

## Fabrication of graphdiyne/CuS heterojunction nanowires for high-performance diodes

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We have developed a new method of *in-situ* electrically induced self-assembly technology for preparing the graphdiyne/CuS core/shell semiconductor heterojunction nanowire arrays. The tuning size of the interface of the heterojunction nanowire can be achieved by the growing condition. The strong dependence of rectification ratio and perfect diode performance on the size of the interface has been observed from the graphdiyne/CuS heterojunction nanowires with core/shell structure. It will open a door for controlling the morphology and property of one-dimensional heterojunction nanomaterials.

### Speaker Biography

Huibiao Liu is a professor at the Institute of Chemistry, Chinese Academy of Sciences. He received a PhD in Inorganic Chemistry in 2001 at Nanjing University. He once worked as a visiting scholar at School of Materials Science & Engineering, Georgia Institute of Technology in USA, Munster in Germany and Hong Kong University of Science & Technology. He has published over 200 papers in peer reviewed journal articles, such as *Acc. Chem. Res.*, *J. Am. Chem. Soc.*, *Angew. Chem. Int. Ed.*, and *Adv. Mater.* et al. His research interests in the fields of fabrications and properties of inorganic/organic nanomaterials based on rich carbon (graphdiyne etc.), development of novel methods for tuning the aggregate structures and properties.

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