For favour of posting

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

Speaker: Prof. Yue Zhao
Department of Chemistry
University of Sherbrooke
Canada

Title: Control of Stimult-Responsive Polymers by New Methods

Date: December 1, 2014 (Monday)

Time: 2:30 p.m.

Venue: Room G35
Lady Shaw Building

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Contact Person:
Prof. Chi Wu

For favour of posting

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

Speaker: Prof. Petr Štěpánek
Institute of Macromolecular Chemistry
The Czech Academy of Sciences

Title: Interaction of polymer nanoparticles with biological media

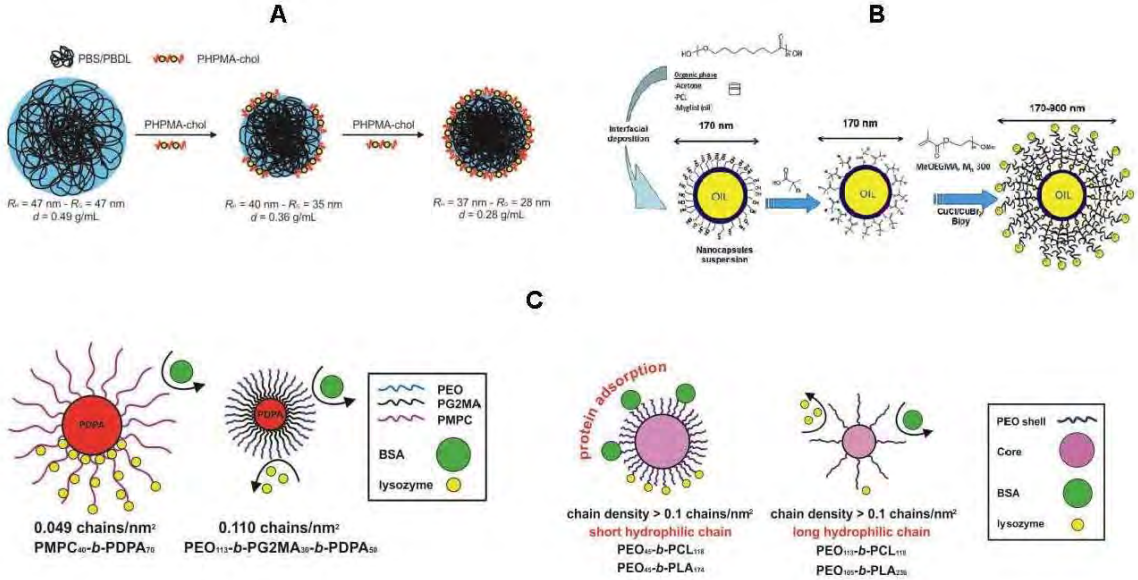
Date: December 5, 2014 (Friday)

Time: 4:30 p.m.

Venue: L1, Science Centre

<< Abstract >>

Non-specific protein adsorption from complex biological media, especially from blood plasma, is an urgent challenge for the application of nanoparticles as delivery systems, diagnostics and other biomedical applications. The surface modification of nanoparticles by physically anchoring hydrophilic biocompatible polymers (A), by coating the NPs core with polymer brush layers with well-controlled thickness at the nanometer scale through SI-ATRP techniques in water or phosphate buffered saline (B) or by the synthesis of defined hydrophobic-hydrophilic block copolymers (C), are simple and commercially attractive approaches to produce drug-delivery systems resistant to nonspecific protein adsorption. Herein, we report the preparation, characterization and the evaluation of the interaction by placing the aforementioned systems in contact with complex biological media. Several techniques were employed, such as dynamic (DLS), static (SLS) and electrophoretic (ELS) light-scattering techniques, as well as isothermal titration calorimetry (ITC), circular dichroism (CD) spectroscopy and surface plasmon resonance (SPR).



