Xinnan Wang

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EDUCATION

- **University of South Carolina (USC),** Columbia, SC

  Ph.D. in Engineering, May, 2008

  Dissertation: "*Micro/nano mechanical characterization of one-dimensional nanomaterials and biomaterials*."

  Advisor: Xiaodong Li

- **Southern Illinois University (SIU),** Carbondale, IL

  M.S. Engineering mechanics, August, 2003

  Thesis: "*Mechanical analysis of a micromachined vibratory thin plate gyroscope*."

  Advisor: Tsuchin Philip Chu

- **Harbin Institute of Technology,** China

  B.E. July, 1997

RESEARCH EXPERIENCE

Research Assistant, Nanostructures and Reliability Laboratory, USC, 2003-present

***** Synthesis of nanowires using CVD method.

***** Experimental mechanics of low dimensional nanomaterials: instrumentation for quantitative force measurement using atomic force microscopy (AFM), nanoindentation, and nanorobotic manipulation in scanning electron microscopy (SEM).

***** Nanomachining and nanofabrication.

***** Micro/nanomechanical characterization of biomaterials with MTS Bionix system.

***** Structural analysis of single crystalline nanomaterials using TEM, HRTEM.

***** Finite element simulations of deformation behavior of nanomaterials by nanoindentation.

TEACHING EXPERIENCE

Teaching assistant and Lab instructor, USC, 2003- present.

- Introduction to Materials Science For Engineers

Teaching assistant, SIU, 2001-2003.

- Vector Mechanics Etc: Dynamics
- Mechanical Engineering Design

- Dynamic Modeling and Control of Engineering Systems

INVITED TALKS

- Arizona State University, AZ, August, 2008
- North Dakota State University, ND, August, 2008
- Villanova University, PA, March, 2008
- Oakland University, MI, March, 2007

JOURNAL PUBLICATIONS

16. Xinnan Wang, Xiaodong Li, "Micro/nano Experimental Methods of One-Dimensional Nanostructures — A Review", to submit.
15. Xinnan Wang, Xiaodong Li, "Micro/nano Characterization Techniques of Biomaterials", A Review, to submit.
14. Xinnan Wang, Xiaodong Li, "Nanomeniscus force induced elastic deformation on the ZnS nanobelts ", to submit.
13. Xinnan Wang, Ching-Chang Ko, Xiaodong Li, "Nanomechanical Characterization of Type I Collagen Microibrils", to submit.
12. Xinnan Wang, Tao Li, Qian Wang, Xiaodong Li, "Nanomechanical characterization of raspberry-like core-shell nanocomposite", submitted.
11. Xiaodong Li, Ming Chang, Chia-Hung Lin, Hai Ni, Xinnan Wang, Yuh J. Chao, Juti Rani Deka, "In-situ Nanomechanical Characterization of Single Crystalline Boron Nanowires by buckling", in review.
10. Jinzhu Tan, Yuh. J. Chao, John. W. Van Zee, Xiaodong Li, Xinnan Wang, Min Yang, "Assessment of Mechanical Properties of Fluoroelastomer and EPDM in a Simulated PEM Fuel Cell Environment by Microindentation Test", Accepted in Materials Science & Engineering A (Ms. Ref. No.: MSEA-D-07-03286).
9. Xinyong Tao, Xinnan Wang, Xiaodong Li, "Nanomechanical Charaterization of One-Step Combustion Synthesized $Al_4B_2O_9$ and $Al_{18}B_4O_{33}$ Nanowires", *Nano Letters, 7 (2007) 3172-3176*.(Impact Factor: **9.960**, Time cited: 1)
8. Xinnan Wang, Zhongwei Niu, Siqi Li, Qian Wang and Xiaodong Li, "Nanomechanical Characterization of Polyaniline Coated Tobacco Mosaic Virus Nanotubes", *Journal of Biomedical Materials Research Part A, 31617*. (Impact Factor: **2.497**)
7. Xinnan Wang, Yongda Yan, Michael J. Yost, Shen Dong, Xiaodong Li, "Nanomechanical Characterization of Micro/nanofiber Reinforced Type I Collagens", *Journal of Biomedical Materials Research Part A, 83A (2007) 130-135*. (Impact Factor: **2.497**)
6. Xiaodong Li, Xinnan Wang, Qihua Xiong, and Peter C. Eklund, "Top-down Structure and Device Fabrication Using In-situ Nanomachining", *Applied Physics Letters, 87 (2005)*

233113, (Impact Factor: **4.308**, Time cited: 4); it is selected for the December 12, 2005 issue of *Virtual Journal of Nanoscale Science & Technology*.

