Memorial Tribute to

ERNEST STEWART LEE

Professor Emeritus in The Edward S. Rogers Sr.
Department of Electrical & Computer Engineering

December 11, 2013

Be it resolved that the Council of the Faculty of Applied Science & Engineering record with deep regret the death on October 15, 2013 of Ernest Stewart Lee.

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 1990s.

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.

Be it further resolved that a record of his service be inscribed in the minutes of this Council, and that a copy be sent to his family as an expression of the respect and gratitude of the members of Council.

Prepared by Emeritus Professors Safwat Zaky and Zvonko Vranesic, and Marit Mitchell