

SHUO CHEN

Texas Center for Superconductivity
University of Houston
3201 Cullen, Suite 202
Houston, Texas 77004
Phone: (713) 743-8200
E-mail: schen34@uh.edu

Department: Physics
College: NSM
Address: SR1 617
Houston, TX, 77204-5005
Phone: (713) 743-9135
Fax: (713) 743-3589

Education:

B.S. Peking University, Beijing, China 1998 -2002
Ph.D. Boston College, Chestnut Hill, MA 2002-2006 PhD Advisor: Zhifeng Ren

Employment History:

Assistant Professor, University of Houston 2013 - present
Research Assistant Professor, Boston College 2011-2012
Postdoctoral Associate, MIT 2006-2011

Honors and Awards:

- Robert A. Welch Professorship (2014)
- Provost's Travel Fund (2017)
- Global Faculty Development Fund (2017)

Recent Research Highlights:

- Facile synthesis and in situ transmission electron microscopy (TEM) studies of high capacity anode materials for sodium ion batteries - antimony telluride/carbon and bismuth selenide/carbon.
- Ultra-stable (>20,000 cycles with no degradation) anode material based on potassium titanate.
- Low cost, efficient, and stable electrocatalysts for water electrolysis.
- Novel synthesis of pure micro-porous gold as a high performance electrocatalyst for methanol oxidation.

Lab Facilities / Expertise:

~850 sq. ft. lab space in SR1 537. Two electrochemical workstations, rotating disk electrodes, 64-channel battery tester, in TEM heating holder, in situ TEM manipulator holder, three muffle furnaces, two tube furnaces with gas environment control, three hydrothermal synthesis set up, battery assembly tools inside a glove box, one chemical hood.

Five Selected Publications:

1. Ze Yang, Jingying Sun, Yunlong Xie, Pawanjit Kaur, Joseph Hernandez, Yizhou Ni, Ying Yu, Oomman K. Varghese, Yunhui Huang, Shuo Chen*, "Hydrogen Plasma Reduced Potassium Titanate as a High Power and Ultralong Lifespan Anode Material for Sodium-ion Batteries", *J. Mater. Chem. A*, in press (2018).
2. Lixin Xie, Ze Yang, Jingying Sun, Xiaowei Chi, Yan Yao, Hailong Chen, Andy X. Li, Shuo Chen*, "Bi₂Se₃/C Nanocomposite as a New Sodium-ion battery Anode Material", *Nano-Micro Letters*, 10, 50 (2018).
3. Ze Yang, Yan Jiang, Liangzi Deng, Ting Wang, Shuo Chen*, Yunhui Huang*, "A High-Voltage Honeycomb-layered Na₄NiTeO₆ as Cathode Material for Na-ion Batteries", *Journal of Power Sources*, 360, 319-323 (2017).
4. Ze Yang, Jingying Sun, Yizhou Ni, Zhenhuan Zhao, Jiming Bao, Shuo Chen*, "Facile Synthesis and *in situ* Transmission Electron Microscopy Investigation of a Highly Stable Sb₂Te₃/C Nanocomposite for Sodium-ion Batteries", *Energy Storage Materials*, 9, 214-220 (2017).
5. Fang Yu, Haiqing Zhou, Yufeng Huang, Jingying Sun, Fan Qin, Jiming Bao, William A. Goddard III, Shuo Chen*, Zhifeng Ren*, "High-performance Bifunctional Porous Non-noble Metal Phosphide Catalyst for Overall Water Splitting", *Nature Communications*, in press (2018).