



## Council of the Faculty of Applied Science & Engineering Minutes of the Meeting of October 13, 2022

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**MEMBERS:** Jun Nogami (Speaker), Chris Yip (Dean), Ravi Adve, Dionne Aleman, Danita Allick, Cristina Amon, Philip Anderson, Philip Asare, Julie Audet, Jason Bazylak, Evan Bentz, Raymond Bhushan, Shlomo Bibas, Chris Bouwmeester, Markus Bussmann, Roger Carrick, Ariel Chan, Arthur Chan, Hay Shun Chan, Warren Chan, Heba Chehade, Jeff Chen, Alan Chong, Shai Cohen, Tom Coyle, Phil Cuvin, Stark Draper, Natalie Enright Jerger, Greg Evans, Jonathan Eyolfson, Saima Fancy, Jennifer Farmer, Ramin Farnood, Sam Gaskin, Ran Gong, Aidan Grenville, Michael Guerzhoy, Piyush Gupta, Sarah Haines, Mukund Hari, Marianne Hatzopoulou, Angela Henshilwood, Glenn Hibbard, Randa Higazy, Ken Hilton, Morgan Hooper, Jennifer Hsu, Greg Jamieson, Katherine Jia, Parker Johnston, Kyle Juliao, Andrew Kidd, Don Kirk, Deepa Kundur, Philippe Lavoie, Jennifer Lofgreen, Don MacMillan, Saf Mahmood, Tala Malkawi, Sam Mantenuto, Elham Marzi, Paul Milgram, Kasra Modares, Enid Montague, Javad Mostaghimi, Yang (Yuyang) Niu, Elodie Passeport, Prarthona Paul, Daniel Posen, Mark Rittinger, Jon Rocheleau, Nicole Ryk, Shamim Sheikh, David Song, Marisa Sterling, Micah Stickel, Kyla Tan, Kaitlyn Tran, Chris Twigge-Molecey, Oyku Ugur, Saskia van Beers, Tony Vanvari, Chirag Variawa, Carmela Versace, Julia Wagner, Elizabeth Whitmell, Bernard Wong, Sherry Zhang, Tobin Zheng

**SECRETARIAT:** Caroline Ziegler (Secretary), Alex Schroen (Moderator), Anna Limanni (Technical Support)

**GUESTS:** Olenka Baron, Irina Belaya, Helen Bright, Chris Brown, Maya Churbaji, Khuong Doan, Raysa Dyczok, Pierina Filippone, Roger Francis, Eric Fysh, Leslie Grife, Nadia Gulezko, Christina Heidorn, Andrea Luna Yong, Jess MacInnis, Teresa Miniaci, Don Newton, Shannon Osborne, Dan Pettigrew, Zeeshan Rayees, Frank Scornaienchi, Allison Van Beek, Audrey Wichert, Geoff Wichert

### 1. Speaker's Welcome

Speaker Jun Nogami called the first Faculty Council meeting of 2022-2023 to order at 12:10 pm. He welcomed members and guests, and reviewed protocols for the virtual meeting. There were no questions.

Before stating the land acknowledgment, the Speaker described the boundaries of the traditional lands of the Mississaugas of the Credit, and the unfairness of treaties and purchases the government made with Indigenous people. He mentioned a 1.3K by .5K tract of land nearby the University of British Columbia campus in Vancouver, about half the size of our St. George campus, which has been purchased by a consortium of three First Nations bands who will now have a say in how the land is developed.

## **2. Approval of Agenda**

The agenda and reports were distributed on September 29, 2022. Agenda item 09(a), the Engineering Graduate Education Committee Update, was inadvertently listed as Report 3695 when it is actually Report 3722. It was proposed that the agenda be revised to reflect the correct report number.

On a regular motion duly moved, seconded and carried, the revised agenda was approved.

## **3. Introduction of New Faculty**

New faculty members Roger Carrick and Enid Montague of MIE, Jonathan Eyolfson of ECE, Morgan Hooper of UTIAS, and Jennifer Lofgreen of ISTEP, were introduced by their respective chairs and directors.

## **4. Adoption of the Minutes of Previous Meetings**

No errors or omissions were noted in the minutes of the April 27, 2022 Council meeting and on a regular motion duly moved, seconded and carried, the minutes were approved.

