



**Minutes of the Faculty Council Meeting of
October 23, 2017 at 12:10 p.m.
Michael E. Charles Council Chamber (GB 202)**

PRESENT

Doug Reeve (Speaker)
Raviraj Adve
Tania Albarghouthi
Maedeh Amirmaleki
Cristina Amon (Dean)
Jason Anderson
Philip Anderson
Susan Andrews
Mitchell Au
Julie Audet
Giselle Azimi
Joe Baptista
Jason Bazylak
Tim Bender
Evan Bentz
Chris Bouwmeester
Markus Bussmann
Brittney Carter
Hai-Ling Margaret Cheng
Samantha Cheung
Alan Chong
Lee Clement
James (Jim) Courtney
Tom Coyle
Jim Davis
Madison Desembrana
Patrick Diep
Katelyn Dixon
Khuong Doan
Birsen Donmez
Greg Evans
Jennifer Farmer
Ramin Farnood
Carolyn Farrell
Jason Foster
Seyed-Arman Ghaffari-Zadeh
Krisztina Harmath
Nojhat Hrishti
Jennifer Hsu
Sean Hum
Bryan Karney
Mohaimen Khan
Dawn Kilkenny
Rebekah Kim

Penny Kinnear
Don Kirk
Frank Kschischang
Deepa Kundur
Elias Kyriacou
Andrew Lau
Antonio Liscidini
Amy Liu
Don MacMillan
Manfredi Maggiore
Aidan Malone
Paul Malozewski
Elham Marzi
Naomi Matsuura
Brenda McCabe
Mahyar Mozaffari
Hani Naguib
Jun Nogami
Alison Olechowski
Vladimiro Papangelakis
Doug Perovic
Nelly Pietropaolo
Daniel Posen
Saif Rjaibi
Jonathan Rocheleau
Taras Romancyshyn
Stephanie Rose
Luca Scardovi
Patricia Sheridan
Jeff Siegel
Craig Simmons
Tanishq Singh
Brent Sleep
Mitchell Small
Kayla Steadman
Melanie Stevenson
Micah Stickel
Jonathan Swyers
Kenneth Tallman
Joshua Taylor
Deborah Tihanyi
Hamid Timorabadi
Olev Trass
Piero Triverio
Shahrokh Valaee

Chirag Variawa
Andrew Wang
Belinda Wang
Helen Wang
Peter Weiss
Lydia Wilkinson
Linda Wu
Victor Xin

REGRETS

Grant Allen
Jordan Carrette
Chetanya Choudhary
Stark Draper
John Harrison
Ben Hatton
Farid Najm
Graeme Norval
Sofia Tijanic

GUESTS

Michelle Beaton
Helen Bright
Sharon Brown
Alina Constantin-Hockmann
Leanne Dawkins
Sonia De Buglio
Michelle Deeton
Surath Gomis
Leslie Grife
Cori Hanson
Krisztina Harmath
Carmen Horvath
Phuong Huynh
Jennifer Lancaster
Gayle Lesmond
Estelle Oliva-Fisher
Shannon Osborne
Dan Pettigrew
Catherine Riddell
Mindy Thuna
Allison Van Beek
Geoff Wichert
Caroline Ziegler (Secretary)

1. Speaker's Welcome and Adoption of Agenda

Council Speaker Doug Reeve welcomed members to Faculty Council, the senior decision-making body of the Faculty. He thanked faculty, staff and standing committees for their contributions to the meeting, and as this was the first meeting of the 2017-2018 academic year, invited those present to stand up by constituency group and introduce themselves.

The agenda and meeting package were distributed on October 12, 2017.

Agenda item 7, the proposal to create a Machine Intelligence stream in Engineering Science, was deferred to our second governance cycle to provide the Division with an opportunity to engage students in further discussions about the stream, and to ensure their questions have been addressed. It will come forward for approval at the December 12, 2017 Council meeting.

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

THAT the agenda be adopted as revised.

