

Xiaodong (Chris) Li

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Professional Experience

- 8/09-present: Professor, CEC Distinguished Professor in Mechanical Engineering (2009-2012)
Department of Mechanical Engineering, University of South Carolina
- 8/07-10/12: University Campus Director, South Carolina Space Grant Consortium
- 8/02-7/09: Associate Professor, Department of Mechanical Engineering, University of South Carolina
- 7/95-7/02: Research Associate 2/Postdoctoral Researcher/Visiting Scholar, Department of Mechanical Engineering, Ohio State University
- 11/94-7/95: Postdoctoral Researcher, Laboratory for Advanced Materials Processing, Pohang University of Science and Technology
- 12/93-11/94: Scientific Visitor, Department of Materials, University of Oxford
- 8/88-12/93: Assistant Professor/Lecturer, School of Materials Science and Engineering, Harbin Institute of Technology

Education/Professional Preparation

- Postdoc. Mechanical Engineering, Ohio State University, 1996
- Ph.D. Materials Science and Engineering, Harbin Institute of Technology, 1993
- M.S. Materials Science and Engineering, Harbin Institute of Technology, 1988
- B.S. Mechanical Engineering, Harbin Shipbuilding Engineering Institute, 1985

Honors and Awards

- Carolina Distinguished Professor Nominee, 2012
- Litman Award Nominee, 2012
- USC College of Engineering and Computing Research Achievement Award, 2011
- Michael J. Mungo Undergraduate Teaching Award Nominee, 2011
- New York Times – Year in Ideas for Year 2010
- Professional Engineering Publisher's PE Prize, 2008
- USC College of Engineering and Computing Research Progress Award, 2008
- Michael J. Mungo Graduate Teaching Award Nominee, 2008
- Michael J. Mungo Undergraduate Teaching Award Nominee, 2008
- USC College of Engineering Yong Investigator Award Nominee, 2007
- Michael J. Mungo Graduate Teaching Award Nominee, 2007
- Michael J. Mungo Undergraduate Teaching Award Nominee, 2006
- Michael J. Mungo Graduate Teaching Award Nominee, 2005
- Research Progress Award Nominee, USC College of Engineering and Information Technology, 2006
- Reviewer, National Science Foundation Metals program, 2007, 2008, and 2009
- Review Panel, South Korea Science and Engineering Foundation World Class University Program, 2008
- Review Panel, National Science Foundation Nano and Bio Mechanics Program, 2006
- Review Panel, National Science Foundation SBIR Program, 2006

- Invited external PhD thesis examiner, Hong Kong University of Science and Technology, 2006
- A teacher in the Department who was most influential in helping to prepare students for becoming engineering professionals, 2005, 2006
- Michael J. Mungo Graduate Teaching Award Nominee, 2005
- One of Xiaodong Li's PhD students received 2012 Student Award for Acta Journals.
- One of Xiaodong Li's PhD students received 2012 University Outstanding Graduating International Student Award
- Two of Xiaodong Li's PhD students received University Outstanding Graduate Student Awards (in 2005 and 2006, respectively)
- One of the 100 most popular papers in the Journal – Nanotechnology in 2004
- Featured article in the Journal – Nanotechnology in 2004
- NSF Fellowship to the NSF Summer Institute on Nano Mechanics and Materials, 2003
- Research achievements have been reported by over 500 media worldwide (selected are listed below)
 - New York Times
 - BBC News, July 10, 2012
 - Chemistry World News, December 7, 2010
 - Ceramic Today, December 8, 2010
 - ScienceDaily, April 20, 2010
 - MSNBC, April 1, 2010
 - Chemistry World News, March 16, 2010
 - Discovery News, April 1, 2010
 - physorg.com, April 7, 2010
 - swissinfo.ch, April 8, 2010
 - The Times of India, April 13, 2010
 - Canadian Business Magazine, May 10, 2010
 - news.com.au, April 12, 2010
 - TechNewsDaily, April 12, 2010
 - Nanowerk Spotlight, Nanowerk, April 6, 2010
 - USC News, April 5, 2010
 - Research Highlights, Nature China, April 7, 2010
 - Look-ahead, June 2010 Issue of Cutting Tool Magazine
 - Nanowerk Spotlight, Nanowerk, March 26, 2010
 - Nanowerk Spotlight, Nanowerk, October 14, 2006
 - Research News, September 2004 issue of Materials Today
 - USC Research News, 2004
 - USC News, October 22, 2004
 - Taiwan Nanotechnology News Letter, Vol. II, No. 19, 2003
 - News of the Southeastern Innovation Corridor, Swamp Fox, Nov. 17, 2003
 - News, www.nano.com.tw, October 17, 2003
 - News, HighTech online, October 21, 2003
 - News, nanotechweb.org, October 14, 2003
 - Research News, December 2002 issue of Materials Today
 - News and Updates, July 2000 issue of JOM
 - News, October 2000 issue of Advanced Engineering Materials
 - Technical News, November 2000 issue of Euromaterials
 - Materials Progress, December 2000 issue of Advanced Materials & Processes
- Outstanding Service Award, Journal of Advanced Materials, Society for the Advancement of Materials and Process Engineering, 2000
- Outstanding Achievement Award, Computer Microtribology and Contamination Research Laboratory, Ohio State University, 1998

