

G. B. FROST MEMORIAL LECTURE

The Grenville Frost Visiting Lectureship in Chemistry was established in 1966 by a bequest from the estate of the Honourable Leslie M. Frost, Premier of Ontario, in memory of his brother, Grenville. This fund is used to invite a Visiting Lecturer to Queen's.

Grenville Frost completed his education at the University of Toronto and, after graduating, went on to the University of California where he worked under the famous G.N. Lewis. Dr. Frost was appointed Lecturer at Queen's in 1924 and Full Professor in 1944. He became Head of the Department of Chemistry in 1956 and served in this post until retirement in 1961.

Dr. Frost was also the Supervisor to H.G. McAdie, who was the first Ph.D. Graduate in the Department of Chemistry

SELECTED RECENT PUBLICATIONS

- Ryan M. Bain, Christopher J. Pulliam, R. Graham Cooks, Accelerated Hantzsch electrospray synthesis with temporal control of reaction intermediates, *Chemical Science* **2015**, 6, , 397-401
- Anyin Li, Zane Baird, Soumabha Bag, Depanjan Sarkar, Anupama Prabhat, Thalappil Pradeep, R. Graham Cooks, Using Ambient Ion Beams to Write Nanostructured Patterns for Surface Enhanced Raman Spectroscopy, *Angewandte Chemie* **2014**, 126, , 12736-12739
- Xin Yan, Ewa Sokol, Xin Li, Guangtao Li, Shiqing Xu, R. Graham Cooks, On-Line Reaction Monitoring and Mechanistic Studies by Mass Spectrometry: Negishi Cross-Coupling, Hydrogenolysis, and Reductive Amination, *Angewandte Chemie* **2014**, 126, , 6041-6045
- Jjunju, F. P. M.; Li, A. Y.; Badu-Tawiah, A.; Wei, P.; Li, L. F.; Ouyang, Z.; Roqan, I. S.; Cooks, R. G., In situ analysis of corrosion inhibitors using a portable mass spectrometer with paper spray ionization, *Analyst* **2013**, 27, 1, 249-257
- Li, A. Y.; Wei, P.; Hsu, H. C.; Cooks, R. G., Direct analysis of 4-methylimidazole in foods using paper spray mass spectrometry, *Analyst* **2013**, 85, 9, 4713-4720
- Li, G. T.; Li, X.; Ouyang, Z.; Cooks, R. G., Carbon-Carbon Bond Activation in Saturated Hydrocarbons by Field-Assisted Nitrogen Fixation, *Angewandte Chemie-International Edition* **2013**, 15, 19, 5088-5091
- Wiley, J. S.; Shelley, J. T.; Cooks, R. G., Handheld Low-Temperature Plasma Probe for Portable "Point-and-Shoot" Ambient Ionization Mass Spectrometry, *Analytical Chemistry* **2013**, 11, 44, 7768-7777



Department of Chemistry
Queen's University

is honoured to host the
2015 Frost Lecturer:

Dr. Graham Cooks
Purdue University



"Medical Diagnostics, Organic
Synthesis and Materials
Fabrication using Mass
Spectrometry"

Friday, April 24, 2015
11:30 AM
Room 117, Chernoff Hall

DR. GRAHAM COOKS



Graham Cooks

Henry B. Hass Distinguished Professor - Analytical Chemistry
Department of Chemistry,
Purdue University
West Lafayette, IN

Graham Cooks is a pioneer in the conception and implementation of the mass spectrometry methods of MS/MS and of desorption ionization. He has built mass spectrometers of various types, most recently miniature ion trap mass spectrometers, and applied them to problems of trace chemical detection. Some inventions and concepts to which Graham Cooks has contributed are ion soft landing, neutral loss scans, matrix based ionization, multiple reaction monitoring (MRM), hybrid mass spectrometers, handheld mass spectrometers, the kinetic method of thermochemical determination, tissue imaging and MS/MS for mixture analysis.

Cooks is a past President of the American Society for Mass Spectrometry and the International Mass Spectrometry Society and a Life Member of the British Mass Spectrometry Society as well as the Japanese, Indian and Chinese societies. Several inventions have been commercialized and four companies launched from his lab. He has published over a thousand papers, has an h-index of 86 and has served as major professor to 2⁷ Ph. D. students.

SELECTED HONOURS & AWARDS

- 2013 Dreyfus Prize in the Chemical Sciences
- 2012 Cotton Medal for Excellence in Chemical Research, ACS
- 2011 Centennial Prize, Royal Society of Chemistry
- 2011 Elected Fellow, American Association for the Advancement of Science
- 2010 Elected Fellow, American Academy of Arts and Science
- 2009 Ralph N. Adams Award, Pittsburgh Conference
- 2009 Robert Boyle Medal in Analytical Chemistry 2008, Royal Society of Chemistry
- 2008 Visiting Professor, Memorial University
- 2006 Certificate of Achievement, Indiana Health Industry Forum
- 2006 Distinguished Contribution Award, American Society for Mass Spectrometry
- 2006 Centennial Distinguished Lecturer, University of Texas
- 2006 Max T. Rogers Distinguished Lecturer, Michigan State University
- 2006 National Science Foundation MPS Distinguished Lecture
- 2005 Outstanding Faculty Commercialization Award, Purdue University
- 1997-1998 Founding President, International Mass Spectrometry Society
- 1997 ACS Award for Analytical Chemistry (Fisher Award)
- 1991 ACS Award for Mass Spectrometry (Frank H. Field & Joe L. Franklin Award)