

Xiaoxia Gao

NanoTech User Facility, University of Washington
Fluke Hall, Rm. 215, Box 352140
Seattle, WA 98195, USA
Telephone: 206-685-6771; Fax: (206) 221-2528; e-mail: gxx@uw.edu
Web: <http://depts.washington.edu/ntuf/>

EDUCATION

- PhD, Materials Science & Engineering, the University of Texas at Austin, December 2005
- Master, Materials Science & Engineering, Beijing University of Technology, July 2000
- Bachelor, Materials Science & Engineering, Shandong Institute of Light Industry, July 1996

SUMMARY OF EXPERTIES

- 8 years experience in TEM imaging methods (HRTEM, HRSTEM, STEM, EFTEM, Tomography) and chemical analysis techniques (EDS, EELS).
- 5 years experience in training user to operate transmission electron microscope and related facilities.
- Hand on experience with SEM, FIB and AFM.
- Intimate familiarity with TEM image processing and software: Gatan DigitalMicrograph, FEI ES-Vision, FEI TrueImage, FEI Tomography software.
- Skilled in TEM sample preparation of semiconductor, polymer and biomaterials.
- Proven instrumental knowledge of TEM and ability to troubleshoot and correct TEM imaging problems.

RESEARCH EXPERIENCE

My research concentrates in the areas of Nanomaterials, Nanotechnology, and Electron Microscopy.

- 1/18/2008~present: Research scientist and transmission electron microscope (TEM) specialist at the Center of Nanotechnology, the University of Washington
 - Synthesized and characterized the structure of nanomaterials (nanoparticles, nanorods and nanowires).
 - Developed electron microscopy protocols for internal or external research in the area of nanotechnology and bionanomaterials.
- 12/01/2005 ~ 01/18/2008: Post doctor and Facility manager of Transmission Electron Microscope (TEM), Microelectronic Research Center, The University of Texas at Austin
 - Studied the structure and properties of nanomaterials including semiconductors, magnetic and nanoparticles.
 - Conducted research and collaborative activities related to the use and development of TEM.
- 1/16/2002~12/01/2005: Research Assistant, department of Materials Science & Engineering, the University of Texas, at Austin.
 - Applied Scan Transmission Electron microscope (STEM) techniques in the study of drug delivery materials
 - Imaged, characterized and chemically analyzed nanomaterials.

ACCOMPLISHMENTS

- Innovator s Award of the University of Washington, 2009.
- Scholarship of Pan American Advanced Studies Institute (PASI) TEM School, sponsored by National Science Foundation (NSF) and US Department of Energy (DOE), 2006.
- Certified Gatan EELS Imaging & Analysis Training, 2006.

JOURNAL PUBLICATIONS

- Reyes-Gasga, J.; Gomez-Rodriguez, A.; **Gao, Xiaoxia**; Jose-Yacamán, M. On the interpretation of the forbidden spots observed in the electron diffraction patterns of flat Au triangular nanoparticles. *Ultramicroscopy* 108(9), (2008).
- D. Ferrer, A. Torres-Castro, **X. Gao**, S. Sepúlveda-Guzmán, U. Ortiz-Méndez, and M. José-Yacamán, “Three-Layer Core/Shell Structure in Au-Pd Bimetallic Nanoparticles”. *Nanoletter*, 2007