- Fellowship (Exchange Program), The Royal Society, UK, 1994
- Scientific and Technical Progress Award, The Chinese Ministry of Aviation and Aerospace, 1993
- Young Faculty Award for Excellence in Teaching, Harbin Institute of Technology, 1991

Editorial Advisory Board/Editorial Board/Editorial Review Board

- Associate Editor, Transactions of the ASME - Applied Mechanics Reviews
- Guest Editor, Experimental Mechanics, Special Issue - Advanced Vision Based Methods and Measurements
- Guest Editor, Experimental Mechanics, Special Issue - Emerging Methods to Understand Mechanical Behavior
- Guest Editor, Metallurgical and Materials Transactions A, Special Issue - Mechanical Behavior of Nanostructured Materials
- Guest Editor, JOM – Nanomechanical Testing
- Advisor to JOM
- Editorial Board, Journal of Bionic Engineering
- Editorial Board, International Journal of Applied Mechanics
- Editorial Board, Journal of Biomaterials and Nanobiotechnology
- Editorial Board, Journal of Nanoscience Letters
- Editorial Board, International Journal of Biomaterials Research and Engineering
- Editorial Board, International Journal of Nanotechnology and Applications
- Editorial Board, International Journal of Mechanic Systems Engineering
- Editorial Board, World Journal of Mechanics
- Editorial Advisory Board, Recent Patents in Nanotechnology
- Editorial Advisory Board, Open Nanoscience Journal
- Editorial Review Board, Journal of Advanced Materials
- International Board of Review, Journal of Materials Engineering and Performance
- Review Panel, National Science Foundation Nanomanufacturing Program, 2010, 2011, 2012
- Review Panel, National Science Foundation Materials Processing and Manufacturing, 2010
- Review Panel, South Korea Science and Engineering Foundation World Class University Program, 2008
- Review Panel, National Science Foundation Nano and Bio Mechanics Program, 2006
- Review Panel, National Science Foundation SBIR Program, 2006
- Review proposals for the following funding agencies
 - National Science Foundation
 - US Army Research Office
 - The National Academies/AFSOR
 - US Civilian Research and Development Foundation
 - The Israel Academy of Sciences and Humanities
 - The Petroleum Research Fund
 - Korean National Science Foundation
 - University of Wisconsin -Milwaukee's Research Growth Initiative Program
- Review papers for the following 115 journals (including Science)
 - ACS Nano
 - ACS Applied Materials & Interfaces
 - Acta Biomaterialia
 - Acta Materialia
 - Acta Mechanica
 - Advanced Functional Materials
 - Advanced Materials
 - American Mineralogist
 - Applied Physics Letters