## **5. Memorial Tributes**

### **(a) Sergei Dmitrevsky**

Deepa Kundur, ECE chair, read the following memorial tribute in honour of Professor Emeritus Sergei Dmitrevsky.

Be it resolved –

THAT the Council of the Faculty of Applied Science & Engineering record with deep regret the death on July 31, 2022 of Professor Sergei Dmitrevsky.

Professor Dmitrevsky arrived in Canada from Czechoslovakia in the early 1950s after two years at Prague Technical University. He completed his undergraduate education at the Faculty of Applied Science & Engineering at the University of Toronto in 1955 and spent two years working at Philips Electronics Industries Ltd. as a microwave engineer. After returning to receive his Masters at U of T Engineering, he obtained his PhD in quantum physics at Harvard University under the supervision of Professor Nicolaas Bloembergen, who later received the Nobel Prize for Physics in 1981.

Professor Dmitrevsky returned to U of T and joined the Edward S. Rogers Sr. Department of Electrical & Computer Engineering (then known as the Electrical Engineering Department) where he taught courses in electronics, electricity and magnetism, and quantum physics and helped to build the reputation of the electromagnetics and photonics groups here as world-class. He had an unbelievable depth of understanding of electromagnetics and quantum mechanics. He rarely taught from notes; rather he derived everything from first principles.

His approach to teaching was unique and memorable, and often won him departmental teaching awards. When interviewed for an alumni magazine, Dmitrevsky described his teaching style: “My first principle: I teach the particular scientific discipline. I do not [just] prepare students for examinations.” While he may not have intended to prepare students for examinations, he certainly provided his students with clearly explained complex concepts and theories with an unforgettable delivery.

His former student, TA and later colleague, Professor Micah Stickel remembers his impact on students: “Sergei was beloved by his students. He expected students to be on time (often late students would find a locked door), and if you fell asleep or stopped paying attention you might find yourself on the end of a well thrown piece of chalk. Yet, students admired and loved him as a person and a professor. He was always on the dance floor with students at the ECE Dinner Dances, and this deeply endeared him to generations of our students. I don’t know how many teaching awards he won, but it seemed like it happened every term!”

According to former student and current professor at the University of Alberta, Professor Ashwin Iyer: “Students were treated to a surreal, inspiring journey through electromagnetic theory, frequently annotated by witty, sometimes anachronistic, often wildly funny, and always enthralling anecdotes that served as mental anchor points for the challenging lecture material.”

Professor Dmitrevsky had very high expectations for his students. He wanted them to truly understand the concepts and was always available to help; for example, he ran all of his own tutorials. As a student in his fields and waves course in the late 90s Professor Iyer recalls “Professor Dmitrevsky established a review session the day before the final exam, during which any question could be asked, and all problems would be methodically re-explained and fully solved. The full-day session proceeded well into the evening, until there were no further questions, culminating in an ovation of applause like I'd never before, and never since, seen.”

Beyond academia, Professor Dmitrevsky was an accomplished pilot, and well into his later years he would still fly up north in the summer to camp and fish and as someone else recently shared he said: “My camp site was whatever lake I was able to land on.”

His passion for teaching kept him at the front of a classroom — with his bag of chalk in hand — until his nineties, teaching quantum mechanics to students born well after he had retired. Professor Dmitrevsky would have turned 100 at the end of the year.

Be it further resolved –

THAT this tribute to Sergei Dmitrevsky 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) Hans Kunov**

Professor Kundur then read the following memorial tribute in honour of Professor Emeritus Hans Kunov.

Be it resolved –

THAT the Council of the Faculty of Applied Science & Engineering record with deep regret the death on June 4, 2022 of Professor Hans Kunov.

Hans Kunov was born in Copenhagen in 1938 and grew up in a town close by. His father passed away when he was only four years old and Hans was raised in the company of his mother and sister. The death of his father had a devastating effect on the family and likely shaped his outlook as a professor and as a mentor.

