The Michael Baird Lecture Series

The Michael Baird Lecture Series was established in 2017, the Golden Anniversary of Mike's arrival at Queen's, through generous donations from former students.

Mike was raised in Dundas, Ontario, and obtained an Hon. B.Sc. in Chemistry from McMaster University (where he also won several OUAA and CIS intercollegiate sprint championships). He completed his Ph.D. within three years at the University of Toronto, and then spent two extremely productive postdoctoral years with Sir Geoffrey Wilkinson (1973 Nobel Prize) at Imperial College, London. He joined the faculty at Queen's in 1967.

Mike has carried out research on many aspects of organometallic chemistry and catalysis, publishing over 275 papers and ten patents. He has received almost every national award for scholarship in his field including the Alcan Lecture Award, the Catalysis Award and the Catalysis Lectureship Award of the Chemical Institute of Canada. He was elected to Fellowships of the Chemical Institute of Canada and the Royal Society of Canada, and received the Queen's University Prize for Excellence in Research in 1998. Mike was elected to the McMaster University Sports Hall of Fame and received the 2015 McMaster University Distinguished Alumni Award.

Mike Baird is a much respected teacher who guided about 90 graduate students and 25 postdoctoral fellows. He has taught literally thousands of undergraduate students at all levels, of whom about 350 were introduced to research in his laboratory. As a result, Mike received the Chemistry Department Student Council Prize for Excellence in Teaching five times.

The Baird Lecture Series represents a fine legacy to the Baird career, and the Department thanks former Baird group members Helen Ferkul (M.Sc. '81) and Will Rogers (Ph.D. '80) for organizing the funding drive.

SELECTED RECENT PUBLICATIONS

Reduction of Dinitrogen to Ammonia Catalyzed by Molybdenum Diamido Complexes, Wickramasinghe, Lasantha A.; Ogawa, Takaya; Schrock, Richard R.; Muller, Peter, Journal of the American Chemical Society (2017), 139, 9132.

Synthesis of cis,syndiotactic-A-alt-B Copolymers from Enantiomerically Pure Endo-2-Substituted-5, 6-Norbornenes, Jang, Eun Sil; John, Jeremy M.; Schrock, Richard R., Journal of the American Chemical Society (2017), 139, 5043.

Formation of High-Oxidation-State Metal-Carbon Double Bonds, Schrock, Richard R.; Coperet, Christophe, Organometallics (2017), 36, 1884.

Molybdenum Chloride Catalysts for Z-selective Olefin Metathesis Reactions, Koh, Ming Joo; Nguyen, Thach T.;Lam, Jonathan K.; Torker, Sebastian; Hyvl, Jakub; Schrock, Richard R.; Hoveyda, Amir H., Nature (2017), 542(7639), 80.

A DFT Study of the Role of Water in the Rhodium-catalyzed Hydrogenation of Acetone, Polo, Victor; Schrock, Richard R.; Oro, Luis A. Chemical Communications (Cambridge, United Kingdom) (2016), 52, 13881.

Reducing Them Down To Charge Them Up: Low Temperature Catalyst Activation Schrock, Richard R., ACS Central Science (2016), 2, 495.

Kinetically Controlled E-selective Catalytic Olefin Metathesis, Nguyen, Thach T.; Koh, Ming Joo; Shen, Xiao; Romiti, Filippo; Schrock, Richard R.; Hoveyda, Amir H., Science (2016), 352(6285) 569.

Direct Synthesis of Z-alkenyl Halides Through Catalytic Cross-metathesis, Koh, Ming Joo; Nguyen, Thach T.; Zhang, Hanmo; Schrock, Richard R.; Hoveyda, Amir H., Nature (2016), 531(7595), 459.

Multiple Metal-Carbon Bonds for Catalytic Metathesis Reactions (Nobel Lecture), Schrock, Richard R., Angewandte Chemie, International Edition (2006), 45(23), 3748-3759.

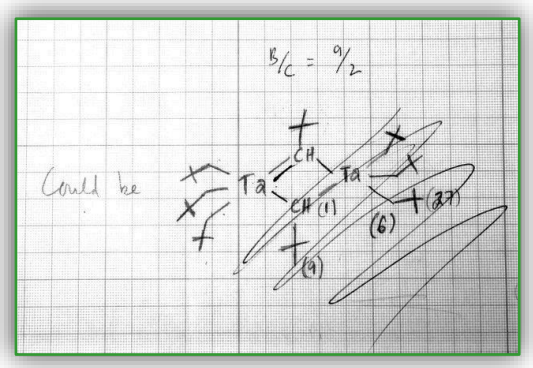
Queen's Chemistry

The Department of Chemistry, Queen's University

is honoured to host the inaugural Baird Lecture:

