

**В среду 17/06/15 в аудитории 446 в 10-30 состоятся доклады  
ведущих ученых в области материаловедения и  
электрохимической энергетики**



**Prof. Hui Xia**

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Hui Xia received his BE and ME in School of Materials Science and Engineering from University of Science and Technology in Beijing. He obtained his PhD degree in Advanced Materials for Micro- and Nano- Systems Division from Singapore-MIT Alliance, National University of Singapore in 2008. He is now an Full Professor in Herbert Gleiter Institute of Nanoscience, School of Materials Science and Engineering, Nanjing University of Science and Technology. His research interests include energy storage materials and devices, lithium-ion batteries and supercapacitors, fabrication of all-solid-state thin film microbatteries, and nanoglass. He has published over 70 papers in international journals with more than 2000 citations.

**Hybrid carbon and metal oxide composites as advanced  
electrode materials for batteries and supercapacitors**

Energy density and power density of lithium-ion batteries and supercapacitors need to be further improved due to the potential large-scale energy storage application in electric vehicles and power grids. Transition metal oxides are promising electrode materials for both lithium-ion batteries and supercapacitors owing to their large charge storage capability and great abundance in earth. Making nanoparticles for metal oxides is an effective strategy to improve electrochemical performance due to the large surface area and short Li ion diffusion paths. However, nanosized metal oxides still suffer from poor electrical conductivity and nanoparticle aggregation, which holds back the progress in designing high-performance electrodes for lithium-ion batteries and supercapacitors. Hybridization of carbon and metal oxide to make a composite is a promising approach to circumvent the above mentioned problems. In this talk, the advantages of using carbon nanotubes and graphene nanosheets to design high-performance composite electrodes for lithium-ion batteries and supercapacitors will be discussed.