Hans grew up under several dominating influences at that time. There was of course the legacy left by Niels Bohr and atomic physics. This was however not to be Hans' calling. Instead, the influence of another famous Danish scientist by the name of Oersted (the discover of electromagnetic induction) would have a greater influence as it was Oersted who created the Technical University of Denmark where Hans did his degree in electrical engineering. The second major influence was of course Bruel and Kjaer which dictated the scientific norm of Denmark and gave it its prominence in the area of acoustics. It was this influence that Hans decided to pursue his master's thesis on measuring distortions in hearing aids.

Hans' association with acoustics soon ended when he decided to pursue something different for his PhD. He was greatly influenced by the work of Hodgkin and Huxley and instead decided to do modelling work in electroneurophysiology. Soon after his PhD, as with many Danish engineers, Hans wanted to go abroad. He received two job offers, one from UCLA and the other from Toronto but it was the Vietnam War that ultimately swayed his decision to come to Toronto.

After arriving in Toronto, Hans began what was to be his lifelong — and as it turns out — only job as a faculty member in biomedical and electrical engineering. He was hired by Norman F. Moody who was the founder and founding director of the Institute of Biomedical Engineering. At that time, Hans decided yet again to work on a different field, this time in ultrasound imaging or acoustic holography. In parallel, he continued his work in electroneurophysiology collaborating with people from the physiology department. In the 70's, Hans met a Danish expatriate by the name of Poul Madsen living in the Toronto area. Poul was an engineer working on biomedical instrumentation in the general area of hearing diagnosis. Hans' association with Poul began with some contract work, became a lasting friendship and finally turned Hans back into the area that he first started with — that of the acoustics of hearing and speech. With the help of Poul Madsen, Hans established a laboratory for hearing at the Institute of Biomedical Engineering. He later went on to study otoacoustic emissions which is useful in detecting problems in hearing in young infants and newborns, and started the company Vivosonic based on the same technology.

Hans was always interested in mentoring and teaching young people. Outside of the University he was very active in the Big Brothers program. Within the University, he made several significant contributions towards teaching and pedagogy. First, he conducted studies on whether audiovisual enhancements during lectures would aid in student engagement and performance. In experiments conducted in classes he taught, to his surprise he was not able to

demonstrate a significant change in test performance. Second, in the 90s Hans created a fourth year interdisciplinary ECE course on acoustics, the only course of its kind at U of T and is now the foundational course of the Engineering Music Minor at the Faculty of Applied Science and Engineering. Third, Hans was particularly enthusiastic in teaching design to undergraduate students and was actively engaged in the teaching of APS111/112 (Engineering Strategies & Practice I/II). Fourth, for over 15 years, Hans Kunov set the standard as both a supervisor and an administrator of ECE capstone projects in ECE496. He took such care in guiding and mentoring his students, and continued to supervise capstone teams up until his death. As an administrator, Hans was always the first to complete his marking; when Hans finally retired from the course, Phil Anderson pondered "who will be there to shame us into getting our reports marked now that Hans won't be reporting first?" Finally, he was the Dean's Designate on Academic Offences, a position he held until the very end. Vaughn Betz observed how Hans "turned difficult meetings into teaching moments, having compassion for the students and their situation but also eloquently explaining why engineers need to have integrity at their core." Hans shared a tremendous passion for working with young engineering students.

Hans was a great visionary, teacher, mentor, engineer, philosopher, friend, and above all a caring, critical, and fair human being. In the early 1990s when the Engineering Science students at the University of Toronto presented a petition (signed by 200 students) to start a biomedical engineering option in Engineering Science, he sprang into action, and approached colleagues Berj Bardakjian and Yu Ling Cheng to start working on developing such a program. They had many meetings in his "director's office", where they started charting their path. He left their deliberations on the blackboard of his office for a long time as they kept filling in the holes and improve the offering. It was a challenge like any "new" endeavor as this was the first undergraduate biomedical engineering program in Canada. It started with a bang as it became the most popular option, along with the Aerospace option, in the Engineering Science program. He was the "force field" pushing that program forward.

On the administrative front, Hans was Director of the Institute of Biomedical Engineering from 1989-1999, and its Associate Director from 1984-1986. Before that, he was also Associate Chair of the Division of Engineering Science. For his service, Hans was awarded the Queen's Golden Jubilee Medal "for significant contribution to Canada, to the community, or to fellow Canadians" in 2003.

