



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

Speaker: Prof. Benjamin Chu
Department of Chemistry
Stony Brook University

Title: Use of Nanofibers for Biomedical and
Environmental Applications

Date: June 3, 2016 (Friday)

Time: 10:30 a.m.

Venue: Room LG23
Science Centre



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Contact Person:
Prof. Chi Wu



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

Speaker: Prof. Lu Bai
Department of Physics
The Pennsylvania State University

Title: Identification and functional study of pioneer factors

<< Abstract >>

Chromatin is packed with nucleosomes, which present a barrier for the binding of most transcription factors (TFs). However, a special group of TFs can invade compact chromosome and deplete nucleosomes near their binding sites. These TFs, known as pioneer factors (PFs), can direct the binding of other TFs and allow them to activate transcription. By initializing the interaction with chromosome in the transcription pathway, PFs play an essential role in gene regulation. Mutation or mis-regulation of PFs are tightly linked to cancer and developmental diseases. Despite their essential functions, pioneer factors have not been studied systematically among genome-wide transcription factors. In this talk, I will describe a novel high-throughput synthetic biology approach to quantitatively measure the nucleosome-depleting activities of TFs in yeast, as well as how these activities depend on the location, orientation, copy number, spacing, and combination of the TF binding sites. The comparison between TFs with high and low (or no) pioneer activities will provide insights into the key properties of PFs; the impact of the binding site configuration on pioneer activity will reveal the competitive or cooperative relation between PFs and nucleosomes.

Date: June 3, 2016 (Friday)

Time: 2:30 p.m.

Venue: L1
Science Centre



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Contact Person:
Prof. Jiang Xia



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

Speaker: Prof. Dehua Pei
Department of Chemistry and Biochemistry
The Ohio State University

Title: Drugging Undruggable Targets with Cyclic Peptides

Date: June 6, 2016 (Monday)

Time: 9:30 a.m.

Venue: LT2
Lady Shaw Building



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Contact Person:
Prof. Jiang Xia



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

Speaker: Prof. Shangfeng Yang
Department of Materials Science and Engineering
University of Science and Technology of China

Title: Functionalization of Fullerenes toward Applications in Solar Cells

<< **Abstract** >>

One of the most unique structural features of fullerene is its hollow interior, which can encapsulate some species such as atoms, ions and clusters. Endohedral functionalization of fullerene generates endohedral fullerenes. On the other hand, the high chemical reactivity of fullerene enables its facile exohedral functionalization. Based on the strong electron-accepting ability, fullerene derivatives have been widely used as acceptors or electron-transport materials in organic/perovskite solar cells. In this talk, I will present our recent synthesis and isolation of the long-sought small-bandgap $Sc_3N@C_{82}$ and the discoveries of the first monometallic cyanide clusterfullerene $YCN@C_s(6)-C_{82}$ as well as the first vanadium-containing endohedral fullerenes $V_xSc_{3-x}N@C_{80}$ ($x=1, 2$). Besides, we synthesized an open-cage endohedral fullerene derivative involving a 13-membered ring and an azide addition derivative via exohedral functionalization of endohedral fullerenes. More recently, a nonclassical fullerene derivative $C_{96}Cl_{20}$ was synthesized via skeletal transformation of higher fullerene C_{100} during chlorination. Finally the applications of fullerene derivatives in organic/perovskite solar cells will be presented.

Date: June 6, 2016 (Monday)

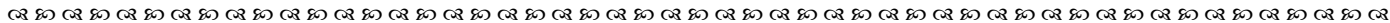
Time: 10:30 a.m.

Venue: LG23, Science Centre



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Contact Person:
Prof. Qian Miao



The Chinese University of Hong Kong

Department of Chemistry

Research Seminar Series

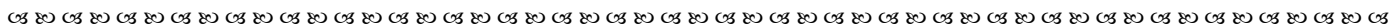
Speaker: Prof. Dehua Pei
Department of Chemistry and Biochemistry
The Ohio State University

Title: Combinatorial Chemistry: From Chemical
Biology to Drug Discovery

Date: June 6, 2016 (Monday)

Time: 2:30 p.m.

