



UNIVERSITY OF TORONTO
FACULTY OF APPLIED SCIENCE & ENGINEERING

Memorial Tribute to

James K. Mills

Professor

Department of Mechanical & Industrial Engineering

February 27, 2023

Be it resolved –

THAT the Council of the Faculty of Applied Science & Engineering record with deep regret the death on November 18, 2022 of Professor James K. Mills.

Jim Mills was an accomplished and respected mechanical engineering professor who passed away on Friday, November 18, 2022.

Jim was a longstanding member of the University of Toronto community having received both his MSc degree in Electrical Engineering and then a PhD in Mechanical Engineering from the University in 1982 and 1987 respectively. He first joined the Department of Mechanical Engineering at the University of Toronto as a professor in 1988. Prior to joining MIE, Jim worked in designing inertial navigation components. In the Department, he took personal responsibility to lead the development of rigorous safety policies that we still use today. He helped in the hiring and mentoring of many colleagues over the years and was passionate in contributing to strengthening the Department. He also helped spearhead the undergraduate mechatronics stream in the Department, which is now the most popular stream among our students.

He is remembered fondly by his colleagues, both within MIE and outside of the Department. Jim and his longtime collaborator and friend, Professor Wai Tung Ng (ECE), pursued multi-disciplinary projects and secured multiple NSERC Strategic, Alliance, and OCE grants together. Jim's experience and knowledge of control systems, image processing, thermodynamics and automated manufacturing were crucial for projects that ranged from the formation flying of unmanned drones to power semiconductor modules for electric vehicles.

Outside of his research, Jim had many hobbies, including astronomy, photography and adventure travel. Jim was always happy to chat with colleagues or to grab coffee during a break. He would talk about his summer work in Hong Kong and the trips he took while there. Jim would graciously host you when you visited him abroad. His insight was often helpful in making both career and personal decisions.

During their regular early morning coffee sessions at the Second Cup on College Street, Jim and Professor Ng would talk about U of T, their departments, and their respective travels. The photos Jim took on his trips to Vietnam, Tibet (and the non-pressurized “pressurized” train), and across the Silk Road by bus (and the heat on that trip) showed him to be a man who wanted to understand the world. He had been to Antarctica onboard a small scientific research vessel. He had taken safaris, travelled to the Seychelles Island to photograph wildlife and transited the Panama Canal. Before the pandemic struck, he managed to travel to Namibia, a lifelong goal. Everyone who talked with him heard and saw photos from this trip and he convinced many that Namibia should be their first post-pandemic destination.

Jim was the director of the Nonlinear Systems Control Laboratory and his research focused on the areas of robotics, automation, and control. He published over 400 journal and conference papers and supervised over 50 MSc and PhD students as well as many Postdoctoral fellows and research engineers. He cared greatly about these students – and it was clear it was reciprocated. On any defense, a student knew that Jim was backing them to the end. He would also continue mentoring many of his former students well into their post-graduate careers.

Jim served as Co-Editor in Chief of the International Journal of Information Acquisition and was a member of the Editorial Board of the International Journal of Mechatronics and Automation. He served on the program committees of numerous international conferences. He was an Invited Visiting Professor at the Centre for Artificial Intelligence and Robotics in Bangalore, India, the University of Science and Technology in Hong Kong, the Chinese University of Hong Kong, as well as City University, Hong Kong.

Be it further resolved –

THAT this tribute to James K. Mills 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.

*Prepared by Lynsey Mellon, Professor Pierre Sullivan and Professor Goldie Nejat
(Department of Mechanical & Industrial Engineering), with input from
Professor Wai Tung Ng (Department of Electrical & Computer Engineering).*

*Presented at Faculty Council by Professor Greg Jamieson, Interim Chair
of the Department of Mechanical & Industrial Engineering.*