Hans is survived by his wife, Clare Lamb; his sons, Mads (Marie) and Niels (Daniella); and their mother, Helle; as well as his five beloved grandchildren and his sister, Else.

Be it further resolved –

THAT this tribute to Hans Kunov 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 observed one minute of silence in honour of Professors Emeriti Dmitrevsky and Kunov.

## **6. Report of the Dean**

Dean Chris Yip welcomed all to the Council meeting, in particular new faculty members, saying it is nice to see everyone back in person.

He thanked the Registrar and his team for their hard work in managing first year admissions, and congratulated the Engineering Society for rolling out a successful orientation for new students and some upper year students who missed orientation during Covid.

The dean referred to an in person meeting he had earlier that morning with the president of the Hong Kong Chapter of the Engineering Alumni Association, who was visiting Toronto. We are seeing a return to travel, and he looks forward to engaging with alumni in person around the globe.

He congratulated the chair of Civil & Mineral Engineering for opening up Gull Lake. Other departments and institutes, such as Electrical & Computer Engineering and Aerospace Studies, are interested in using the facility in a more fulsome manner.

Dean Yip stated that Fall convocation for engineering students is on November 10, and that we also look forward to welcoming back the classes of 2T0, 2T1, and PEY on December 2 for in person celebrations. The Registrar confirmed the Dean will preside over the ceremony for these recent graduates and that their names will be read. Many chairs and directors will be on stage and all are invited to attend.

The dean described the administrative activities underway, including new faculty and searches; SAP development; and our November move into the Experiential Learning Centre at 203 College Street. He also announced that a provostial review of the Faculty is being commissioned with an on-site visit planned for 2023-2024.

## **7. Appointments to the Academic Appeals Board (Undergraduate) and Standing Committees of Council, 2022-2023**

The Speaker presented Report 3723, which lists the names of members appointed to the Faculty's Academic Appeals Board (Undergraduate) and standing committees of Council to date for this academic year. It is anticipated that the graduate student members will be appointed in October.

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

## **8. Annual Report of the Academic Appeals Board (Undergraduate), 2021-2022**

Don Kirk, chair of the Academic Appeals Board (Undergraduate), presented Report 3724 regarding the number of appeals brought in the previous year and the disposition of those appeals. The report also describes updates, trends and observations within academic appeals. Professor Kirk thanked Board members, in particular student representatives, for their efforts and availability to attend hearings.

Council members discussed whether Covid had an effect on the number of hearings this past year. Professor Kirk said that the spike appears to be due to scheduling and timing, not the pandemic, but the number of students under extreme distress was greater than usual.

Members also discussed the impact of appeals decisions on students' continuing scholarships and awards. It was suggested that this information be included with the student information packages, and that the Scholarships and Awards Committee, Board, and Undergraduate Assessment Committee work together to lessen the impact on students.

The report was received for information.

## **9. Reports from Standing Committees of Council**

The following standing committee report was approved by the Executive Committee of Council at its September 22, 2022 meeting.

### **(a) Engineering Graduate Education Committee Update**

Marianne Hatzopoulou, chair of the Engineering Graduate Education Committee, presented Report 3722, which lists new courses approved in BME and MIE, and minor modifications to courses in MIE.

Professor Hatzopoulou noted that she is the first elected chair of EGEC, as the committee's chair has historically been the vice-dean, graduate studies, ex officio.

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

## **10. Service Presentation**

Dean Yip acknowledged and thanked Javad Mostaghimi for his service as Speaker of Council from 2020-2022, and presented him with a token of the Faculty's appreciation.

## **11. Other Business**

Further to the Speaker's earlier comments on traditional First Nations lands, a Council member commented on the decimation of the Wendat First Nation who were virtually wiped out by the small pox pandemics brought over by the colonial settlers, losing much of their population. Their weakened state led to attacks by the Haudenosaunee, who – backed by the English colonizers – defeated, disbursed or assimilated the Wendat.

Another member noted that the dean recently completed two marathons. The dean congratulated an MSE student who is running their first marathon this weekend.

**12. Date of Next Meeting**

The next Faculty Council meeting is on December 6, 2022.

**13. Adjournment**

The meeting was adjourned at 1:14 pm.

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