



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

- Speaker:** Prof. Guosong Chen  
Department of Macromolecular Science  
Fudan University
- Title:** Carbohydrate-based Macromolecular Self-assemblies and their Biological Functions
- Date:** December 21, 2017 (Thursday)
- Time:** 2:30 p.m.
- Venue:** L3, Science Centre

< Abstract >

Carbohydrates are the most abundant organic species in the world and also one of most important biological macromolecules with nucleic acids and proteins. The self-assembly of DNA and proteins make a significant contribution to our lives and they have been employed to make functional self-assembled materials. Compared to the development of DNA and proteins, our knowledge and manipulation to the self-assembly of carbohydrates as well as their functionality are quite limited. The major obstacle is the complicated chemical structure of oligosaccharides, i.e. perplexing glycoforms and microheterogeneity on proteins, which make the research a problematic and long-term task. Under this circumstance, macromolecular self-assembly might provide an alternate insight to this problem. In this talk, I will present: 1) development of precise protein array with regular shape at nm scale controlled by protein-carbohydrate interaction; 2) construction of polymeric vesicles mimicking glycocalyx, structure, self-assembly and immunological functions; 3) control of macromolecular self-assembly by chemical reactions related to sugars.



Prof. Guosong Chen was born 1979 in Tianjin, then studied chemistry at Nankai University, where she obtained her B.Sc. in 2001. In 2006 she received her Ph.D with the same university in supramolecular chemistry. After her postdoctoral studies in carbohydrate chemistry at Iowa State University, she moved to Fudan University in Dec. 2008, where she joined the research group of Prof. Ming Jiang in macromolecular self-assembly as a lecturer, working on the interface of macromolecular self-assembly and supramolecular chemistry. After she was promoted to associate professor in 2011, her research focus has been reoriented to carbohydrate-based macromolecular self-assembly and its biological functions. She then received Excellent Youth Foundation from NSFC in 2013 and was promoted to professor in 2014. As corresponding author, she published more 40 papers in *J. Am. Chem. Soc.*, *Nature Communications*, *Angew. Chem. Int. Ed.*, *Adv. Materials* and other journals. Since 2017, she was elected as Fellow of Royal Chemical Society (FRSC) and serves as an international board member for *Polymer Chemistry*, *Bioconjugate Chemistry*, *Polymer International* and etc.

ALL ARE WELCOME

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