



The Chinese University of Hong Kong
Department of Chemistry
Research Seminar Series

Speaker: Prof. Mark Lautens
Department of Chemistry
University of Toronto

Title: Improving Efficiency in Synthesis

Date: March 12, 2015 (Thursday)

Time: 4:30 p.m.

Venue: LT4
Lady Shaw Building



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Contact Person:
Prof. Gavin C.Tsui



M. Lautens

The author presented on this page has recently published his **10th article** since 2000 in *Angewandte Chemie*: “Efficient Synthesis of Benzothiophenes by an Unusual Palladium-Catalyzed Vinylic C–S Coupling”: C. S. Bryan, J. A. Braunger, M. Lautens, *Angew. Chem.* **2009**, *121*, 7198–7202; *Angew. Chem. Int. Ed.* **2009**, *48*, 7064–7068.

Mark Lautens

Date of birth:	July 9th, 1959
Positions:	1998–Present Astra Zeneca Professor of Organic Synthesis 2003–Present Merck Frosst/NSERC Industrial Research Chair
Education:	1977–1981 BSc, University of Guelph (Canada) 1981–1985 NSERC PhD with B. M. Trost, University of Wisconsin, Madison (USA) 1985–1987 NSERC Posdoc with D. A. Evans, Harvard University (USA) 1987–1992 Assistant Professor, University of Toronto (Canada) 1992–1995 Associate Professor, University of Toronto 1995–1998 Professor, University of Toronto
Professional associations:	Visiting Professor: University of Marburg, Paris VI, Geneva, Santiago do Compostela, Gargnano Summer School, MPI Mülheim, Tokyo Institute of Technology
Awards:	1991 A. P. Sloan Fellow, 1994 E. W. R. Steacie Award, 2001 Fellow of the Royal Society of Canada, 2002 Eli Lilly Grantee, 2004 R. U. Lemieux Award, 2006 Alfred Bader Award and A. C. Cope Scholar, 2009 Alexander von Humboldt Senior Scientist
Current research interests:	Development of new chemical reactions giving novel and useful heterocyclic scaffolds, enantioselective transformations, ring-forming reactions, ring-opening reactions, use of strain to promote chemical processes and metal-promoted reactions
Hobbies:	Traveling with my family, skiing, playing squash, cycling, and good food and wine

My most exciting discovery to date has been ... catalytic enantioselective ring-opening reactions.

When I was eighteen I wanted to be ... a professor of veterinary medicine.

My favorite subject at school was ... calculus, at least until I took quantum mechanics.

When I wake up I ... wonder how am I going to accomplish what needs to be done today?

The biggest challenge facing chemists is ... educating everyday citizens and those in government so that they understand what we do and why spending tax dollars on research represents a valuable investment in our future.

I chose chemistry as a career because ... Gord Lange at Guelph made organic chemistry sound logical.

If I wasn't a scientist, I would be ... a chef, preferably at a 3* Michelin restaurant.

In a nutshell, my research involves ... searching for new modes of reactivity that will make bioactive products in an efficient way.

In my spare time I ... enjoy nearly any kind of activity with my children that gets us moving and talking.

The secret of being a successful scientist is ... finding the right balance between listening to what others say is possible and following your own ideas to something new.

The part of my job which I enjoy the most is ... watching students gain confidence to try their own ideas.

A good work day begins with ... news that a grant was funded.

My 5 top papers:

