



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

**Speaker:** Dr. Robert W. Hart  
CEO  
Optofluidics Inc.

**Title:** Advanced Surface Characterization of Particles

**Date:** October 13, 2015 (Tuesday)

**Time:** 4:30 p.m.

**Venue:** L2, Science Centre

< Abstract >

A new technique to characterize particles down to 50 nanometers was developed by Optofluidics and is based on technology from Cornell University. Whether a particle sticks to a neighbor, sticks to a wall, adsorbs proteins or crashes out of solution are all related to surface properties. NanoTweezer Surface uses a laser to push particles against a reference surface and measure the interaction strength between the two. It can measure individual particles and build the statistics from the ground up. It is far superior to zeta potential and we believe it will become the standard way to test nanoparticle formulations and lot-to-lot variations as well as a forensic tool for finding out what went wrong in a preparation

Short bio

Robert Hart, Ph.D. is CEO of Optofluidics, Inc., a four year old Cornell spinout. In this capacity, Robert oversees corporate partnerships, product development and fundraising. He has played a central role in bringing in over \$6M of funding including federal grants and private investments. Robert and CCO Bernardo Cordovez were selected for Life Science Startup of the year in 2012 by the Greater Philadelphia Alliance for Capital and Technologies. Robert attained his Biomedical Engineering doctorate from Drexel University under Dr. Moses Noh and Dr. Ryszard Lec and completed his post doc at the University of Pennsylvania under Dr. Haim Bau. Robert was also the Valedictorian for Drexel's class of 2010. Robert has a broad background in microfabrication, microfluidics, nanomanipulation and molecular biology and is supported by a cross-disciplinary team at Optofluidics.



*The Chinese University of Hong Kong  
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Research Seminar Series*

**Speaker:** Prof. Dietmar Kuck  
Department of Chemistry  
Bielefeld University  
Germany

**Title:** Joy and Fun with Non-naturals and Naturals:  
Synthesis of New Centropolyindanes and  
Analysis of Agarwood Constituents

**Date:** October 14, 2015 (Wednesday)

**Time:** 2:30 p.m.

**Venue:** Room C5  
Lady Shaw Building



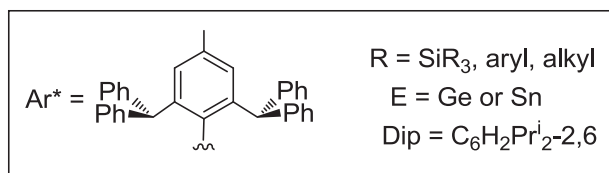
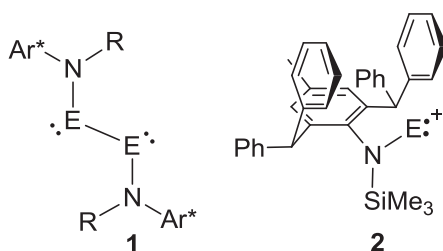


The Chinese University of Hong Kong  
Department of Chemistry  
Research Seminar Series

- Speaker:** Prof. Cameron Jones  
School of Chemistry  
Monash University, Australia
- Title:** Super Bulky Amides: New Ligands for The Stabilisation of Low-Valent Main Group Complexes
- Date:** October 16, 2015 (Friday)
- Time:** 4:30 p.m.
- Venue:** L1, Science Centre

<< Abstract >>

Considerable progress has been made over the last decade towards the stabilisation of very low oxidation state p-block compounds with bulky ligands. In this lecture the development of a new class of extremely bulky amido ligands will be discussed, as will their use in the preparation of previously inaccessible, coordinatively unsaturated low oxidation state s- and p-block metal complex types, e.g. **1** and **2**.<sup>1</sup> The facile "transition metal-like" reactivity of these compounds towards small molecule (e.g. H<sub>2</sub>, CO<sub>2</sub>, NH<sub>3</sub> etc.) activations and catalysis will also be detailed.



1. (a) Li, J.; Schenk, C.; Goedecke, C.; Frenking, G.; Jones, C. *J. Am. Chem. Soc.* **2011**, *133*, 18622; (b) Li, J.; Hermann, M.; Frenking, G.; Jones, C. *Angew. Chem. Int. Ed.* **2012**, *51*, 8611; (c) Li, J.; Schenk, C.; Winter, F.; Scherer, H.; Trapp, N.; Higelin, A.; Keller, S.; Pöttgen, R.; Krossing, I.; Jones, C. *Angew. Chem. Int. Ed.* **2012**, *51*, 9557.



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

**Speaker:** Prof. In Woo Cheong  
School of Applied Chemical Engineering  
Kyungpook National University  
Korea

**Title:** Preparation of Janus Particles by Droplet Microfluidics

<< Abstract >>

In the recent past, Janus particles of two different surface chemistry or polarity have attracted great attention due to their great potential in applications, such as controlled self-assembly, drug delivery systems, electrical inks, rheological studies, paints and coating. For this, various techniques have been developed, like 2-dimensional direct deposition, phase separation, controlled coalescence of two distinct droplets followed by solidification, hydrodynamics, template-directed self-assembly, etc. Among these, hydrodynamic methods provide a facile and scalable strategy for the preparation of Janus particles. Until now most of microfluidic techniques preparing Janus particles are utilizing two separate streams, which are coflowed through the same channel of the microfluidic device. However, the coflowing streams must remain parallel at all times without perturbations that bring about cross-mixing problem of the fluids. Herein, we present a simple but efficient method of flowing one stream of monomer/polymer solution; therefore, it can avoid the problem of cross-mixing, as in the past cases. In this presentation, I will talk about the Janus particle formation based on photo-sensitive copolymers that have been done for years in my laboratory.

**Date:** October 23, 2015 (Friday)

**Time:** 4:30 p.m.

**Venue:** L1, Science Centre



*ALL ARE WELCOME*

Contact Person:  
Prof. To Ngai



*The Chinese University of Hong Kong  
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Research Seminar Series*

**Speaker:** Prof. Syuji Fujii  
Division of Applied Chemistry  
Faculty of Engineering  
Osaka Institute of Technology

**Title:** Pickering emulsion as a platform towards  
biodegradable microspheres

**Date:** October 28, 2015 (Wednesday)

**Time:** 9:30 a.m.

**Venue:** L4  
Science Centre

