

Speaker: [Professor Li Song](#)
National Synchrotron Radiation Laboratory
CAS Center for Excellence in Nanoscience
University of Science and Technology of China
Hefei 230029, China

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Title: **Synchrotron-based Study on 2D Energy Materials**

Abstract

Developing energy conversion and storage technologies has been targeted as an essential approach to meet both energy requirements and sustainable utilizations. Thus, to rational design economical and high-efficiency energy materials is highly desirable. Promoted by the success of graphene, various two dimensional layered nanomaterials and nanostructures (2Ds) are gradually dedicated as promising candidates because of high activity and stability. Meanwhile, atomic engineering process, such as doping, hybridizing and intercalating, is an efficient approach to tune atomic and electronic structures of host materials, and then regulate its intrinsic chemical and physical properties. On the other hand, material-characterization methods with the atomic level precision are crucial to obtain an in-depth understanding of the microstructure and interfacial effects by combining multiple characterization techniques and theoretical calculations. Most recently, synchrotron-based X-ray absorption spectroscopy (XAS, including XANES and XAFS) gains popularity due to the unique advantages in analysing atomic and electronic structures. In this talk, I will present our most recently studies on the atomic engineering and SR-based characterizations of layered nanoarchitectures, along with discussion of the correlation between micro/electro structure and energy performances.

Brief Biography

Prof. Li Song, received his Ph.D. in 2006 from Institute of Physics, Chinese Academy of Sciences. After four years as Humboldt fellow at University of Munich in Germany and postdoctoral researcher at Rice University in USA, he became an associate professor at Shinshu University in Japan. He was promoted to professor at University of Science and Technology of China in 2012 by CAS Hundred Talent Program and Recruitment Program of Global Experts. His current research interests are synchrotron radiation study of low dimensional nanostructures and energy-related devices. In the past five years, he has published 55 SCI papers in Materials Today, Advanced Materials (3), Advanced Energy Materials (2), ACS Nano (3) and other periodicals journals. So far, around 200 papers have been authored with >9000-time citations and H factor of 47. More details can be found from his research ID <http://www.researcherid.com/rid/B-1950-2010>.

For enquiries, please contact Dr Robert Yan: xuecheng.yan@griffithuni.edu.au

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