5. Xiaodong Li, Xinnan Wang, Qihua Xiong, and Peter C. Eklund, "Mechanical Properties of ZnS Nanobelts", *Nano Letters, 5 (2005) 1982-1986*. (Impact Factor: **8.449**, Time cited: 23)
4. W. Ding, D.A. Dikin, X. Chen, R. D. Piner, R.S. Ruoff, E. Zussman, X. Wang, and X. Li, "Mechanics of Hydrogenated Amorphous Carbon Deposits from Electron-beam-induced Deposition of a Paraffin Precursor", *Journal of Applied Physics, 98 (2005) 014905*. (Impact Factor: **2.255**, Time cited: 23)
3. Xinnan Wang, Xiaodong Li and Michael J. Yost, "Microtensile Testing of Collagen Fibril for Cardiovascular Tissue Engineering", *Journal of Biomedical Materials Research Part A, 74A (2005) 263-268*. (Impact Factor: **3.652**, Time cited: 4)
2. Xiaodong Li, Xinnan Wang, Weiche Chang, Yuh J. Chao and Ming Chang, "Effect of Tensile Offset Angles on Micro/Nanoscale Tensile Testing", *Review of Scientific Instruments, 76 (2005) 033904-5*. (Impact Factor: **1.226**, Time cited: 1)
1. Xiaodong Li, Xinnan Wang, Robert Bondokov, Julie Morris, Yuehuei H. An, and Tangali S. Sudarshan, "Micro/Nanoscale Mechanical and Tribological Characterization of SiC for Orthopaedic Applications", *Journal of Biomedical Materials Research Part B - Applied Biomaterials, 72B (2005) 353-361*. (Impact Factor: **3.652**, Time cited: 2)

CONFERENCE PRESENTATIONS

11. Xinnan Wang, Zhongwei Niu, Siqi Li, Qian Wang and Xiaodong Li, "Nanomechanical Characterization of Polyaniline Coated Tobacco Mosaic Virus Nanotubes," *Materials Science and Technology 2007, Detroit, Michigan, September 16-20, 2007*.
10. Xiaodong Li, Yongda Yan, Xinnan Wang, Michael J. Yost, Stephen A. Fann, and Shen Dong, "Micro/Nano Tensile Testing of Fiber Reinforced Type I Collagen," *2006 ASME International Mechanical Engineering Congress and Exhibition, Chicago, Illinois, November 5-10, 2006*.
9. Xiaodong Li, Xinnan Wang, Yongda Yan, Michael J. Yost and Shen Dong, "Nanomechanical Characterization of Fiber Reinforced Type I Collagen," *2006 MRS Fall Meeting, Boston, MA, November 27-December 1, 2006*.
8. Xiaodong Li, Xinnan Wang, Hongsheng Gao, and Michael J. Yost, "Nanoscale Imaging and Mechanical Testing of Cells and Tissues," *Gordon Research Conference on Thin Films and Small Scale Mechanical Behavior, Waterville, Maine, July 30-August 4, 2006*.
7. Xiaodong Li, Xinnan Wang, Qihua Xiong, and Peter C. Eklund, "Nanoindentation Mechanical Property Measurements of 1D Nanostructures," *Oak Ridge National Laboratory Center for Nanophase Materials Sciences User Meeting, Oak Ridge, Tennessee, June 14-16, 2006*.

6. Xiaodong Li, Xinnan Wang, Hongsheng Gao, and Michael J. Yost, "Nanoscale Imaging and Mechanical Testing of Cells and Tissues," *Oak Ridge National Laboratory Center for Nanophase Materials Sciences User Meeting, Oak Ridge, Tennessee, June 14-16, 2006*.
5. Xiaodong Li, Xinnan Wang, Patrick Nardi, Hongsheng Gao, Qihua Xiong, Peter C Eklund, Catherine J Murphy, K. K Caswell, Chang-Wook Baek, Jong-Man Kim and Yong-Kweon Kim, "Mechanical Property Measurements and Mechanical Machining of Nanobuilding Blocks," *11th International Conference on New Diamond Science and Technology (ICNDST) and 9th Applied Diamond Conference (ADC), Research Triangle Park, North Carolina, May 15-18, 2006*.
4. Xiaodong Li, Xinnan Wang, Patrick Nardi, Hongsheng Gao, Qihua Xiong, Peter C Eklund, Catherine J Murphy, K. K Caswell, Chang-Wook Baek, Jong-Man Kim, and Yong-Kweon Kim, "Top-down On-wire Structure and Device Fabrication using In-situ Nanomachining," *2006 Spring MRS Meeting, San Francisco, CA, April 17-21, 2006*.
3. Xiaodong Li, Xinnan Wang, Qihua Xiong, and Peter C. Eklund, "Nanoindentation Mechanical Property Measurements of ZnS Nanobelts," *2005 Spring MRS Meeting, San Francisco, CA, March 28-April 1, 2005*.
2. Xiaodong Li, Xinnan Wang, Wei-Che Chang, Yuh J. Chao, and Ming Chang, "How to Accurately Measure Nanoscale Materials Properties by Tensile Testing? Effect of Offset Angle on Nanoscale Tensile Measurements," *Materials Science and Technology 2004, New Orleans, Louisiana, September 26-29, 2004*.
1. Xiaodong Li, Xinnan Wang, Tangali S. Sudarshan, Yuehei H. An, Julie Morris, and Natarajan Sethuramand, "Micro/Nanomechanical and Tribological Characterization of Orthopedic Materials," *Materials Science and Technology 2004, New Orleans, Louisiana, September 26-29, 2004*.

HONORS & AWARDS

- Travel Grant Award, USC, 2007
- Outstanding Graduate Student, USC, 2006
- Outstanding Research Bearer, Daewoo Management and Development Center, Korea,1998
- Daewoo Fellowship, South Korea,1997, 1998
- Consecutive scholarships for excellent undergraduate students, Harbin Institute of Technology, 1994-1997.

PROFESSIONAL AFFILIATION

- Member of the minerals, metals & materials Society
- Member of the American society of mechanical engineers

STUDENT ORGANIZATION

- Chairman, A Chinese students organization, USC, 2005-2007