Applied Surface Science
Carbon
Central European Journal of Physics
Ceramics International
Chemical Physics Letters
Chemistry of Materials
Computational Materials Science
Composites B
Composites Science and Technology
Crystal Growth & Design
Current Nanoscience
Current Opinion in Solid State and Materials Science
Diamond and Related Materials
Electrochimica Acta
Electrochemistry Communications
Energy & Environmental Science
Energy Technology
European Polymer Journal
Experimental Mechanics
Fatigue and Fracture of Engineering Materials and Structures
Fibers and Polymers
IEEE Transactions on Nanotechnology
International Journal of Applied Ceramic Technology
International Journal of Applied Mechanics
International Journal of Computational Materials Science and Engineering
International Materials Review
Journal of Advanced Materials
Journal of Alloys and Compounds
Journal of American Ceramic Society
Journal of Applied Physics
Journal of Applied Polymer Science
Journal of Biomaterials and Nanobiotechnology
Journal of Biomedical Materials Research Part A
Journal of Biomedical Materials Research Part B
Journal of Chemical Physics
Journal of Computer-Aided Molecular Design
Journal of Crystal Growth
Journal of Electronic Materials
Journal of Electronic Packaging
Journal of Engineering Materials and Technology
Journal of Experimental Nanoscience
Journal of Information Storage and Processing Systems
Journal of Magnetism of Magnetic Materials
Journal of Manufacturing Processes
Journal of Manufacturing Science and Engineering
Journal of Materials Engineering and Performance
Journal of Materials Processing Technology
Journal of Materials Research
Journal of Materials Science
Journal of Materials Science & Technology
Journal of the Mechanical Behavior of Biomedical Materials
Journal of the Mechanics and Physics of Solids

Journal of Micromechanics and Microengineering
Journal of Nanomaterials
Journal of Nano Research
Journal of Physical Chemistry
Journal of Physics and Chemistry of Solids
Journal of Physics: Condensed Matter
Journal of Physics D: Applied Physics
Journal of Pressure Vessel Technology
Journal of Royal Society Interface
Journal of Solid State Science and Technology
Journal of Strain Analysis for Engineering Design
Journal of Structural Biology
Journal of Vacuum Science and Technology
Materials Characterization
Materials Chemistry and Physics
Materials and Design
Materials Letters
Materials Research Bulletin
Materials Science and Engineering A
Materials Science and Engineering C
Materials Science in Semiconductor Processing
Macromolecular Rapid Communications
Measurement Science and Technology
Mechanics of Materials
Medical Engineering & Physics
Microelectronics Reliability
Nano
Nanotechnology
Nanoscale
Nanoscale Research Letters
Nanoscience and Nanotechnology Letters
Nano Letters
Nano Today
Proceedings of Royal Society A
Pharmaceutical Research
Philosophical Magazine
Physica E
Physical Review Letters
Polymer
Polymer Engineering & Science
Recent Patents in Nanotechnology
Surface and Interface Analysis
Science
Science and Technology of Advanced Materials
Small
Scripta Materialia
Semiconductor Science and Technology
Superlattices and Microstructures
Surface and Coatings Technology
Surface Science
Thin Solid Films
Tribology International

