



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

Speaker: Professor Wei Zhuang
State Key Lab of Structural Chemistry
Fujian Institute of Research on Structure of Matters

Title: Ion Effect on Hydrogen Bonding Network in Water

<< Abstract >>

Ions effect on water structure and dynamics have significant specificity which is far from being fully comprehended. Various vibrational spectroscopies are among the most powerful experimental tools to explore this issue. The interpretation of these spectroscopy signals is, however, usually non-trivial and requires the help from theoretical studies. We've developed a series of theoretical approaches to simulate the analyze the vibrational spectroscopies of the ionic solution, which reproduce nicely the spectra including THZ, Raman, fsIR, 2DIR, IRPD and Raman-THZ. Based on these simulations, we attempt to address several important issues about the ion effect on water hydrogen bonding network, including 1) ion specificity in their effects on water dynamics and 2) spatial range of ion effects. Novel techniques including complex network recognition and gaussian field model are employed to assist the analysis.

Date: April 5, 2017 (Wednesday)

Time: 2:30 p.m.

Venue: Room C1, Lady Shaw Building



ALL ARE WELCOME

Contact Person:
Prof. Steve Y.L. Tse



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

Speaker: Prof. Yongsheng Chen
Institute of Functional Polymer Materials
Center for Nanoscale Science & Technology
Nankai University

Title: Nano Carbon and Polymeric Materials: Design,
Synthesis and Applications in Green Energy

Date: April 18, 2017 (Tuesday)

Time: 2:30 p.m.

Venue: Room C2
Lady Shaw Building



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*Contact Person:
Prof. Henry N.C. Wong*



香港中文大學
The Chinese University of Hong Kong



香港中文大學
院士講座系列

Lecture Series by Academicians

Jointly Organized by
Department of Chemistry
and
Office of Academic Links (China)

Speaker: Prof. Mou Chung-Yuan
Professor, Department of Chemistry, National Taiwan University
國立台灣大學化學系教授



Topic: Nano-Confined Water

Moderator: Prof. Wong Nai Ching Henry
Dean of Science and Professor of Chemistry
理學院院長、化學講座教授黃乃正教授

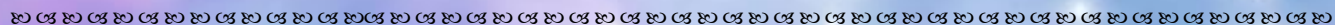
Date: Wednesday, 19 April 2017

Time: 15:30 p.m. - 17:00 p.m.

Venue: **LT7, Lee Shau Kee Building**

Language: Lecture in Mandarin (with supplement in English)

Registration: http://www.cuhk.edu.hk/oalc/as_2017/



All are welcome.

Enquiries: 3943-8728

Professor Mou Chung-Yuan

牟中原院士



Prof. Mou Chung-Yuan from Division of Mathematics and Physical Sciences, AS is currently the Professor of Department of Chemistry at National Taiwan University. Specialties of Prof. Mou include **Heterogeneous Catalysis, Chemistry in Confined Space, Statistical Mechanics and Biomedical Application of Nanoporous Materials**. Prof. Mou has achieved various academic awards including Chemistry Medal from Chinese Chemical Society and TWAS Chemistry Award. Being a devoted chemist, **Prof. Mou was elected the Academician of AS in 2016.**

Prof. Mou has once served at the University of Oregon. He is now the trustee of the National Synchrotron Radiation Research Center. Prof. Mou received his Bachelor Degree at National Taiwan University and PhD degree from Washington University, St Louis

中央研究院數理科學組牟中原院士現任國立台灣大學化學系教授，專長包括非均相觸媒、孔洞材料、統計力學及奈米生物醫學。牟院士曾獲得中國化學會學術獎章及世界科學院化學獎等多個學術榮譽，致力貢獻於化學研究。牟院士於 2016 年當選中央研究院院士。

牟院士曾任職於美國奧勒崗大學，現為國家同步輻射中心董事。他於國立臺灣大學取得學士學位，並在美國聖路易斯華盛頓大學取得博士學位。

Lecture Topic

Nano-Confined Water

Water under nano-confinement is different from normal water. It can be cooled to less than 200 K without freezing. It is relevant to life and geoscience because much of the hydration phenomenon in nature occurs in narrowly confined water. Studying confined water will help one to understand the physicochemical effect of water and its interaction with solutes in crowded environment.