Venue: L1
Science Centre



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Contact Person:
Prof. Jiang Xia



Revised

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

Speaker: Prof. Kuiling Ding
Director
Shanghai Institute of Organic Chemistry
The Chinese Academy of Sciences

Title: Cooperative Catalysis in Asymmetric
Synthesis and CO₂ Transformation

Date: June 6, 2016 (Monday)

Time: 4:30 p.m.

Venue: LT3
Lady Shaw Building



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Contact Person:
Prof. Zuowei Xie



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

Speaker: Prof. Thuc-Quyen Nguyen
Department of Chemistry & Biochemistry
University of California, Santa Barbara

Title: Plastic Solar Cells: Progress and Challenges

Date: June 20, 2016 (Monday)

Time: 2:30 p.m.

Venue: L3
Science Centre



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*Contact Person:
Prof. Qian Miao*



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

Speaker: Prof. Xi Yao
Department of Biomedical Sciences
City University of Hong Kong

Title: Designing Multifunctional Polymer Gels for
Antifouling Application

Date: June 24, 2016 (Friday)

Time: 10:30 a.m.

Venue: Room 158
Science Centre



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*Contact Person:
Prof. Bo Zheng*

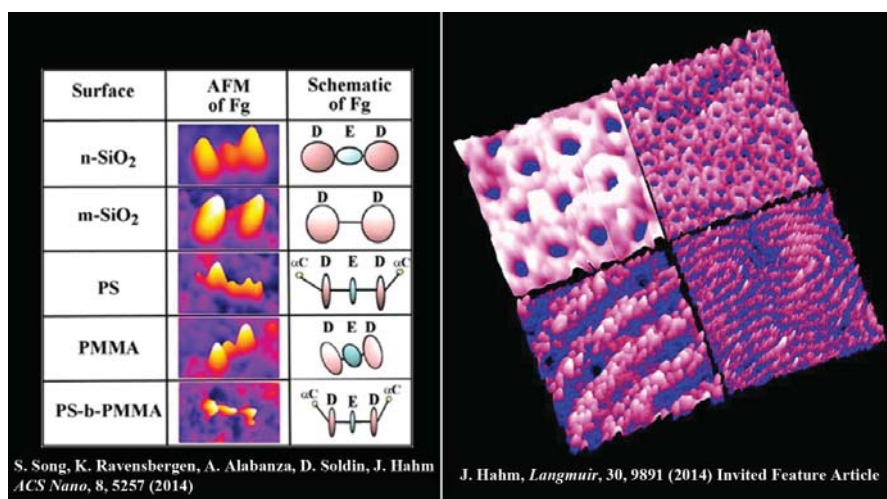


The Chinese University of Hong Kong
Department of Chemistry
Research Seminar Series

Speaker: Prof. Jong-in Hahm
Department of Chemistry
Georgetown University

Title: Fundamental Study of Nanoscale Protein-Polymer Interactions and Potential Contributions to Solid-state Protein Nanoarrays

<< Abstract >>



This talk presents an overview of our on-going research, aiming to provide fundamental understanding on nanoscale protein adsorption behavior and to develop more advanced, next-generation protein arrays. Intriguing protein adsorption phenomena on nanoscale surfaces exhibiting varying degrees of chemical heterogeneity are directly probed at the individual biomolecule level.

Specifically, we elucidate protein adsorption characteristics on the templates of diblock copolymers, blends, and homopolymers. We also investigate location-dependent protein adsorption behavior with respect to the size and distance of the interfacial regions defined by different polymer blocks. We carry out activity measurements of polymeric surface-bound enzymes and compare quantitatively with their free-state activities. We also explore protein assembly on chemically modified, polymeric nanotemplates to provide a range of feature size/shapes in solid-state protein arrays. Our results demonstrate that self-assembling, chemically heterogeneous, nanoscale domains in diblock copolymers can be effectively used for high density biotemplates. Our approach will be particularly beneficial for fabricating periodic patterns of proteins on surfaces with nanometer sizes without the use of lithographic techniques based on electron beam or extreme UV. Insight gained from our study may be used to control the surface density, conformation, orientation, and biofunctionality of prebound proteins in highly miniaturized proteomic applications, now approaching nanoscale.

Date: June 28, 2016 (Tuesday)
Time: 10:30 a.m.
Venue: Room G34, Lady Shaw Building



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Contact Person:
Prof. Steve Y.L. Tse