



**UNIVERSITY OF TORONTO**  
**FACULTY OF APPLIED SCIENCE & ENGINEERING**

**Memorial Tribute to**

**FRANK CLEMENTS HOOPER**

**Professor Emeritus**  
**Department of Mechanical & Industrial Engineering**

**February 18, 2022**

Be it resolved –

THAT the Council of the Faculty of Applied Science & Engineering record with deep regret the passing on May 2nd 2021 of Professor Emeritus Frank Clements Hooper.

Frank Clements Hooper, born in 1924, lived to the ripe old age of 97 years. His first association with the Faculty was in 1942 when he enrolled in Engineering Physics; he graduated four years later in 1946. In 1955, following the completion of post-graduate studies at Imperial College, London, Frank accepted an academic position within the Department of Mechanical Engineering, from which he formally retired in 1989 as Professor Emeritus. It was during his tenure at Imperial College that Frank met the love of his life, Gay Hooper, who sadly passed away in 2016. Frank is survived by their two children, Della and Jeffrey, and three grandchildren.

During his extended academic career from 1955 to 2021, Frank was an active participant on many fronts within the Faculty, and was well respected and appreciated by colleagues across all departments. He chaired or served on numerous Faculty & University committees, and being an effective communicator, was always willing to constructively challenge and debate issues within our Faculty Council, for our collective benefit. Through many years of service Frank demonstrated an unparalleled devotion to the Department, the Faculty and the engineering profession at large.

On the administrative front, Frank first served as the Graduate Secretary in the Department of Mechanical Engineering from 1953 to 1969. Following the revision of the Constitution of Faculty Council in 1972, which transferred the chairship from the Dean to an annually elected Office of the Speaker, Frank Hooper was appointed the first Speaker of Faculty Council; by all accounts he served with distinction until 1976. A year later, Frank was invited to serve as Chair of our prestigious Engineering Science Division, through to 1985.

Frank loved the classroom as much as he did the supporting laboratory experiences in MC120; he enjoyed teaching and the interaction with both undergraduate and graduate students. Students too enjoyed Frank's teaching prowess as he creatively linked the basic fundamentals with real world applications to fully demonstrate the excitement of the practical engineering experience.

In 1970 it was Frank, working with Professor I.W. Smith and the student project leader, Doug Venn, who pioneered and built the very successful and internationally acclaimed U of T Miss Purity entry for the Clean Air Car Race that ran from MIT, Boston to Caltech, Pasadena, powered by an electric/propane hybrid engine! Frank was an inspiring educator, as his infectious enthusiasm and experience encouraged student interest and learning.

Through the years Frank built an enviable research portfolio that earned him broad international accolades and recognition for his contributions in various thermal energy applications, energy production/conservation, and pollution control. Particular career highlights include his Chairmanship of the 6th International Heat Transfer Conference which he hosted in Toronto in 1978; he served as the President of the Assembly of this august body for four years. Frank also had the distinction of serving as the President of the Council of the Royal Canadian Institute in 1981/82.

Frank's research and consulting accomplishments were extensive. He was an early pioneer in the development of the ground source heat pump. He was honored in May 2011 with an award from the Canadian Geo-Exchange Coalition for his pioneering research on ground source heat pump and cooling technology. In the 1980s, his research team installed a mechanized system of solar collectors/receptors on the roof of the Mechanical Building to automatically track and investigate the diffuse component of sky radiation, an initiative that generated the first comprehensive database on the subject. Frank also contributed to heat and mass transfer design for the Orenda engines that powered the Avro Aero, and was intimately involved in the conceptual design of the Toronto District Cooling System that employs deep lake cooling water. In 1991 the significant contributions and varied accomplishments of Frank Hooper were recognized when he was admitted into the Hall of Distinction.

Frank was an exceptional role model and a friendly and respected senior statesman within the Faculty, with a keen sense of humour and wit. He was always willing to go the extra mile to welcome and support new faculty with their teaching and research and to offer sincere advice or a few words of wisdom, as required. He will be remembered fondly by his many colleagues and students over the years for his positive attitude and smile, willingness to listen and assist, and extensive engineering experience and know-how.

Thank you, Frank and Gay. Rest in Peace. Together we enjoyed years of memorable times. For many this included an enjoyable afternoon sail on the lake followed by a beer at the RCYC.

Be it further resolved –

THAT this tribute to Professor Frank Clements Hooper 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 Professor Emeritus Ron Venter with input from Professor Emeritus James S. Wallace. Presented at Faculty Council by Professor Markus Bussmann, Chair of the Department of Mechanical & Industrial Engineering.*