For favour of posting

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

Speaker: Professor Xueming Yang
Dalian Institute of Chemical Physics
The Chinese Academy of Sciences and
Southern University of Science and Technology

Title: Photocatalysis of Methanol and Water on TiO_2 at Single Molecule Level

Date: October 5, 2018 (Friday)

Time: 4:30 p.m.

Venue: L1
Science Centre

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Contact Person:
Prof. Zuowei Xie

For favour of posting

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

Speaker: Professor Sven H. Behrens
School of Chemical & Biomolecular Engineering
Georgia Institute of Technology

Title: New Materials and Separation Processes Involving Particles in Fluid Interfaces

Date: October 8, 2018 (Monday)

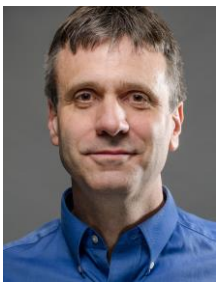
Time: 10:30 a.m.

Venue: L4, Science Centre

<< Abstract >>

It has long been known that the minimization of interfacial free energy can drive solid colloidal particles to adsorb irreversibly to liquid-liquid or gas-liquid interfaces. One consequence of this adsorption behavior is the ability of particles to effectively stabilize emulsion droplets or foam bubbles; a fact increasingly exploited in the pharmaceuticals, food, and cosmetics industry. In recent years, interfacially adsorbed particles have also been leveraged to arrest the spinodal decomposition of binary liquid mixtures and produce so-called "bijels" (bicontinuous, interfacially jammed emulsion gels), which may prove useful for liquid extraction processes.

Entirely new opportunities for materials and process design arise when particles encounter different types of fluid interfaces within the same system. In this context, my group and our collaborators have discovered a new class of foams that can be prepared by frothing an aqueous dispersion of suitably chosen particles together with a small fraction of a water-immiscible liquid. These so-called "capillary foams" display a unique structure that allows them to overcome many of the limitations characteristic of traditional foams. I will discuss the ensuing broad application potential and point out related open opportunities for systems containing three immiscible liquids. Finally, I will show how particle partitioning between gas-water interfaces, oil-water interfaces, and aqueous bulk solutions can also facilitate dramatic improvements of separation technologies used across many industries worldwide, from paper recycling and waste water treatment to minerals processing.



Sven Behrens is an Associate Professor in the School of Chemical & Biomolecular Engineering at the Georgia Institute of Technology. He holds a diploma in Physics from Goettingen University (Germany) and a Ph.D. in Environmental Sciences from the Swiss Federal Institute of Technology (ETH) in Zurich, Switzerland. After two years of postdoctoral research at the University of Chicago and five years of industrial research in the polymer research division of BASF, Germany, he joined the faculty at Georgia Tech in 2007. Research in the Behrens group addresses colloidal interactions in aqueous and nonpolar solutions, interfacial assembly processes, and protein stability

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Contact Person:
Prof. To Ngai

For favour of posting

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

Speaker: Professor Yun Chi
Department of Materials Science and Engineering
City University of Hong Kong

Title: NIR and Blue Emitters for Organic Light Emitting Diodes

Date: October 12, 2018 (Friday)

Time: 4:30 p.m.

Venue: L1
Science Centre

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Contact Person:
Prof. Zuowei Xie

For favour of posting

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

Speaker: Professor Pierre H. Dixneuf
UMR 6226 CNRS-Université de Rennes
France

Title: Catalytic cross-couplings from C-H bonds and Fast Modifications of P & N ligands

<< Abstract >>

Ruthenium(II) catalysts associated to a carboxylate or a phosphate partner are able to promote the selective sp^2 C-H bond activation, via C-H bond deprotonation., of functional arenes and heterocycles to selectively lead to cross-couplings from heteroaromatic halides [1,2] Now these processes can be performed in water with higher catalyst activity.[3,4]and oxidative dehydrogenation of alkenes can lead to polyfunctional alkenes [5]

The lecture will present several aspects.

i) Catalytic sp^2 C-H bond activation in water solvent which
-favours selective monoarylation thus allowing sequential cross couplings
-can be directed to produce polyheterocycles ligands
ii) Catalytic annulation of heterocycles with alkynes in water leading to the synthesis of pyrrole and indole fused isocoumarins.[6]
iii) Ruthenium-catalyzed C-H Bond alkylations of arylphosphine Oxides with alkenes give access to bifunctional phosphines[7]
iv) C(sp^3)-H bond amination of cycloalkanes can be favoured by copper-catalyzed oxidative dehydrogenative using NH-heterocycles as amine sources[8]
v) C(sp^3)-H bond functionalisation of alkyl goups linked to heterocycles can be selectively achieved using simple copper catalysts and in situ generated radicals for the late stage modification of pyridines [9]

New perspectives of C-H bond functionalisation will be pointed out
Our feature article on Late Stage Modifications of P-Containing Ligands using Transition-Metal-Catalysed C–H Bond Functionalisation has just appeared in *Chem. Commun.*, 2018, **54**, 7265 – 7280

Date: October 22, 2018 (Monday)

Time: 4:30 p.m.

Venue: LT4, Lady Shaw Building

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Contact Person:
Prof. Zuowei Xie

For favour of posting

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

Speaker: Professor Krzysztof Matyjaszewski
Department of Chemistry
Carnegie Mellon University
U.S.A.

Title: External Control in Atom Transfer Radical Polymerization

Date: October 26, 2018 (Friday)

Time: 4:30 p.m.

Venue: L1
Science Centre

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Contact Person:
Prof. Chi Wu