Mesoporous silica materials with uniform pore size will be the confining media in our study. By using neutron and X-ray scattering techniques, we studied the density and diffusion of water under nano-confinement.

By confinement, solubility of a hydrophobic molecule (such as Xe) in water under nano-confinement will impact several related problems, (a) solubility of methane in water within nanopores of rock under fracking condition, (b) understanding how hydrophobic effect would be changed in confined water, (c) how protein hydration would change under crowded environment.



Revised

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

Speaker: Mr. Martin Tsz Kin Tsui
Institute of Molecular Biophysics
Florida State University
U.S.A.

Title: The Impact of DNA Topology and Guide Length on Target Selection by a Cytosine-Specific Cas9

Date: April 25, 2017 (Tuesday)

Time: 11:30 a.m.

Venue: Room G06
Y.C. Liang Hall (潤昌堂)



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Contact Person:
Prof. Sik-Lok Lam



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

Speaker: Prof. Chien-Tien Chen
Department of Chemistry
National Tsing Hua University

Title: Optically Switchable Helicenes in
Supramolecular Self-assembly and
asymmetric catalysis

Date: April 26, 2017 (Wednesday)

Time: 2:30 p.m.

Venue: L3
Science Centre





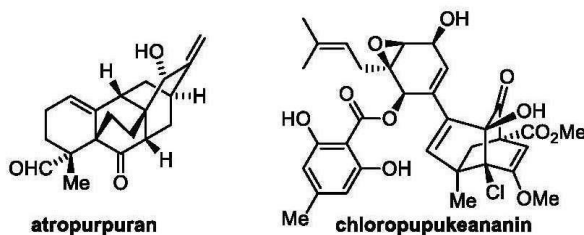
The Chinese University of Hong Kong
Department of Chemistry
Research Seminar Series

Speaker: Prof. Takahiro Suzuki
 Department of Chemistry
 Hokkaido University

Title: Synthetic Studies of Structurally Unique Terpenoids Based on Cycloaddition Reaction

<< Abstract >>

Cycloaddition reaction is one of the most powerful tools for the synthesis of complex natural products. For example, Diels-Alder reaction constructs a cyclohexene ring with providing two C-C bonds and four diastereomeric centers at once in the presence of various functional groups. To further demonstrate the powerfulness of cycloaddition reaction, we chose two structurally-unique natural products, atropurpuran and chloropupukeananin, as target molecules. Both compounds, which were recently isolated, possess highly-functionalized cage-like skeletons. Herein, our efforts toward the total synthesis of atropurpuran¹ and chloropupukeananin² using Diels-Alder reaction are presented.



1. Suzuki, T.; Sasaki, A.; Egashira, N.; Kobayashi, S. *Angew. Chem. Int. Ed.* **2011**, *50*, 9177–9179.
2. (a) Suzuki, T.; Kobayashi, S. *Org. Lett.* **2010**, *12*, 2920–2923; (b) Suzuki, T.; Miyajima, Y.; Suzuki, K.; Iwakiri, K.; Koshimizu, M.; Hirai, G.; Sodeoka, M.; Kobayashi, S. *Org. Lett.* **2013**, *15*, 1748–1751; (c) Suzuki, T.; Watanabe, S.; Kobayashi, S.; Tanino, K. *Org. Lett.* **2017**, *19*, 922–925.

Date: April 27, 2017 (Thursday)

Time: 2:30 p.m.

Venue: L5, Science Centre



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Contact Person:
 Prof. Gavin C. Tsui