

Xiaohan Wang

TMI, 1 University Station, C2201 Austin, TX 78712, USA

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Tel: +1-512-922-9002

ACADEMIC EXPERIENCE:

- 2007-2011** Bachelor of Science in Department of Chemistry, University of Science and Technology of China (USTC)
Supervisor: Prof. Shu-Hong Yu
- 2011-present** Ph.D. candidate in Materials Science and Engineering, University of Texas at Austin
Supervisor: Prof. Rodney S. Ruoff

RESEARCH EXPERIENCE:

- Oct 2009-Apr 2010** **Facile synthesis of CdSe nanocrystals through pyrolysis**, Hefei National Laboratory for Physical Sciences at Microscale (HFNL)
 - Synthesis of CdSe nanocrystals (such as dots, nanowires and nanosheets) by controlling hybrid precursors and pyrolysis condition
 - Mechanism of structural transition during pyrolysis
 - Characterization of optical properties during structural evolution
- May 2010-Jun 2011** **Assembly and structural evolution of II–VI functional semiconductor nanomaterials**, HFNL lab
(Supported by *National Innovation Experiment Program, No. 091035850*)
 - Synthesis of semiconductor nanoparticles with narrow size distribution
 - Assembly of nanoparticles into superstructures by controlling cosolvents and surfactants
 - Research on underlying mechanism
- Jun 2010-Jun 2011** **Fabrication of bio-inspired materials with hierarchical structure**, HFNL lab
 - Bio-inspired zeolite/polymer films with hierarchical structure
 - Ultrastrong functional (*e.g.* optical) zeolite/polymer film
- Jan 2012-Mar 2013** **Direct delamination of graphene onto polyimide for plastic electronics**, UT-Austin
 - Direct delamination of CVD-graphene with polyimide substrate
 - Electromechanical test on resulting film

AWARDS & HONORS:

- 2007 Mayor's Award for Youth in Science and Technology (5 in Chongqing Municipality)
- 2008 Diao Scholarship (USTC)
- 2009 National Innovation Experiment Program Funds (Chinese Ministry of Education)
- 2009 Outstanding Students Scholarship (USTC)

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- 2009 Interdiscipline of the first summer camp for outstanding students (Academy for Advanced Interdisciplinary Studies, Peking University)
- 2010 Outstanding Students Scholarship (USTC)
- 2011 Nanochemistry Award (Biomimetic and Nanochemistry Lab)

PUBLICATIONS & PRESENTATIONS:

Before joining UT

1. Yi Wang, Hong-Bin Yao, **Xiao-Han Wang**, Shu-Hong Yu. One-pot facile decoration of CdSe quantum dots on graphene nanosheets: novel graphene-CdSe nanocomposites with tunable fluorescent properties. *J. Mater. Chem.* **2011**, *21*, 562-566.
2. Hong-Bin Yao, Xiao Zhang, **Xiao-Han Wang**, Shu-Hong Yu, Jing Li. From (Cd₂Se₂)(pa) (pa = propylamine) hybrid precursors to various CdSe nanostructures: structural evolution and optical properties. *Dalton Trans.* **2011**, *40*, 3191-3197.
3. Hong-Bin Yao, Hai-Yu Fang, **Xiao-Han Wang**, Shu-Hong Yu. Hierarchical assembly of micro-/nano-building blocks: bio-inspired rigid structural functional materials. *Chem. Soc. Rev.* **2011**, *40*, 3764-3785.
4. Hong-Bin Yao, Gang Huang, Chun-Hua Cui, **Xiao-Han Wang**, Shu-Hong Yu. Macroscale elastomeric conductors generated from hydrothermally synthesized metal-polymer hybrid nanocable sponges. *Adv. Mater.* **2011**, *23*, 3643-3647.
5. Hong-Bin Yao, Ye Guan, Li-Bo Mao, Yi Wang, **Xiao-Han Wang**, Dong-Qing Tao, Shu-Hong Yu. A designed multiscale hierarchical assembly process to produce artificial nacre-like freestanding hybrid films with tunable optical properties. *J. Mater. Chem.* **2012**, *22*, 13005-13012.

After joining UT

6. Kholmanov, Iskandar N.; Domingues, Sergio H; Chou, Harry; **Wang, Xiaohan**; Tan, Cheng; Kim, Jin-Young; Li, Huifeng; Piner, Richard; Zarbin, Aldo JG; Ruoff, Rodney S. Reduced graphene oxide/copper nanowire hybrid films as high-performance transparent electrodes. *ACS Nano* **2013**, DOI: 10.1021/nm3060175.
7. **Xiaohan Wang**, Li Tao, Yufeng Hao, Zhihong Liu, Shanshan Chen, Iskandar Kholmanov, Harry Chou, Cheng Tan, Nishant Jayant, Qingkai Yu, Deji Akinwande, Rodney S. Ruoff. Direct delamination of graphene onto polyimide for plastic electronics. Submitted to *Nano Letters*.
8. **Xiaohan Wang**, Li Tao, Nishant Jayant, Deji Akinwande, Rodney S. Ruoff. Electrochemical delamination: a facile way to graphene on arbitrary substrate. **2012 SWAN Annual Review**, the University of Texas – Austin.

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TECHNICAL SKILLS:

- **Techniques for synthesizing and processing materials:** solid reaction process, synthesis and growth control of quantum dots, hydrothermal method, CVD growth of graphene.
- **Techniques for assembly at nano-micro scale:** spin-coating, layer-by-layer assembly technique, bottom-up fabrication of hybrid films.
- **Techniques for material characterization:** X-ray powder diffraction, Scanning Electron Microscopy, Transmission Electron Microscopy, ultraviolet and visible spectrophotometer, fluorescence spectrophotometer, mechanical measurement, thermogravimetric analysis etc.
- **Programming for scientific use:** Matlab 6.5.1, Wolfram Mathematica 7.
- **Documentation:** MS Office, Endnote X3.

INTERESTS:

Traveling, photography, piano (ever gave a public performance), badminton.