Symposiums and Sessions Organized/Chaired

- Session Co-Chair – symposium “Next Generation Biomaterials IV,” MS&T’2012, Materials Science & Technology 2012 Conference & Exhibition, Pittsburgh, PA, October 7-11, 2012.
- Session Chair – symposium “Boron, Boron Compounds, and Boron Nanomaterials: Structure, Properties, Processing and Applications,” MS&T’2012, Materials Science & Technology 2012 Conference & Exhibition, Pittsburgh, PA, October 7-11, 2012.
- Session Co-Chair “Mechanical Behavior at Nanoscale I,” TMS 2012, 141st Annual Meeting & Exhibition, Orlando, Florida, March 11 - March 15, 2012.
- Session Co-Chair – “Bioinspired, Biomimetic, and Biologically-derived Ceramics I -Next Generation Bioceramics,” 36th International Conference on Advanced Ceramics & Composites, Daytona Beach, FL, January 22-27, 2012.
- Session Co-Chair – “International Workshop on Nanoindentation Related Research (4th International Workshop on Materials Behavior at Micro- and Nano-Scale),” Xi’an, China, May 19-21, 2011.
- Co-Organizer – “International Workshop on Nanoindentation Related Research (4th International Workshop on Materials Behavior at Micro- and Nano-Scale),” Xi’an, China, May 19-21, 2011.
- Session Co-Chair – symposium “Advances in Mechanics of One-Dimensional Micro/Nano Materials: Nanomechanics: Size Scale and Theory,” TMS 2011, 140th Annual Meeting & Exhibition, San Diego, California, February 27 - March 3, 2011.
- Session Chair – symposium “Controlled Processing of Nanoparticle-based Materials and Nanostructured Films: Low Dimensional Nanomaterials I,” MS&T’2010, Materials Science & Technology 2010 Conference & Exhibition, Houston, Texas, October 17-21, 2010.
- Session Co-Chair - symposium “Advances in Composite, Cellular and Natural Materials: Metal Matrix Composites,” TMS 2010, 139th Annual Meeting & Exhibition, Seattle, WA, February 14-18, 2010.
- Co-Organizer – symposium “Controlled Processing of Nanoparticle-based Materials and Nanostructured Film,” MS&T’2010, Materials Science & Technology 2010 Conference & Exhibition, Houston, Texas, October 17-21, 2010.
- Session Co-Chair – “International Workshop on Materials Behavior at the Micro- and Nano-Scale,” Xi’an, China, June 8-11, 2009.
- Session Co-Chair – symposium “Mechanical Behavior of Nanomaterials-Experiments and Modeling,” 2009 MSR Fall Meeting, Boston, MI, November 30 – December 4, 2009.
- Organizer - session “Mechanics and Materials in Energy Systems,” 2009 ASME Annual Conference, International Mechanical Engineering Congress & Exposition (IMECE), Lake Buena Vista, Florida, November 13-19, 2009.
- Session Co-Chair – symposium “Controlled Processing of Nanoparticle-based Materials and Nanostructured Film,” MS&T’09, Material Science & Technology 2009 Conference & Exhibition, Pittsburgh, PA, October 25-29, 2009.
- Co-Organizer – symposium “Controlled Processing of Nanoparticle-based Materials and Nanostructured Film,” MS&T’09, Material Science & Technology 2009 Conference & Exhibition, Pittsburgh, PA, October 25-29, 2009.
- Session Co-Chair – “2009 SEM Fall Symposium and Workshop - Advanced Image-Based Measurement Methods: Recent Developments and Applications in Engineering and Medicine,” Columbia, SC, October 5-7, 2009.
- Co-Organizer – “2009 SEM Fall Symposium and Workshop - Advanced Image-Based Measurement Methods: Recent Developments and Applications in Engineering and Medicine,” Columbia, SC, October 5-7, 2009.
- Session Chair – “Sumer School of Advanced Function Materials 2009,” Shenyang, China, July 7 - 9, 2009.

- Session Co-Chair “International Workshop on Size Effect on Materials Mechanical Behavior,” Beijing, China, May 24-26, 2009.
- Co-Organizer – “International Workshop on Size Effect on Materials Mechanical Behavior,” Beijing, China, May 24 - 26, 2009.
- Co-Chair – symposium “Mechanical Behavior Nanostructured Materials,” TMS 2009, 138th Annual Meeting & Exhibition, San Francisco, California, February 15-19, 2009.
- Co-Organizer – symposium “Mechanical Behavior of Nanostructured Materials,” TMS 2009, 138th Annual Meeting & Exhibition, San Francisco, California, February 15-19, 2009.
- Co-Chair – session “Nanostructured and Materials in Energy Systems,” 2008 ASME Annual Conference, International Mechanical Engineering Congress & Exposition (IMECE), Boston, MA, October 31- November 6, 2008.
- Session Co-Chair –symposium “Micro- and Nano- Mechanical Behavior of Materials – Ceramics,” MS&T '08, Material Science & Technology 2008 Conference & Exhibition, Pittsburgh, PA, October 5-9, 2008.
- Co-Organizer – symposium “Emerging Methods to Understand Mechanical Behavior” TMS 2008, 137th Annual Meeting & Exhibition, New Orleans, LA March 9–13, 2008.
- Co-Organizer – symposium “Characterization of Mechanical Behavior at Small Length Scales,” 32nd International Cocoa Beach Conference & Exposition on Advanced Ceramics and Composites, Daytona Beach, Florida, January 27-February 1, 2008.
- Session Chair –symposium “Mechanical Behavior, Design, and Reliability of Small Scale Systems,” 32nd International Cocoa Beach Conference & Exposition on Advanced Ceramics and Composites, Daytona Beach, Florida, January 27-February 1, 2008.
- Session Co-Chair – “Nanotechnology Panel,” 2007 ASME Pressure Vessels and Piping/CREEP8 Conference, San Antonio, Texas, July 22-26, 2007.
- Co-Organizer – symposium “Nanostructured Materials including Nanocrystalline Materials, Nanoporous Materials, Active Nanomaterials and Structures,” 2007 ASME Annual Conference, International Mechanical Engineering Congress & Exposition (IMECE), Seattle, Washington, November 12-15, 2007.
- Co-Chair – session “Nanostructured Materials,” ASME Annual Conference, International Mechanical Engineering Congress & Exposition (IMECE), Seattle, Washington, November 12-15, 2007.
- Co-Chair – session “Mechanics of Nanofabrication and Nanostructure Growth,” 2007 ASME Annual Conference, International Mechanical Engineering Congress & Exposition (IMECE), Seattle, Washington, November 12-15, 2007.
- Session Co-Chair –symposium “Deformation Mechanisms at Nano-scale Contacts,” MRS Spring Meeting, San Francisco, CA, April 9-13, 2007
- Organizer – symposium “Mechanics of Nanomaterials and Micro/Nanodevices –Experimental and Modeling” in MS&T'07, Material Science & Technology 2006 Conference & Exhibition, Detroit, MI, September 16-20, 2007.
- Organizer – session “In-situ Nanoscale Imaging and Mechanical Testing” SEM Annual Conference, Springfield, MA, June 3-6, 2007.
- Co-Chair – session “Nanomaterial Applications to Transportation” ASME Annual Conference, International Mechanical Engineering Congress & Exposition (IMECE), Chicago, Illinois, November 5-10, 2006.
- Organizer – symposium “Nanomechanical Characterization and Size Dependent Mechanical Properties” MS&T'06, Material Science & Technology 2006 Conference & Exhibition, Cincinnati, Ohio, October 15-19, 2006.