- R. Caudillo, **X.Gao**, R. Escudero, M. Jose-Yacaman, and J.B. Goodenough, “Ferromagnetic Behavior of Carbon Nanospheres Encapsulating Silver Nanoparticles”. *Physical Review B*, 2006
- Gaurav Gupta, Cynthia A. Stowell, Mehul N. Patel, **Xiaoxia Gao**, Miguel J. Yacaman, Brian A. Korgel, Keith P. Johnston, “Infusion of Presynthesized Iridium Nanocrystals into Mesoporous Silica for High Catalyst Activity,” *Chemistry of Materials*, Vol. 18, pp. 6239, 2006.
- Prapasri Sinswat, **Xiaoxia Gao**, Miguel J. Yacaman, Robert O. Williams, Keith P. Johnston, “Stabilizer Choice for Rapid Dissolving High Potency Itraconazole Particles Formed by Evaporative Precipitation into Aqueous Solution,” *International Journal of Pharmaceutics*, Vol. 302, pp. 113, 2005.
- J.M. Vaughn, **X. Gao**, Yacaman, Miguel-Jose; Johnston, Keith P.; Williams, Robert O., “ Comparison of Powder Produced by Evaporative Precipitation into Aqueous Solution (EPAS) and Spray Freezing into Liquid (SFL) Technologies Using Novel Z-Contrast STEM and Complimentary Techniques,” *European Journal of Pharmaceutics and Biopharmaceutics*, Vol. 60, pp. 81, 2005.
- **Xiaoxia Gao**, Yuan Ji, Taoxing Zhong, “Application of Scanning Thermal Microscopy in Study of Interfacial Thermal Conductivity of SiC/Cu Composites,” *Guisuanyan Tongbao*, Vol. 20, pp. 9, 2001.
- Rozamond Y. Sweeney, Chuanbin Mao, **Xiaoxia Gao**, et al; “Bacterial Biosynthesis of Cadmium Sulfide Nanocrystals,” *Chemistry & Biology*, Vol. 11, pp. 1553, 2004.
- M. Marin-Almazo, D. Garcia-Gutierrez, **Gao, X** et al; “Cobalt-Based Superparamagnetic Nanorings”, *Nano Letters*, Vol. 4, pp. 1365, 2004.
- Jose Luis Elechiguerra, Justin L Burt, Jose R. Morones, Alejandra Camacho-Bragado, **Xiaoxia Gao**, Humberto H. Lara, Miguel Jose Yacaman, “Interaction of silver nanoparticles with HIV-1,” *Journal of Nanobiotechnology*, Vol. 3, 2005.
- Yuan, Ji, **Xiaoxia Gao**, Taoxing Zhong; “Preparation of Metal Base Composite Electric Packaging Heat Sink Material”, *Faming Zhuanli (patent) Shenqing Gongkai Shuomingshu*, 1999.
- Yuan Ji, Taoxing Zhong, **Xiaoxia Gao**, et al; “Scanning Thermal Microscopy Evaluation of Interface Thermal Property of Composites for Electronic Packaging,,” *Journal of Trace and Microprobe Techniques*, Vol. 19, pp. 365, 2001.

CONFERENCE PAPERS

- Michael T Pettes, **Xiaoxia Gao**, Jae Hun Seol, Choongho Yu and Li Shi, “Thermal Transport in Individual Single-Wall Carbon Nanotubes”, MRS, Boston, USA, 2007.
- **Xiaoxia Gao**, J. Reyes-Gasga M. Jose Yacaman, “Observation of Size Effect of Electron Diffraction Spots and Weak-Beam Images in Au Nanoparticles”. The 16th International Microscopy Congress (IMC16), Sapporo, Japan 2006.
- J. Reyes-Gasga **Xiaoxia Gao**, M. Jose Yacaman, “Quasicrystalline Contrast in Gold Nanoparticles”. The 16th International Microscopy Congress (IMC16), Sapporo, Japan, 2006.
- S. Sepulveda-Guzman, N. Elizondo-Villarreal, **X. Gao**, A. Torres M. Jose-Yacaman, “Bismuth Nanoparticles Formation by Electron Beam Irradiation in TEM,” MRS, Boston, USA, 2006.
- D. Ferrer, A. Torres-Castro, **X. Gao**, S. Sepulveda-Guzman, M. Jose-Yacaman, “Polyol Mediated Design of Core-shell Pd-on-Au Bimetallic Nanoparticles, ” MRS, Boston, USA, 2006.
- **Xiaoxia Gao** et al. “Characterization SP1 Carbon Chain by EELS and STEM,” MRS, Boston, USA, 2005.
- R. Caudillo, **X.Gao** et al, “Ferromagnetic Behavior of Carbon Nanospheres Encapsulating silver nanoparticles,” MRS, Boston, USA, 2005.
- **Xiaoxia Gao**, Yuan, Ji, Taoxing Zhong, “ Study of the Effect of Heat Treatment on Interfacial Stress Between Electronic Packing Materials,” International Materials Research Conference, Beijing, China, 1999.
- **Xiaoxia Gao**, Taoxing, Zhong, Yuan Ji, “Study of Interfacial Stress Before and After Annealing Process,” China Materials Research Conference, Beijing, China, 1998.