1. “Rhodium-Catalyzed Coupling Reactions of Arylboreonic Acids to Olefins in Aqueous Media”: M. Lautens, A. Roy, K. Fukuoka, K. Fagnou, B. Martin-Matute, *J. Am. Chem. Soc.* **2001**, *123*, 5358–5359.
2. “Mechanistic Studies of the Palladium-Catalyzed Ring-Opening of Oxabicyclic Alkenes with Dialkylzinc”: M. Lautens, S. Hiebert, J.-L. Renaud, *J. Am. Chem. Soc.* **2001**, *123*, 6834–6839.
3. “Effects of Halide Ligands and Protic Additives on Enantioselectivity and Reactivity in Rhodium-Catalyzed symmetric Ring-Opening Reactions”: M. Lautens, K. Fagnou, *J. Am. Chem. Soc.* **2001**, *123*, 7170–7171.
4. “Pd-Catalyzed Tandem C–N/C–C Coupling of *gem*-Dihalovinyl Systems: A Modular Synthesis of 2-Substituted Indoles”: Y.-Q. Fang, M. Lautens, *Org. Lett.* **2005**, *7*, 3549–3552.
5. “The Norbornene-Shuttle: Multicomponent Domino Synthesis of Tetrasubstituted Helical Alkenes through Multiple C–H Functionalization”: K. M. Gericke, D. I. Chai, N. Bieler, M. Lautens, *Angew. Chem.* **2009**, *121*, 1475–1479; *Angew. Chem. Int. Ed.* **2009**, *48*, 1447–1451.

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*The Chinese University of Hong Kong
Department of Chemistry
Research Seminar Series*

Speaker: Prof. Chunming Cui
State Key Laboratory of Elemento-Organic
Chemistry
Nankai University

Title: BN conjugated compounds: synthesis and
electronic structures

Date: March 13, 2015 (Friday)

Time: 4:30 p.m.

Venue: L1
Science Centre



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Contact Person:
Prof. Zuowei Xie



*The Chinese University of Hong Kong
Department of Chemistry
Research Seminar Series*

Speaker: Prof. Jun Okuda
Institute of Inorganic Chemistry
RWTH Aachen University
Germany

Title: Molecular Alkyl and Hydrides of
Electropositive Metals

Date: March 16, 2015 (Monday)

Time: 10:30 a.m.

Venue: Room 158
Science Centre



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*Contact Person:
Prof. Zuwei Xie*



The Chinese University of Hong Kong
Department of Chemistry
Research Seminar Series

Speaker: Prof. Jun Okuda
Department of Inorganic Chemistry
RWTH Aachen University
Germany

Title: Carbenes as New Ligands for Reactive Metals

Date: March 17, 2015 (Tuesday)

Time: 4:30 p.m.

Venue: L4
Science Centre



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Contact Person:
Prof. Zuowei Xie



The Chinese University of Hong Kong
Department of Chemistry
Research Seminar Series

- Speaker:** Prof. Shiping Zhu
Department of Chemical Engineering
McMaster University, Canada
- Title:** Polymer Reaction Engineering for Advanced Materials
- Date:** March 20, 2015 (Friday)
- Time:** 2:30 p.m.
- Venue:** L5, Science Centre

< Abstract >

The human race is now living in the “Materials World”. Humanity currently consumes more polymeric materials than all other types of synthetic materials combined. Polymers are chain molecules and their materials properties are determined to a large extent by their chain microstructure properties. Presented in this seminar are a chemical engineer’s point of view on advanced polymer materials and several research examples that include: high-strength polyethylene fibers made by nano-extrusion polymerization; long chain branched polyethylenes that offer a good combination of melt strength and processability; semi-batch reactor technology for controlled gradient copolymers, redispersible latexes prepared by switchable surfactant; and grafting biomimetic polymer for anti-fouling surfaces.

Biography:

Prof. Zhu received BEng from Zhejiang University China in 1982, and PhD from McMaster University Canada in 1991. He is currently Professor of Chemical Engineering and Tier-1 Canada Research Chair in Polymer Reaction Engineering at McMaster. He has been a faculty member since 1994 and served as the Department Chair in 2009-2014. He is an elected Fellow of the Canadian Academy of Engineering (2010) and Fellow of the Royal Society of Canada (2014). Prof. Zhu’s research is controlled radical polymerization, catalytic polymerization of olefins, polymerization modeling, surface modification of biomaterials, interfacial engineering for plastic microelectronics. He has published about 300 technical papers, presented to 200 conferences, and delivered 100 invited seminars around the world. He has trained about 100 postgraduate and postdoctoral fellows.