2. Introduction of New Faculty Members

Bryan Karney, Associate Dean, Cross-Disciplinary Programs, introduced new faculty member Elham Marzi; Markus Bussmann, Chair of the Department of Mechanical & Industrial Engineering, introduced his new faculty member, Alison Olechowski; and Faculty Council Speaker and ILead Director Doug Reeve introduced ILead's new faculty member, Patricia Sheridan.

Several other new faculty members not in attendance will be introduced at the December 12, 2017 Council meeting.

3. Adoption of Minutes of Previous Meetings

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

THAT the minutes of the meeting of February 28, 2017 be approved.

THAT the minutes of the meeting of April 10, 2017 be approved.

4. Memorial Tributes

Brent Sleep, Chair of the Department of Civil Engineering, read the following memorial tributes in honour of Professors Emeriti Merritt M. Davis and J. Glynn Henry.

(a) Merritt M. Davis

Be it resolved –

THAT the Council of the Faculty of Applied Science and Engineering record with sincere regret the death on July 22, 2017 of Professor Emeritus Merritt M. Davis.

Professor Davis began his career as a transportation engineer when he went to work for the Ontario Department of Highways. During his time there, the Ontario highway system saw significant growth, including the opening of Highway 400 and the Burlington Skyway.

Professor Davis joined the Department of Civil Engineering in 1956 as a Transportation Engineer and spent 33 years as a key member of the Department, retiring in 1989.

Professor Davis was a devoted educator and researcher. His interests were focused on materials, pavement, and geometric design of roads and highways. In particular, he made great contributions to vehicle and highway safety. Professor Davis was also involved in the analysis of automobile accidents for civil and criminal court cases.

Predeceased by his wife, Edith, of 63 years (2010); his brother, Gordon, and sister, Sadie; Merritt Davis is survived by his sister Margaret; children, Glenn and Joanne; granddaughters, Krista, Katie, and Shannon; six great grandchildren; and extended family.

Be it further resolved –

THAT this tribute to Professor Emeritus Merritt M. Davis be inscribed in the minutes of this Council meeting and that copies be sent to his family as an expression of the respect and gratitude of the members of this Council.

(b) J. Glynn Henry

Be it resolved –

THAT the Council of the Faculty of Applied Science and Engineering record with sincere regret the death on September 13, 2017 of Professor Emeritus J. Glynn Henry.

Before embarking on a career in academia, Professor Henry was in practice as a consulting engineer in Toronto. He rose to the position of principal, R.V. Anderson Associates where he was responsible for the design, construction and commissioning of numerous water and wastewater treatment plants.

In the late 1960's, Glynn enrolled in the PhD program at U of T's Department of Civil Engineering, under the supervision of Prof. P.H. Jones. Afterwards, he was hired as Associate Professor in the Department of Civil Engineering.

His research interests were primarily in the area of microbiology of waste treatment and water pollution control. In addition to his technical papers, he was co-author with Prof. G.W. Heinke of the textbook *Environmental Science and Engineering*, which became the textbook-of-choice for up to 75 universities in North America.

As a faculty member, he brought a great deal of practical experience to the classroom. His graduate course in Environmental Engineering Design was well received by students. As a colleague, Glynn was congenial and engaging, and his professional manner and dependability were much appreciated.

Professor Henry was the inaugural Chair of the interdisciplinary Environmental Engineering Program, promoting it to graduate students in various engineering departments. He retired from the Faculty in 1991.

His career and contributions to the field of environmental engineering were honoured in 1994 when he received the prestigious Albert E. Berry Medal from the Canadian Society of Civil Engineers.

Professor Henry is survived by Pat, his wife of 70 years; his children, Robin, Dr. Wendy, Pam, Beth, Laura; his grandchildren, Alexis, Zachary, Luke, Jake, Cole, Connor, Rebecca, Thomas; and his great-grandchildren Lily, Elliot, Adrienne and Wesley.