Professional Memberships

- Member of the Materials Research Society (MRS) (2004- present)
- Member of the American Ceramic Society (ACerS) (2005- present)
- Member of the Society of Experimental Mechanics (SEM), USA (2003- present)

- Member of the American Society of Mechanical Engineers (ASME), USA (1998-present)
- Member of the Minerals, Metals & Materials Society (TMS), USA (1998-present)
- Active Member of the New York Academies of Science, USA (1998-1999)
- Member of the Society of Nanoscience and Nanotechnology (2006-present)
- TMS - Nanomechanical Materials Behavior Committee Member (2004 - present)
- TMS - Nanomechanical Materials Behavior Committee Vice Chair (2009-2010)
- TMS - Nanomechanical Materials Behavior Committee Chair (2011 - 2012)
- TMS – Mechanical Behavior of Materials Committee Member (2006-present)
- ASME - Multifunctional Materials Committee (2006-present)
- SEM- Time Dependent Materials Committee (2007-present)
- SEM- Biological Systems and Materials Committee (2008-present)

Peer-Reviewed Journal Publications

***H index factor: 30**

***Published papers have been cited over 3,700 times (according to Science Citation Index)**

***Journal Impact factors are based on 2011 Science Citation Index Report**

***Times cited for each paper are based on Science Citation Index Database of 2/28/2013**

(187 total, including 1 in *Science*, 1 in *Scientific Reports (Nature Publishing Group)*, 12 in *Nano Letters*, 2 in *Physical Review Letters*, 4 in *Advanced Materials*, 1 in *Advanced Functional Materials*, 1 in *Advanced Energy Materials*, 2 in *Small*, 1 in *Chemistry of Materials*, 4 in *Journal of Materials Chemistry*, 1 in *MRS Bulletin*, 1 in *Acta Biomaterialia*, 8 in *Applied Physics Letters*, 6 in *Acta Materialia*, 1 in *Physical Review B*, 2 in *Philosophical Magazine*, 3 in *Carbon*, 6 in *Nanotechnology*, 9 in *Journal of Applied Physics*, 3 in *Journal of Materials Research*, 4 in *Scripta Materialia*, and 6 in *Journal of Biomedical Materials Research*)

