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Years of Materials Innovation 1913–2013

Centennial Celebrations October 23 & 24, 2013

3rd Annual Winegard Visiting Lectureship, featuring:

Michael F. Ashby, CBE, PhD, FRS, FREng
Royal Society Research Professor
Department of Engineering, University of Cambridge

www.mse.utoronto.ca



A Historical Timeline of the Department of Materials Science & Engineering at the University of Toronto 1913–2013

1913

Department Eight: Metallurgical Engineering, established; Professor George A. Guess as 1st Department Head

Degrees offered: Bachelor of Applied Science (BASc) and Master of Applied Science (MASc) in Metallurgical Engineering

1920s

Ceramics Engineering option established under direction of Professor Robert J. Montgomery

1943

Professor Lloyd M. Pidgeon joins Department from the National Research Council of Canada and appointed Head; significant department expansion ensues

1947

First PhD granted in Metallurgical Engineering

1948

Professor Bruce Chalmers recruited from the United Kingdom: major graduate program in Physical Metallurgy established, leading to the formation of the world's preeminent research group in the study of the solidification of metals

1950s

Department of Metallurgical Engineering established as research powerhouse in Canada: majority of research funding received by the Faculty of Applied Science & Engineering from the National Research Council of Canada (NRC) was designated to metallurgy

1964

Department name changed to “Metallurgy & Materials Science (MMS),” reflecting broader coverage of research areas involving non-metallic materials

1965

Interdepartmental Materials Science Centre established in the Faculty of Applied Science & Engineering under MMS leadership

1967

66 PhDs conferred in metallurgy; new building constructed (now L. M. Pratt Building) to accommodate rapid department expansion

1969

Professor Pidgeon retires; Department confers 72 PhDs to date—a number greater than many U of T departments at the time

Professor C. Benjamin Alcock recruited from Imperial College (London, UK) to succeed Professor Pidgeon as Chairman

1970s

Expansion of research and teaching offerings via faculty cross-appointments to include Physics, Electrical Engineering, and Dentistry / Biomaterials

1984

Centre for Nuclear Engineering moved to MMS under direction of Professor O. John C. Runnalls, and subsequently Professor Brian Cox

1986

Centre for Chemical Process Metallurgy (CCPM) based in MMS under leadership of Director Roland Bergman

1980s & 90s

Continued department expansion under leadership of Professor W. Alfred Miller (Chairman: 1982–1992) via partnerships with NSERC and industry—MMS held highest number of NSERC Industrial Research Chairs (IRCs) for a single academic department in Canada at the time

IRCs established: Steelmaking, Welding, Chemical Process Engineering, Nuclear Engineering, Electromagnetic Processing, and Nanomaterials Engineering

Professor Alexander McLean (Chair: 1992–1997) establishes Departmental Strategic Planning Committee: undergraduate curriculum transformed and renamed ‘Materials Engineering’ to reflect broader fundamental learning areas and applied knowledge

Late-90s to Mid-2000s

Department's first External Advisory Board established under leadership of Professor Doug D. Perovic (Chair: 1997–2008): membership included Canada's top industry leaders in Metallurgy / Materials Engineering—independent status of academic unit strengthened and secured

Department name changed to “Materials Science & Engineering (MSE)” in 2001, reflecting strategic expansion and faculty appointments in advanced and performance materials. Undergraduate specialization areas redeveloped to include: nanomaterials, biomaterials, materials in manufacturing, and materials processing & sustainable development

Undergraduate admissions quality and enrollment quantity increased to ~50 students per year; U of T becomes home to one of the largest MSE departments in North America

Three endowed Chairs established: Energenius / Stan Meek Chair in Advanced Nanotechnology, Gerald R. Heffernan Chair in Materials Processing, and Celestica Chair in Materials for Microelectronics

Canada Research Chair in Smart & Functional Materials also established in conjunction with the Department of Mechanical & Industrial Engineering (MIE)

2010

Department hosts 1st Annual Winegard Visiting Lectureship: Professor Donald R. Sadoway (MIT) as inaugural distinguished lecturer on “New Materials Engineering & the Path to Sustainability”

Canada Research Chair in Organic Optoelectronics established

2011

Inaugural edition of Impact published

Department celebrates 10 years of UT², an annual academic exchange program between the 2 MSE departments at the University of Tokyo and the University of Toronto

2012

2nd Annual Winegard Visiting Lectureship: Professor Sir Colin Humphreys of the University of Cambridge as distinguished lecturer on “How Materials Science Can Help to Solve Some Major World Problems”

Department receives \$1 million gift from alumnus Dr. Walter Curlook to advance research and teaching facilities in Materials Processing & Characterization

2013

100 Years of Materials Innovation: the Department of Materials Science & Engineering at the University of Toronto marks a century of world-class research and education in materials engineering. With close to 2000 alumni, 200 current undergraduate students, 80 graduate students, and 17 core faculty members, MSE at U of T continues to be one of the largest and most reputable materials / metallurgy academic units in North America.

On October 23 and 24, 2013, please join us in marking our Centennial year. The 3rd Annual Winegard Visiting Lectureship will be held as part of our celebratory events with Professor Michael F. Ashby of the University of Cambridge as the distinguished lecturer.

Heads & Chairs

Professor George A. Guess	1913–1943
Professor Lloyd M. Pidgeon	1943–1969
Professor C. Benjamin Alcock	1969–1976
Professor James M. Toguri	1976–1981
Professor W. Alfred Miller	1981–1992
Professor Alexander McLean	1992–1997
Professor Doug D. Perovic	1997–2008
Professor Jun Nogami	2009–PRESENT

By the Numbers: Degrees Conferred

Year	BASc	MASc	MEng	PhD
1913–1919	1			
1920–1929	7			
1930–1939	58	1		
1940–1949	187	13		3
1950–1959	127	45		30
1960–1969	98	55		39
1970–1979	120	71	11	26
1980–1989	185	74	20	31
1990–1999	178	107	13	50
2000–2010	398	122	44	57
2011	44	13	3	6
2012	46	12	7	9
Total	1,449	513	98	251