Be it further resolved –

THAT this tribute to Professor Emeritus J. Glynn Henry be inscribed in the minutes of this Council meeting and that copies be sent to his family as an expression of the respect and gratitude of the members of this Council.

The Speaker assumed concurrence with these resolutions, and Council stood to observe one minute of silence in honour of Professors Emeriti Davis and Henry.

5. Business Arising from Previous Meeting: Update on 2017-2018 Appointments to Faculty Standing Committees and the Academic Appeals Board

The Speaker presented Report 3559, an update to the membership of the Faculty's standing committees and Academic Appeals Board since the April 10, 2017 Council meeting.

There were no questions and the report was received for information.

6. Report of Dean Cristina Amon

(a) Leadership Changes

Dean Amon welcomed new academic leaders in the Faculty, including Julie Audet, Vice-Dean, Graduate Studies; Markus Bussmann, Chair of Mechanical and Industrial Engineering; and Ramin Farnood, Vice-Dean, Research. Professor Farnood has been our Faculty's Interim Vice-Dean since March 2017. She acknowledged Micah Stickel, Vice-Dean, First Year Engineering, whose former role of Chair, First Year had been reclassified as a reflection of how the role has broadened over the last several years. Dean Amon also welcomed Craig Simmons, who has agreed to extend his term as Interim Director of IBBME to December 31, 2017, as our search for the new director continues.

(b) CEIE Update

Although construction continues on the CEIE, with up to 150 people working every day on all eight floors, Council was made aware that there was an industrial incident onsite in September that has impacted the construction schedule. In particular, completion of the elevators, which was previously scheduled for late October, will now most likely be finished in January. This will delay delivery and placement of furniture, which will affect our partial and full occupancy targets of December 2017 and March 2018, respectively. Bird Construction is working to expedite the completion of the elevators and will provide a revised construction schedule.

Fundraising for the building is almost complete. In addition to the province's support of \$15 million, the tremendous contributions of our donors and alumni, matched by the University and Faculty, will leave the CEIE mortgage-free.

The CEIE will be named the Myhal Centre for Innovation and Entrepreneurship in honour of alumnus George Myhal, a generous donor and chair of the CEIE's fund-raising committee, past member of Governing Council, and former chair of the Engineering Alumni Committee. A formal announcement of

the naming will be made and further details about the building's completion and opening ceremony will be provided as they are available.

(c) Annual Report

We have published our ninth *Annual Report of Performance Indicators*, which describes our Faculty's achievements over the past year, including ten years of metrics. The full report is available on our website and was highlighted in our September newsletter. Members are encouraged to review the report and provide feedback on any metrics that might be removed or added in future to measure our progress and excellence.

(d) External Review of the Department of Civil Engineering

An external review of the Department of Civil Engineering and its programs is scheduled for March 14-15, 2018, with five eminent colleagues forming the review team. Updates will be provided as they are available.

(e) Admissions Update

We have had another remarkable year for undergraduate admissions. The total number of applicants is 12,881, about a five percent increase from last year, and more than double from ten years ago. Final admissions numbers will be confirmed by the Registrar's Office in November.

Among the 804 domestic first year students admitted, 101 were educated abroad, and of the 282 international first year students, 117 were educated in Canada. The percentage of international students enrolled is 26.3, down slightly from 28.4 percent in 2016. Twenty-nine of the 38 students coming from the US are Canadian, which speaks to our excellent reputation and the quality of the education we provide versus the cost, compared to the top American schools.

We are seeing progress in our efforts to expand our number of incoming international students. This is reflected in our *2017-2022 Academic Plan*, with a recruitment target of 30 percent international undergraduate students.

The percentage of incoming women is 40.6 percent, up from 40.1 percent in 2016. For the second year, this percentage is over 40 percent, and all are commended for their dedication in bringing more women—and diversity—to the Faculty.

Dean Amon thanked the Faculty's recruitment team, Admissions Committee, and those involved in efforts to enhance our academic programs, student experience and reputation.

