

## VIII. Program Schedule

### Plenary Speakers

#### Plenary 1

- Date / Time: January 17 (Sun.), 2021 / 11:10-12:00
- Session Chair: Prof. Jin-Hyo Boo (Sungkyunkwan Univ., Korea)



#### Emerging Nanoassemblies and Their Functions

#### Prof. Shu-Hong Yu

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#### Abstract

There is a rich and long history of gaining inspiration from nature for the design of practical materials and systems. Biominerals are well-known composites of inorganic and organic materials in the form of fascinating shapes and high ordered structures, which exist in Nature, for example, pearl, oyster shells, corals, ivory, sea urchin spines, cuttlefish bone, limpet teeth, magnetic crystals in bacteria, and human bones, created by living organisms. During the past few decades, it has been one of the hottest research subjects in materials chemistry and its cutting-edge fields to explore new bio-inspired strategies for generation of materials with controlled morphologies, unique structural specialty, and complexity. This lecture will present our recent advances on bio-inspired synthesis of a family of inorganic or inorganic-organic micro-/nano- structural materials and their macroscopic scale assemblies, including bio-inspired molecule induced synthesis of micro-/nano-inorganic materials, bio-inspired interfacial assembly of macroscopic assemblies and functionalization. Especially, we will report our recent effort on how to realize the production of bulk materials, such as synthetic nacre and artificial woods, spanning all the length scales, either by predesigned matrix-directed mineralization process or a bottom-up self-assembly process. These bio-inspired materials are emerging as a new material system, showing enormous application potentials in diverse fields.

#### Biography

Shu-Hong Yu completed PhD in inorganic chemistry in 1998 from University of Science and Technology of China. From 1999 to 2001, he worked in Tokyo Institute of Technology as a Postdoctoral Fellow, and was awarded the AvH Fellowship (2001-2002) in the Max Planck Institute of Colloids and Interfaces, Germany. He was appointed as a full professor in 2002 and the Cheung Kong Professorship in 2006. He was elected as Academician of Chinese Academy of Sciences in 2019. He serves as the Director of the Division of Nanomaterials and Chemistry, Hefei National Laboratory for Physical Sciences at Microscale. He is the Editor-in-Chief of *Materials Chemistry Frontiers*, and was a senior editor for *Langmuir* from 2017 to 2020, and an associate editor for *Sci. China Mater.* and *EnergyChem*, and on the editorial board or advisory board of journals *Accounts of Chemical Research*, *Advanced Materials*, *Nano Letters*, *Chemistry of Materials*, *Materials Horizons*, *Matter*, *Trends in Chemistry*, *Research*, *Nano Research*, and *ChemNanoMat*. His research interests include bio-inspired synthesis of inorganic nanostructures, self-assembly of nanoscale building blocks, nanocomposites, their related properties and applications. His research work has been cited more than 57,600 citations (H index 133), named as a Highly Cited Researcher from 2014 to 2020.