187. Kaiyuan Li, Yingchao Yang, Zhanjun Gu, Jane Y. Howe, Gyula Eres, Litong Zhang, Xiaodong Li, and Zhengwei Pan, "Approaching Carbon Nanotube Reinforcing Limit in B₄C Matrix Composites Produced by Chemical Vapor Infiltration," submitted for publication.
186. Yingchao Yang and Xiaodong Li "Pushing-up Graphene Reinforcing Limits in Composites," submitted for publication.
185. Xinyong Tao, Jun Du, Shulan Zhou, Yong Sun, Yang Xia, Hui Huang, Yongping Gan, Wenkui Zhang, and Xiaodong Li, "*In-Situ* Observation and Correlation of Nucleation, Growth and Energy Storage of Nanostructured MnO₂" submitted for publication.
184. Yong Sun, Jie Liu, Goutam Koley, and Xiaodong Li, "Atomic-Scale Imaging Correlation on the Deformation and Sensing Mechanisms of SnO₂ Nanowires," submitted for publication.
183. Guo Jun Ma, Cheng Wei Wu, Zhi-Hui Xu, and Xiaodong Li, "Mechanical Property Gradient Stiffening of Mosquito's Fascicle – Lessons from Nature," submitted for publication.
182. Xinyong Tao, Lixin Dong, Bradley J. Nelson, and Xiaodong Li, "Nano-ElectroMechanical Position/Force Sensing Based on Ductile Peapod B₄C Nanowires," submitted for publication.
181. Jianchao Chen, Jianyong Liu, Yue Qi, Tao Sun, Xiaodong Li, "Unveiling the Roles of Binder in the Mechanical Integrity of Electrodes for Lithium-ion Batteries" submitted for publication.
180. Haoze Li, Zhi-Hui Xu, and Xiaodong Li, "Multiscale Hierarchical Assembly Strategy and Mechanical Prowess in Conch Shells (*Busycon carica*)," submitted for publication.
179. Jun Du, Yingchao Yang, Zheng Fan, Yang Xia, Xuejuan Cheng, Yongping Gan, Hui Hang, Lixin Dong, Xiaodong Li, Wenkui Zhang, and Xinyong Tao, "Biotemplating Fabrication, Mechanical and Electrical Characterizations of NbC Nanowire Arrays from the Bamboo Substrate," *Journal of Alloys and Compounds* (in print) (Impact Factor: 2.289)
178. Shijie Hao, Lishan Cui, Daqiang Jiang, Xiaodong Han, Yang Ren, Jiang Jiang, Yinong Liu, Zhenyang Liu, Shengcheng Mao, Yandong Wang, Yan Li, Xiaobing Ren, Xiangdong Ding, Shan