Members discussed the Faculty's admissions standards and the rising averages of our incoming students. In response to a question about the potential effect of Toronto's growing technology sector on our capacity to admit more students, Dean Amon explained that at this time we do not plan to increase our undergraduate student population: we are aiming for 60 percent of our students at the undergraduate level and 40 percent at the graduate level. We have been closing this gap over the last several years by expanding graduate programs such as our professional Master's degree in Engineering, which serves people who have the skills required in the technology economy. We also continue to offer more graduate emphases, such as the one in Analytics that will be coming forward later during this meeting. With our expertise and contributions in areas such as machine learning and artificial intelligence, our Faculty will become an integral part of the recently-launched Vector Institute.

(f) Interdisciplinary Diversity Academic Search

We have started new interdisciplinary diversity academic searches for up to five tenure-stream positions, of the rank of Full, Associate or Assistant Professor. These will be cross-disciplinary budgetary appointments across departments and institutes that target excellence and diversity. This will be the third time we have conducted such searches, and our success can be attributed to the efforts of our Chairs, Directors and faculty, who proactively recruit potential candidates.

(g) Faculty External Review

Our Faculty underwent an external review in January-February 2017. We have received the final report of the review team, who commend us on our outstanding faculty and excellent student body, and on our worldwide reputation for excellence in research and education.

The Vice-Provost requested an administrative response to some of the recommendations in the report. These include reducing the average time-to-completion for PhD students, providing timely information to students on their stipend levels and TA positions, facilitating new initiatives to improve the graduate student experience, and better tracking the employment outcomes for our alumni at the University level. The reviewers also noted undergraduate students' concerns about the PEY Internship Program, in particular the costs and the lack of availability of matches in some disciplines. This message also emerged during our undergraduate consultations during the self-study process, and we have already begun implementing many improvements, including a proposal to create PEY co-ops, which will be discussed by Council later today.

We worked with our Chairs, Directors, Vice-Deans and Associate Dean to address the reviewers' recommendations, and have submitted our administrative response for approval by the University's Committee on Academic Policy and Programs at their November meeting.

(h) Academic Planning

Academic planning is an ongoing process in our Faculty, and every year we assess and publish our progress and achievements to ensure we reach our stated goals and consider new opportunities.

This year, our continuous assessment process included the consultations that took place when we developed our self-study for the external review, which involved faculty, undergraduate and graduate students, postdoctoral fellows and staff. The self-study was used, along with feedback from the external reviewers; input from our Chairs, Directors, Vice- and Associate Deans and standing committees; and recommendations from the numerous task forces and working groups we have appointed over the last few years on issues such as mental health, academic advising, infrastructure, the core curriculum, and Indigenous initiatives, to form the starting point of our current academic planning exercise.

We first developed an academic planning framework which outlines the chapters, preliminary goals and academic priorities for what we want to achieve over the next five years, and our three cross-cutting pillars of culture of excellence, diversity and globalization. The academic planning framework will be posted on our U of T Engineering website, starting this week, for further consultation and input.

Our Academic Plan will be based upon the academic planning framework. After it is reviewed within our Engineering community, we will present it to Faculty Council on December 12, 2017 for approval. It will then be submitted through the University's governance, starting with the Planning & Budget Committee, early next year.

We are also developing an implementation plan that will describe the actions we will take towards reaching our Academic Plan goals, the metrics to assess progress, and who will be responsible for monitoring our progress.

Dean Amon encouraged members to submit comments about the Academic Plan to her or their Chairs and Directors, and thanked them for their contributions towards our next five years of academic planning.

7. Curriculum Changes for 2017-2018 and 2018-2019

Evan Bentz, Chair of the Undergraduate Curriculum Committee, noted that the proposal to create a Machine Intelligence stream in Engineering Science had been deferred to the December 12, 2017 Council meeting. The following regular motion to amend was therefore moved and seconded –

THAT Report 3557, proposed curriculum changes for the 2017-2018 and 2018-2019 academic years, be revised to remove section 3.1, which describes courses and descriptions pertaining to the proposed Machine Intelligence stream.