Dr. Richard Schrock
Massachusetts Institute of Technology

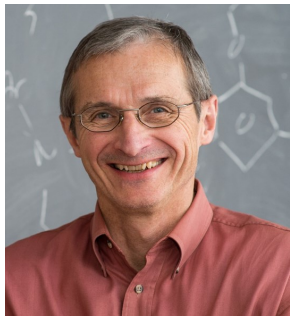
"Adventures in the Chemistry of Transition Metal to Carbon Multiple Bonds"



Friday, September 29, 2017
11:30 AM

Room 117, Chernoff Hall

DR. RICHARD R. SCHROCK



Richard Royce Schrock
Department of Chemistry
Massachusetts Institute of Technology
Cambridge, MA

Richard R. Schrock was born in Indiana, but spent his high school years in San Diego, California, and obtained his B. A. degree in 1967 from the University of California at Riverside. He attended graduate school at Harvard University, from which he received his Ph. D. degree in inorganic chemistry in 1971 (awarded 1972) as a student of J. A. Osborn. He spent one year as an NSF postdoctoral fellow at Cambridge University working in the group of Lord Jack Lewis. In 1972 he was hired by Earl Muetterties of the Central Research and Development Department of E. I. duPont de Nemours and Company. After three years in the group of George Parshall he moved to M.I.T. in 1975 where he became full professor in 1980 and in 1989 the Frederick G. Keyes Professor of Chemistry. He has received the ACS Award in Organometallic Chemistry (1985), the Harrison Howe Award of the Rochester ACS section (1990), the ACS Award in Inorganic Chemistry (1996), the Bailar Medal from the University of Illinois (1998), an ACS Cope Scholar Award (2001), the F. Albert Cotton Award in Synthetic Inorganic Chemistry (2006), the Theodore Richards Medal from the Northeast ACS section (2006), and the Basolo Medal from the Chicago ACS section (2007). In 2005 he received the August Wilhelm von Hofmann Medal from the German Chemical Society and shared the Nobel Prize in Chemistry with Y. Chauvin and R. H. Grubbs. He has been elected to the American Academy of Arts and Sciences, the National Academy of Sciences, and the Royal Society of London. He was Associate Editor of *Organometallics* for eight years, has published more than 590 research papers, and has supervised over 180 Ph.D students and postdocs.

Schrock is perhaps best known as the discoverer of alpha hydrogen abstraction reactions in high oxidation state metal alkyl complexes that yield high oxidation state "carbene" (alkylidene) and "carbyne" (alkylidyne) complexes. High oxidation state alkylidene complexes ("Schrock carbenes") are the active catalysts for the olefin metathesis reactions, and much effort has been expended in learning how to design, synthesize, and control the activity of olefin metathesis catalysts. Schrock also showed that alkylidyne complexes (again high oxidation state) were the active species in the acetylene metathesis reaction, and that alkylidynes could be prepared in a reaction between metal-metal triple bonds and acetylenes. His interests include kinetic and mechanistic studies of high oxidation state early metal organometallic species, as well as the development of molybdenum and tungsten catalysts for metathesis reactions of relevance to organic synthesis. He also is active in studies concerned with the ring-opening-metathesis polymerization (ROMP) of cyclic olefins. In more recent work, he was the first to show that molecular nitrogen could be reduced catalytically to ammonia under mild conditions by a molybdenum catalyst in the presence of protons and electrons.

SELECTED HONOURS & AWARDS

2017 Michael Baird Lecture, Queen's
2015 Humboldt Fellow, Stuttgart
Peter Wall Institute Scholar, UBC
2014 Elected AAAS Fellow
Paracelsus Prize, Swiss Chemical Society
Solvay Chair, University of Brussels
2013 Fellow of Lincoln College, Oxford
JSPS Fellowship, Nara, Japan
Honoris Causa, University of St. Andrews
Honoris Causa, University of Aachen
2012 MacDiarmid Award, U. Pennsylvania
2009 Honoris Causa, University of Rennes
2008 Honoris Causa, University of Zaragoza
University of Auckland Hood Fellow
Elected Foreign Member of the Royal Society of London
2007 Basolo Medal, Northwestern University
2006 Distinguished Alumnus Award, University of California, Riverside
F. Albert Cotton ACS Award
2005 Nobel Prize in Chemistry
August Wilhelm von Hofmann Medal, German Chemical Society
2004 Royal Society of Chemistry Sir Edward Frankland Prize
2002 Royal Society of Chemistry Sir Geoffrey Wilkinson Medal
2001 ACS Cope Scholar Award
1998 Bailar Medal, University of Illinois
1996 ACS Award in Inorganic Chemistry
1995 Humboldt Senior Research Award
1993 JSPS Fellowship, Kyoto, Japan
1992 Elected National Academy of Sciences

And many many more.