1. E. Jäger, A, Jäger, T. Etrych, F.C. Giacomelli, P. Chytil, A. Jigounov, J-L. Putaux, B. Říhová, K. Ulbrich, P. Štěpánek, *Soft Matter* **2012**, 8, 9563-9575.
2. C. Rodriguez-Emmeneger, A. Jäger, E. Jäger, P. Štěpánek, A.B. Alles, S.S. Guterres, A.R. Pohlmann, *Colloids Surf., B* **2011**, 83, 376-381.
3. F.C. Giacomelli, P. Štěpánek, V. Schmidt, E. Jäger, A. Jäger, C. Giacomelli, *Nanoscale* **2012**, 4, 4504-4514.
4. C.A. de Castro, B. Mattei, K.A. Riske, E. Jäger, A. Jäger, P. Štěpánek, F. Giacomelli, *Langmuir* **2014**, 30, 9770-9779.

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Contact Person:
Prof. Chi Wu

For favour of posting

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

Speaker: Prof. Michinori Suginome
Department of Synthetic Chemistry and Biological Chemistry
Kyoto University

Title: New Functions of Chirality-Switchable Macromolecules

Date: December 12, 2014 (Friday)

Time: 4:30 p.m.

Venue: L1
Science Centre

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Contact Person:
Prof. Tony K.M. Shing

For favour of posting

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

Speaker: Dr. Yaowen Wu
Chemical Genomics Centre of the
Max Planck Society
Germany

Title: Protein labeling

Date: December 18, 2014 (Thursday)

Time: 2:30 p.m.

Venue: L1
Science Centre

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Contact Person:
Prof. Jiang Xia

For favour of posting

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

Speaker: Dr. Yaowen Wu
Chemical Genomics Centre of the Max Planck Society
Germany

Title: Elucidation of membrane trafficking using novel chemical probes

Date: December 19, 2014 (Friday)

Time: 10:00 a.m.

Venue: L5, Science Centre

< Abstract >

Protein chemical modification provides large possibilities for modulation of the structure of a polypeptide chain in order to understand protein function. In this talk I will show you the development for a set of site-specific protein modification methods by use of chemoselective reactions, including native chemical ligation, oxime ligation and click chemistry. These approaches enabled us to make single-, dual- or triple-labeled proteins, facilitating investigation of protein-protein interactions, autophagosome formation, protein unfolding and refolding.[1,2] Recently, we have developed a rapid and fluorogenic affinity conjugation method for labeling of protein inside the cell and a small-molecule switch system for controlling protein function in live cells.[3,4] I will also show you the biological applications of using these methods to investigate membrane trafficking. Using oxime ligation, we have prepared a set of PEGylated (polyethylene glycol modified) Rab GTPases. Studies of the localization and function of such semisynthetic Rab proteins in cells reveal a comprehensive model for Rab membrane targeting.[5]

1. Yi, L.; et al. *Angew. Chem. Int. Ed.* 2011, *50* (36): 8287-90.
2. Yi, L.; et al. *Chembiochem*, 2011, *12* (16): 2413-7.
3. Liu, W.; et al. *J. Am. Chem. Soc.* 2014, 136 (12): 4468-71.
4. Liu, P.; et al. *Angew. Chem. Int. Ed.* 2014, 53(38):10049-55.
5. Li, F.; et al. *Proc. Natl. Acad. Sci. U. S. A.* 2014, 111 (7), 2572-7.

Yaowen Wu received his BS in Chemistry from Sun Yat-sen University in 2001 and his MS in Organic Chemistry from Tsinghua University in 2004 in China. After graduating as Dr rer. nat. (2008) at the Technische Universität Dortmund working at the Max Planck Institute of Molecular Physiology in Dortmund and a postdoctoral study in cell biology at King's College London, he has been leader of an Otto Hahn group at the Max Planck Institute in Dortmund since 2010. Since 2012 he has been group leader of Chemical Genomics Centre of the Max Planck Society. His research interests are in chemical biology and biochemistry of membrane trafficking.
http://www.cgc.mpg.de

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Contact Person:
Prof. Jiang Xia

For favour of posting

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

Speaker: Dr. Xiulan Xie
NMR-Abteilung Fachbereich Chemie
Philipps-Universitat Marburg
Germany

Title: NMR Structure Determination of Lasso Peptides

Date: December 19, 2014 (Friday)

Time: 11:15 a.m.

Venue: L5
Science Centre

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Contact Person:
Prof. S.L. Lam