Short Biography of Dr. Hamish Fraser

Dr. Hamish Fraser graduated from the University of Birmingham (UK) with a B.Sc. (1970) and a Ph.D. (1972) in Physical Metallurgy. In 1973, he was appointed Assistant Professor at the University of Illinois (UIUC), where he was later promoted to Associate Professor and then Professor. During this time, Dr. Fraser spent 18 months as a Senior Research Scientist at the United Technologies Research Center, gaining valuable experience in industrial research and development.

At UIUC, Dr. Fraser brought in approximately $8M in research funding and about $4M for equipment. This funding was applied to several key programs, including rapid solidification processing. He designed and built a materials processing facility with unique equipment for melt-spinning, pre-alloyed powder production, and dynamic compaction of powder products. Additionally, he advanced the development of intermetallic compounds, particularly titanium aluminides, and established a state-of-the-art electron microscopy center in the Frederick Seitz Materials Research Laboratory at UIUC.In 1989, Dr. Fraser was appointed Ohio Regents Eminent Scholar and Professor in the Department of Materials Science and Engineering at Ohio State University. Over the next 35 years, he expanded his research in physical metallurgy, materials processing, and electron microscopy techniques. Dr. Fraser attracted more than $75M in research funding, with approximately $40M dedicated to developing a world-class electron microscopy center, which evolved into the Center for Electron Microscopy and Spectroscopy (CEMAS) at OSU. Concurrently, he established an advanced materials processing laboratory, including the acquisition of the first commercially available processing equipment for Additive Manufacturing.

Dr. Fraser focused his research on developing a fundamental understanding of the behavior of metallic alloys for structural applications, including titanium alloys, Ni-base superalloys, and refractory high-entropy alloys. He also founded the Center for the Accelerated Maturation of Materials (CAMM), an initiative focused on integrating computational and experimental materials sciences. CAMM was established many years before the U.S. Government’s Materials Genome Initiative, which aims to develop Integrated Computational Materials Engineering (ICME).

In recognition of his outstanding contributions to science, Dr. Fraser has been appointed as an Honorary Professor at both Nelson Mandela University (South Africa) and the University of Birmingham (UK). He is also an Adjunct Professor at Monash University (Australia) and the University of North Texas. Dr. Fraser has held the position of Theodore von Kármán Fellow at RWTH Aachen University (2016) and Brahm Prakash Visiting Chair at the Indian Institute of Science (IISc) in Bangalore, India (2017-18).Dr. Fraser has contributed to several prestigious advisory roles, including service for NATO (Office National d'Études et de Recherche Aérospatiale, Paris), the Government of Western Australia (Technology Development Authority), and the External Advisory Committee of the Department of Materials Science and Metallurgy at the University of Cambridge. He has also served on the Board of the National Materials Advisory Board of the U.S. National Academies and the U.S. Air Force Scientific Advisory Board.

Dr. Fraser is a Fellow of five international societies: ASM International (1993), the Institute of Materials, Minerals and Mining (IOM3, 2001), TMS (2005), the Microscopy Society of America (2013), and the Microanalysis Society (Inaugural Class, 2019). He has been invited to present numerous prestigious lectures, including the Lee-Hsun Award Lecture at the Institute for Metals Research in Shenyang, China (2011), the John Matthews Memorial Lecture at the Microscopy Society of Southern Africa in Pretoria (2011), the N.N. Dasgupta Memorial Lecture at the Electron Microscopy Society of India in Kolkata (2013), and the Inaugural Srikumar Banerjee Memorial Lecture (2022).

Dr. Fraser's accolades include the Monash Distinguished Engineering Professor Award (2022), the President’s Science Award of the Microanalysis Society (2014), the ASM Henry Marion Howe Medal (2019), the TMS-AIME Champion H. Mathewson Award (2020), the ASM Edward DeMille Campbell Memorial Lecture (2022), the IOM Robert Franklin Mehl Award (2024), and the Henry Clifton Sorby Award (2025). He has mentored 53 Ph.D. students and 36 M.S. students throughout his career.

Dr. Fraser has published approximately 470 scholarly papers and delivered around 411 invited, keynote, and plenary lectures, making a profound impact on the field of materials science.