There was no discussion and the motion to amend carried.

Professor Bentz then presented Report 3557, which describes curriculum changes for the 2017-2018 and 2018-2019 academic years affecting cross-disciplinary programs, majors in Engineering Science, and programs in Materials Science and Engineering, and Mechanical and Industrial Engineering.

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

THAT the proposed curriculum changes for the 2017-2018 and 2018-2019 academic years, as described in the revised Report 3557, be approved.

There was no discussion and the motion carried.

8. Reports and Recommendations of Standing Committees

The following report was approved by the Executive Committee at its October 3, 2017 meeting, and is being presented for Council's information.

(a) Engineering Graduate Education Committee Update

Julie Audet, Vice-Dean, Graduate Studies and Chair of the Engineering Graduate Education Committee, presented Report 3558, which lists 12 newly-approved courses and minor modifications to the collaborative specialization in Psychology and Engineering, ELITE emphasis, and IBBME's MEng program.

There were no questions and the item was received for information.

9. Report of the Academic Appeals Board

Jason Foster, Chair of the Academic Appeals Board, presented Report 3560, the annual report of the Board. In the 2016-2017 academic year, the Board considered 13 appeals on decisions made by the Examinations Committee, 45 percent fewer than the previous year despite outreach from the Registrar's Office to inform students of the availability of the appeals process. Professor Foster asked members to help make students aware of the Faculty's policies regarding petitions and appeals.

Professor Foster described the Board's goals for the year. It plans to revise its manual, permanently expanding its membership to allow it to schedule more timely and diverse hearing panels and will work with the Registrar's Office to review its communications processes, in response to requests from appellants seeking additional details on the rationale behind the decisions rendered on their appeals.

There were no questions and the report was received for information.

10. Service and Awards Presentations

On behalf of the Faculty, Dean Amon recognized Markus Bussmann for his contributions as Vice-Dean, Graduate Studies, a position he held from July 2013 to June 2017. She also acknowledged David Zingg for his appointment as Distinguished Professor of Computational Aerodynamics and Sustainable Aviation in 2016, and Matthew Mackay, who received the 2016 Early Career Teaching Award.

Dean Amon presented Professors Bussmann, Zingg and Mackay with gifts as tokens of the Faculty's appreciation.

11. Discussion Items

(a) Creation of PEY Co-op Programs

Brenda McCabe informed Council of an initiative to convert the current PEY Internship Program into a co-op program to allow students registered in PEY to avoid having to begin repaying their OSAP loan while on their placement. This will come forward at the December 12, 2017 Council meeting for approval by regular motion. (Ed. note: this item was subsequently deferred to a later governance cycle.)

The proposal will create twin programs for each discipline: the current program that does not require PEY, and a new co-op program that does. Academically, the twinned programs will be identical and consistent with current practices in the PEY Internship Program. Enrolment targets will continue to reflect the overall program, and students will be permitted to transfer into their regular discipline program, for instance if their GPA drops below good standing, or if finding a placement becomes an issue due to a faltering economy or other circumstances.

There will be no impact on CEAB accreditation although the PEY Office may be busier if more students apply for the co-op.

During discussions, Professor McCabe confirmed that we will continue to offer the PEY Internship Program to students from the Faculty of Arts and Science, 95 percent of whom are from the Department of Computer Science. She also confirmed that the co-op placements will remain a continuous year, not four months alternating with four months of classes.

Co-op students will still be required to write a placement report, as is the case in our current PEY Internship Program, however, the reports are now reviewed by TAs and are less self-reflective, focusing more on what students have learned from their best projects. This past September, 25 students presented their PEY experience to fellow undergraduates at the PEY Edge Conference, which was hosted by the Engineering Career Centre.

