Confirmed Keynote Speakers

1. Prof. David Spivak, Louisiana State University, USA

Title: Aptamer Based Imprinting of SS DNA for Biodetection

Abstract:

Biography: David Spivak received his B.S. degree in Chemistry from UC Berkeley in 1989, and his Ph.D. degree in Polymer/Organic Chemistry from UC Irvine in 1995, under the direction of Professor Ken Shea. He then was awarded an NIH Post-Doctoral Fellowship for his proposal to study catalytic antibodies for polymerization and other reactions at The Scripps Research Institute from 1995 to 1998. Afterward he began his professional career at Louisiana State University (LSU) in Baton Rouge, where he presently resides as Professor of Chemistry. Research in the Spivak Group is multidisciplinary, focused on Molecularly Imprinted materials, thin films and nanoparticles for biological and environmental analysis. In addition to research funding from NIH and NSF, including an NSF-CAREER award, Professor Spivak is also an Associate Editor for the Journal of Molecular Recognition, and was chair of MIP2010, the 6th international biennial symposium on molecular imprinting.

2. Prof. Ian Nicholls, Linnaeus University & Univ. Uppsala, Sweden

Title: Nanogels targeting peptides with low immunogenicity – a case study

Abstract:

Biography: After completing his BSc(hons) and PhD at the University of Melbourne (1989), and post-doctoral work at the University of Cambridge with Dudley Williams and Lund University with Klaus Mosbach, Ian A Nicholls held a series of positions at the Universities of Lund and then Kalmar, before being appointed full professor in 2000 and where since 2013 he has been Dean of the Faculty of Health and Life Sciences. His research is primarily focused on fundamental and applied studies of biomimetic materials.

3. Prof. Meiping Zhao, Peking University, China

Title: Sequential surface imprinting of proteins over magnetic nanoparticles

Abstract:

Biography: Dr. Meiping Zhao is a professor of analytical chemistry at the College of Chemistry and Molecular Engineering of Peking University. She has about 20-years track record in the research field of Molecular Imprinting. Prof. Zhao has been working on exploring the fundamental chemical mechanisms of the bio-molecular recognition and trying to simulate the natural process to develop useful functional nanomaterials and molecular tools for separation, fluorescence sensing and inhibition of enzyme activity. In recent years, her research interests are focused on molecular imprinting of proteins, especially DNA repair enzymes. She acted as supervisor of more than 30 PhD students from 2003 on. She has over 140 publications in international peer reviewed journals and 17 authorized patents. She has also authored a college textbook on Environmental Chemistry. She is currently on the Board of the Society for Molecular

Imprinting (SMI). She is also in the editorial board of several international peer reviewed journals such as Applied Spectroscopy and Biopolymers.

4. Prof. Juewen Liu, University of Waterloo, Canada
Title: Molecular imprinting with DNA aptamers and nanozymes
Abstract:
Biography: Dr. Juewen Liu is a professor of chemistry at the University of Waterloo and a University Research Chair. He is interested in developing DNA and aptamer-based biosensors and materials for detecting heavy metal ions, small molecules and proteins. He received a Fred Beamish Award (2014) and a McBryde Medal (2018) from the Canadian Society for Chemistry for his contribution in bioanalytical chemistry. He is a College member of the Royal Society of Canada. He serves as a Section Editor for *Biosensors & Bioelectronics*, a Contributing Editor for *TrAC*, and is on the editorial advisory board of *Langmuir*. He has published over 300 papers, receiving over 30,000 citations with an H-index of 88.

5. Prof. Alessandra Bossi, University Verona, Italy
Title: From protein imprinting to imprinting proteins. Different perspectives but one goal: nanoMIPs to meet the clinical needs.
Abstract: Nanosized biomimetics prepared through the technique of molecular imprinting [1] (nanoMIPs) exhibit outstanding recognition properties, finding application in cell imaging and targeting [2-4]. Yet, for an effective translation of the nanoMIPs into clinical applications, biocompatibility is crucial. Here the original idea to study whether natural proteins, biocompatible and non-immunogenic, can be used as macro-building blocks to form fully biocompatible nanoMIPs is presented. Starting from the natural polymer silk fibroin, that is characterized by non-toxicity and high biocompatibility, the synthesis of "bioMIPs" [5,6] is discussed and the future perspectives highlighted.
Biography: Alessandra Maria Bossi, gained her PhD in Polymer Chemistry from Cranfield University in 2003, has been researcher in Biochemistry at the University of Verona (Italy) and from 2014 holds the position of Associate Professor in Analytical Chemistry at the University of Verona (Italy), where she leads the Molecular Recognition and Biomimesis Lab.
Blending her background in Biochemistry to Molecularly Imprinted Polymers (MIPs) she offered a contribution to develop protein imprinting strategies, from whole protein imprinting, to the use of bioinformatics to search for best epitopes, the use of structural epitopes (cyclic peptides) to improve protein recognition by the MIPs. Her ultimate challenge is to explore bio-compatible materials for the preparation of nanoMIPs for protein recognition in vitro and in vivo.

