
HL 9: Invited Talk Shu-Hong Yu

Time: Monday 10:00–10:30

Location: POT 081

Invited Talk

HL 9.1 Mon 10:00 POT 081

Ultrathin Nanowires: Multiplex Templating Synthesis, Macroscopic Assemblies, and Applications — ●SHU-HONG YU

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In this lecture, we propose a multiplex templating process for controlled synthesis of a huge family of functional ultrathin nanowires and their macroscopic assemblies, and applications. We first introduce ultrathin Te nanowires (Te NWs) and their advantages as a templating material. A family of 1D nanostructures including semiconductors, noble metals, carbon, polymers, their binary and multiple hybrids can

be prepared through this multiplex templating process. The reactivity and stability of ultrathin Te nanowires will be discussed. In addition, a series of macroscopic assemblies of nanowires, including free-standing membranes, films, hydrogels, and aerogels can be fabricated, which exhibit enormous potential for attractive applications, such as electronic devices, transparent electrodes, elastomeric conductors, electrocatalysis, liquid filtration and separation, super adsorbent, and polymer-based nanocomposites. The versatility of this templating process, scalable assembling process as well as the large-scale synthesis can together enhance the application reliability of these functional 1D nanostructures.