The proposal will also allow us to advertise our co-op program as such, which will appeal to many students and recruiters. Because the government requires co-op programs to be direct entry, we will develop marketing materials that clearly explain the registration choices.

(b) Creation of ISTE2P as an Extra-Departmental Unit, Type A

Greg Evans discussed a proposal to create an Institute for Studies in Transdisciplinary Engineering Education and Practice (ISTE2P) as an extra-departmental unit, type A (EDU:A). This will come forward at the December 12, 2017 Council meeting for approval by special motion. (Ed. note: this item was subsequently deferred to the February 27, 2018 meeting.)

The proposal is based on the *Report of the Working Group to Establish an Institute for Engineering Education*, which describes the Institute's vision and mandate; context; academic foundation, focus and activities; faculty appointments; research funding; measures of success; and consultation process. The report is available online and linked from the proposal.

ISTE2P will become the dedicated administrative home for ten existing teaching-stream faculty who share an interdisciplinary scholarship in transdisciplinary engineering education and practice and who are not currently appointed to an academic unit. They will maintain their current teaching responsibilities, and ISTE2P, as an EDU:A, will hold their budgetary appointments and support review and promotion based on their shared scholarship. These initially-appointed faculty will benefit from having a structure and physical space that enables them to collaboratively advance pedagogies in engineering education. They will be joined by cross-appointed tenure and teaching stream faculty. It is expected that the Institute will grow collaboratively to include further cross-appointments.

Building on our existing cross-disciplinary competencies, ISTE2P will serve as a focal point and community that provides a systematic and structured approach to transdisciplinary engineering education. It will better leverage related activities already well underway in our Faculty, including those offered by the Institute for Leadership Education in Engineering (ILead) and the Engineering Communication Program (ECP). It will not initially offer a new undergraduate or graduate program, and creation of any new academic offerings will continue to be done through our established process, ultimately being presented to Faculty Council for approval. ISTE2P will help our Faculty—and country—tackle the challenge of enhancing engineering education so as to graduate more broadly prepared students.

Members discussed the appropriateness of creating an EDU in order to appoint teaching-stream faculty, and questioned whether the Institute would serve to further isolate those faculty from our existing units. Professor Evans explained that the Institute will be a home for faculty whose cross-disciplinary scholarship would not clearly fit with any of the existing academics units, such as these ten existing colleagues, including those appointed to ECP. ECP was formed long ago, before extra-departmental units existed at the University. Now that the EDU:A model is available to hold primary budgetary appointments, the status quo is no longer an option. Being appointed to ISTE2P will also benefit ILead faculty, whose efforts to introduce new knowledge from the workplace into the curriculum across disciplines will continue, but from a broader base within the Institute.

One of the faculty members proposed to be appointed to ISTE2P supported the new institute, and stressed the importance of bringing together a core set of people to collaborate in this area and share resources.

Members discussed opportunities to bring alumni into the classroom to expose students to the types of real-life engineering problems that they might encounter in the workplace. This idea was supported by a student member of Council.

Some were concerned that the creation of the institute will make the “job” of teaching the sole purview of those appointed to ISTE2P, when in fact teaching occurs throughout all of the Faculty’s programs. Professor Evans acknowledged that although these teaching-stream faculty will be appointed to a formal academic unit instead of their current appointments to units such as ECP, ILead, First Year, Business Minor and Engineering Science that can’t hold primary budgetary appointments, the Institute will help promote integration of instruction and overcome existing silos; by not having its own undergraduate program it is designed so that those appointed will have to work with faculty throughout our existing discipline programs.

Professor Evans will meet with the Department of Electrical and Computer Engineering in early November to continue to discuss the proposal, and invited other departments and students interested in further consultations to contact him.

12. Other Business

There was no other business.

13. Date of Next Meeting

The next Faculty Council meeting is on December 12, 2017.

14. Adjournment

The meeting was adjourned at 2:08 p.m.

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