6. Prof. Bernadette Tse Sum Bui, University of Technology Compiègne, France
Title: Applications of MIPs in vivo: myth or reality?

Abstract:
Biography:

7. Lei Ye, Lund University, Sweden

Title: Molecular imprinting by precipitation polymerization – from mechanistic understanding to polymer engineering

Abstract:

Biography: Lei Ye received PhD in Applied Biochemistry from Lund University in 1999. In 2015 he was promoted to full Professor, and was appointed as head of the Division of Pure and Applied Biochemistry in 2018 at Lund University, Sweden. Lei Ye's research is focused on functional polymers and composite materials with molecular recognition capabilities, and applications of molecular recognition materials for biochemical and biotechnology applications. The group of Lei Ye pioneered a series of molecular imprinting methodologies including precipitation polymerization, Pickering emulsion polymerization, nanoimprint lithography and electrospinning. The original studies have led to several important contributions to biomimetic polymers and multifunctional materials. Lei Ye and his team has published over 140 research articles in international chemistry journals including Angew. Chem. Int. Ed., J. Am. Chem. Soc., Anal. Chem., Chem. Commun. Lei Ye has over 9000 citations with a H-factor of 51.

8. Junqiu Liu, Hangzhou Normal University, China

Title: Protein Assembly: A New Platform to Develop Biomimetic System

Abstract: Sophisticated protein self-assemblies have attracted great scientific interests in recent few decades due to their various potential applications. The design and control of proteins into hierarchical nanostructures via self-assembly strategies offers unique advantages in understanding the mechanism of naturally occurring protein assemblies and in creating various functional biomaterials with advanced properties.Protein self-assembly into exquisite, complicated yet high-ordered architectures represents the supreme wisdom of nature. However, precisely manipulating protein self-assembling behaviors in vitro is a great challenge. By taking advantage of supramolecular strategies such as the metal ion chelating interactions, host-guest interaction and non-specific protein-protein interactions, accuracy control of the orientation of protein self-assembly has been achieved. The designed nanostructures have been used as biomimetic scaffolds for developing biomimetic enzymes, light harvesting system and muscle mimics[1-7].

Biography: Junqiu Liu received his Ph.D in macromolecular chemistry from the State Key Laboratory of Supramolecular Structure and Materials, College of Chemistry, Jilin University in 1999 under the supervision of Professor Jiacong Shen. Following his doctoral studies, he was a Humboldt Fellow and a Postdoctoral Fellow with Professor Günter Wulff at the Institute of Organic and Macromolecular Chemistry, Heinrich-Heine University, Germany. In 2003 he joined the faculty of the State Key Laboratory of Supramolecular Structure and Materials in Jilin University as a full professor of chemistry. In 2020 he removed to Hangzhou Normal University. His main research interests include supramolecular chemistry, biomimetic chemistry, and bio-nanomaterials.

9. Yan Zhao, Iowa State University, USA
Title: Molecularly Imprinted Nanoparticles (MINPs) as Selective, Robust Artificial Enzymes
Abstract:
Biography: Yan Zhao received his B.S. in chemistry from Lanzhou University in 1992 and Ph.D. from Northwestern University in 1996. After a postdoctoral stay at the University of Illinois, he worked for the Procter & Gamble Company from 1998 to 2002 and is currently a professor of chemistry at Iowa State University. His areas of interest include design and synthesis of biomimetic molecules, polymers, and nanomaterials and using them as synthetic receptors, artificial enzymes, molecular transporters, and sensors for chemical and biological applications.

10. Guoqing Pan, Jiangsu University, China
Title: Molecularly imprinted artificial inhibitor for regulation of cell behaviors
Abstract:
Biography: