create four new fields for the MAsc and PhD programs, and convert the existing concentration in Clinical Engineering to a fifth field.

At the conclusion of the presentation, the following regular motion was moved –

THAT the attached IBBME proposal to create fields be approved.

During discussions, Professor Bussmann confirmed that the creation of the new fields would not directly affect students other than assisting them during the SGS online registration process, and that approval from the Ontario Council of Graduate Studies (OCGS) is not required since this group has been phased out.

The motion was carried.

7. Minor in Biomedical Engineering

Graeme Norval, Chair of the Undergraduate Curriculum Committee, presented Report 3401, a proposal to establish a minor in Biomedical Engineering. He described the requirements of the minor and thanked those involved in creating the proposal, Professors Paul Santerre and Christopher Yip of IBBME, and Professor Bryan Karney and Ms. Sharon Brown of the Cross-Disciplinary Programs office.

At the conclusion of the presentation, the following regular motion was moved –

THAT the Biomedical Engineering minor be approved and introduced in the 2014-2015 academic year.

In response to a member's question, Dr. Norval confirmed that, as is the case for all minors, most students will take the technical electives during their third year as their timetables allow.

The motion was carried.

8. Academic Certificate in Engineering Leadership

Graeme Norval presented Report 3402, mentioning the certificate's course requirements and acknowledging the dedication of faculty who teach in this area, particularly Professors Doug Reeve and Greg Evans.

At the conclusion of the presentation, the following regular motion was moved –

THAT the undergraduate academic certificate in Engineering Leadership be approved and introduced in the 2014-2015 academic year.

Members discussed the fact that each course can be counted toward two credentials (for example, the degree program and a minor or certificate) but not toward three, forcing students to choose between the Engineering Business minor and the Engineering Leadership certificate. Dr. Norval said that the Undergraduate Curriculum Committee will be bringing forward a revision to the policy prohibiting triple-counting in the future.

The motion was carried.

9. Academic Certificate in Renewable Resources Engineering

Graeme Norval presented Report 3404, and acknowledged the contributions of Professor Bryan Karney and Ms. Sharon Brown of the Cross-Disciplinary Programs office in creating the proposal. He stated that the Faculty of Forestry's courses in the bio-resources field have been popular with Engineering students, and that there are now enough courses to form a certificate.

At the conclusion of the presentation, the following regular motion was moved –

THAT the undergraduate academic certificate in Renewable Resources Engineering be approved and introduced in the 2014-2015 academic year.

There were no questions and the motion was carried.

10. Minor Curriculum Changes for the 2014-2015 Academic Year

Graeme Norval presented Report 3403, minor curriculum changes proposed for the upcoming academic year.

At the conclusion of the presentation, the following regular motion was moved –

THAT the proposed curriculum changes for the 2014-2015 academic year be approved.

Dr. Norval confirmed that the changes to the report since it was endorsed by the Executive Committee were minor and editorial. Members discussed the declining math knowledge evident in upper years and whether we should be reducing math content in our curriculum or compensating for these lower levels. Members discussed possible reasons for the lower math scores, for example, the elimination of grade 13 and current models of high school math instruction. Other members said that faculty need to teach to the students they have and provide the required math foundation, and pointed out that at 91.7%, the mean OSS average of this year's first-year students is outstanding.

The motion was carried.

11. Proposed Session Dates for the 2014-2015 Academic Year

Graeme Norval presented Report 3406, the proposed session dates for 2014-2015.

At the conclusion of the presentation, the following regular motion was moved –

THAT the proposed session dates for the 2014-2015 academic year be approved.

There were no questions and the motion was carried.

12. Task Force to Review the Core Program Curriculum – Update

The Speaker reminded Council that Report 3406 is being brought forward for discussion only, in order to gather input from members.

Micah Stickel, Chair of the Task Force to Review the Core Curriculum, presented an update of the Task Force's work to date. He reviewed the Task Force's terms of reference, and described the five areas in which the core curriculum needs to be improved, namely: relevance and course integration; development of transferable engineering skills and attributes; engineering computation; workload; and the first-year teaching community.

Members discussed the pros and cons of re-balancing theoretical and applied knowledge; the need for course integration; whether students should learn transferable skills in the curriculum or on the job; and whether decreasing student workload is advisable or possible.

Members also discussed the challenges of introducing more meaningful content and transferable skills, such as problem solving, into first year; trends in education pedagogy; our obligation to bring along students who are struggling with course material; uniformizing the curriculum so that it is the same for students in all programs; and the Task Force's consultation process and desire to build consensus.

Some members expressed concerns that the stated models will negatively affect the teaching of theoretical knowledge at a time when more theory, particularly in math, should be emphasized. Another member said that students should have to learn both theoretical and applied knowledge; this isn't an "either/or" choice. Members also questioned whether further course integration is required, since only a small percentage of students surveyed by the Task Force felt this was necessary. Some members thought that students should learn transferable skills while gaining applied knowledge and on the job, and that the applicability of theoretical knowledge will be evident to students in years 2, 3 and 4. Members also questioned the Task Force recommendation to make the transition to university easier for students, as only a third of students surveyed said this is unmanageable. Another member suggested that the Task Force consider what to add to the first-year curriculum, not just what to remove.

The Speaker invited members to continue to provide feedback to the Task Force, and stated that the final proposal would return to Council in a subsequent governance cycle.

13. Reports and Recommendations of Standing Committees

The Speaker introduced the following information items and asked members if they had questions.

(a) Admissions Update 2013

Report 3409 provides detailed information on applications for admissions; offers of admission; registration; acceptance offers; scholarships and awards offered to Ontario high school students; and characteristics of the first-year class.

Professor Christopher Yip of the Admissions Committee noted a typo in the report: the mean OSS average for first-year Mineral Engineering students should be 89.6, not 84.6.

The report was received for information.

(b) Transfer Credits for Applicants Studying in a CEGEP

There were no questions and Report 3410, describing changes to the Faculty's policy to allow applicants who have completed two years of academic studies at a CEGEP to be assessed for transfer credits on a case-by-case basis, and to be eligible to receive a maximum of five FCE (10 half courses) of transfer credit, was received for information.

(c) Update on Newfoundland Admissions Requirements

There were no questions and Report 3411, describing changes to the admissions requirements for Newfoundland in response to that province's changes to its mathematics curriculum, was received for information.

(d) Update on New Brunswick Admissions Requirements

There were no questions and Report 3412, describing changes to the admissions requirements for New Brunswick in response to that province's changes to its mathematics curriculum, was received for information.

(e) TMRC Goals for 2013-2014

There were no questions and Report 3413, describing the Committee's goals for the academic year, was received for information.

(f) Engineering Graduate Education Update

There were no questions and Report 3405, listing two new graduate courses in Mechanical and Industrial Engineering, and one new graduate course in Electrical and Computer Engineering, was received for information.

14. Other Business

There was no other business.

15. Date of Next Meeting

The next Faculty Council meeting is February 25, 2014.

16. Adjournment

The meeting was adjourned at 2:00 p.m.