- Wang, Cun Yu, Xiaobin Shi, Minshu Du, Feng Yang, Yanjun Zheng, Ze Zhang, Xiaodong Li, Dennis. E. Brown, and Ju Li, "A Transforming Metal Nanocomposite with Large Elastic Strain, Low Modulus and High Strength," *Science* (in print) (Impact Factor: 31.20)
177. Yanming He, Jie Zhang, Feng Pan, Chunfeng Liu, Xiaodong Li, "Uncovering the Critical Factor in Determining the Residual Stress Level in Si_3N_4 -GM Filler Alloy-42CrMo joints by FEM Analysis and Experiments," *Ceramics International*, 39 (2013) 709-718. (Impact Factor: 1.751)
176. Yanming He, Yong Sun, Jie Zhang, and Xiaodong Li, "An analysis of deformation mechanism in the Si_3N_4 -AgCuTi + SiC_p - Si_3N_4 joints by digital image correlation," *Journal of the European Ceramic Society*, 33 (2013) 157-164. (Impact Factor: 2.353)
175. Yingchao Yang, Yuping He, Yiping Zhao and Xiaodong Li, "Mechanically Robust Si Nanorod Arrays on Cu/Ti Bilayer Film Coated Si Substrate for High Performance Lithium-ion Battery Anodes," *Journal of Applied Physics*, 112 (2012) 103502. (Impact Factor: 2.168)
174. Junjie Zhang, Tao Sun, Yongda Yan, Shen Dong, and Xiaodong Li, "Nanoscratching-induced Deformation Twinning in Nanocrystalline Cu," *Journal of Applied Physics*, 112 (2012) 073526. (Impact Factor: 2.168)
173. Gangsheng Zhang and Xiaodong Li, "Uncovering Aragonite Nanoparticle Self-assembly in Nacre – A Natural Armor," *Crystal Growth & Design*, 12 (2012) 4306-4310. (Impact Factor: 4.72).
172. Zaiwang Huang and Xiaodong Li, "Order-disorder Transition of Aragonite Nanoparticles in Nacre," *Physical Review Letters*, 109 (2012) 025501. (Impact Factor: 7.37).
171. Yanming He, Yong Sun, Jie Zhang, Xiaodong Li, "Revealing the Strengthening Mechanism in Si_3N_4 Ceramic Joint by Atomic Force Microscopy Coupled with Nanoindentation Techniques," *Journal of the European Ceramic Society*, 32 (2012) 3379-3388. (Impact Factor: 2.353)
170. Lihong Bao and Xiaodong Li, "Towards Textile Energy-storage from Cotton T-shirts," *Advanced Materials*, 24 (2012) 3246-3252. (Impact Factor: 13.877)
169. Xingmao Jiang, Lihong Bao, Yung-Sung Cheng, Darren R. Dunphy, Xiaodong Li, and C. Jeffrey Brinker, "Aerosol-Assisted Synthesis of Monodisperse Single-Crystalline α -Cristobalite Nanospheres," *Chemical Communications*, 48 (2012) 1293-1295. (Impact Factor: 6.169)
168. Ehtesham B. Qudus, Alina Wilson, Jie Liu, Zhihua Cai, Deepak Veerreddy, Xinyong Tao, Xiaodong Li, Richard A. Webb, Goutam Koley, Structural and Elastic properties of InN Nanowires, *Physica Status Solidi A*, 209 (2012) 718-723. (Impact Factor: 1.463; 1 citation)
167. Junjie Zhang, Yujie Wei, Tao Sun, Yongda Yan, Alexander Hartmaier, Xiaodong Li, "Twin Boundary Spacing-dependent Friction in Nanotwinned Copper," *Physical Review B*, 85 (2012) 054109. (Impact Factor: 3.691; 1 citation)
166. Yingchao Yang, Zhi-Hui Xu, Zhenwei Pan, and Xiaodong Li, "Hydrogen Passivation Induced Dispersion of Multi-Walled Carbon Nanotubes," *Advanced Materials*, 24 (2012) 881-885. (Impact Factor: 13.877; 1 citation)
165. Milin Zhang, Yongde Yan, Wei Han, Zhiyao Hou, Yang Tian, Ke Ye, Lihong Bao, Xiaodong Li, and Zhijian Zhang, "A New Approach for the Preparation of Variable Valent Rare Earth Alloys from Nano Rare Earth Oxide at Low Temperature in Molten Salt," *RSC Advances*, 2 (2012) 054109.
164. Zaiwang Huang, Haoze Li, Zhiliang Pan, Qiuming Wei, Yuh J. Chao, and Xiaodong Li, "Uncovering High Strain Rate Protection Mechanism in Nacre," *Scientific Reports (Nature Publishing Group)*, 1 (2011) 148 | DOI: 10.1038/srep00148. (3 citations)
163. Jianfeng Zang, Lihong Bao, Richard A. Webb, and Xiaodong Li, "Electron Beam Irradiation Stiffens Zinc Tin Oxide Nanowires," *Nano Letters*, 11 (2011) 4885-4889. (Impact Factor: 13.198; 5 citations).
162. Zhi-Hui Xu, Yingchao Yang, Zaiwang Huang, and Xiaodong Li, "Elastic Modulus of Biopolymer Matrix in Nacre Measured Using Coupled Atomic Force Microscopy Bending and Inverse Finite Element Techniques," *Materials Science and Engineering C*, 31 (2011) 1852-1856. (Impact Factor: 2.686; 4 citations)
161. Xinyong Tao, Jun Du, Yingchao Yang, Yiping Li, Yang Xia, Yongping Gan, Hui Huang, Wenkui Zhang, and Xiaodong Li " TiC Nanorods Derived from Cotton Fibers: Chloride-Assisted VLS

- Growth, Structure, and Mechanical Properties," *Crystal Growth & Design*, 11 (2011) 4422-4426. (Impact Factor: 4.72; 3 citations)
160. Rui Li, Lihong Bao, and Xiaodong Li, "Synthesis, Structural, Optical and Mechanical Characterization of SrB₂O₄ Nanorods," *CrystEngComm*, 13 (2011) 5858-5862. (Impact Factor: 3.842; 7 citations)
 159. Xinyong Tao, Jun Du, Yiping Li, Yingchao Yang, Zheng Fan, Yongping Gan, Hui Huang, Wenkui Zhang, Lixin Dong, and Xiaodong Li, "Bamboo Fiber Generated TaC Nanowire / Activated Carbon Microfiber Hybrid Structures for Electrochemical Energy Storage Systems," *Advanced Energy Materials*, 1 (2011) 534-539. (4 citations)
 158. Zhi-Hui Xu and Xiaodong Li, "Deformation Strengthening of the Biopolymer Matrix of Nacre," *Advanced Functional Materials*, 21 (2011) 3883-3888. (Impact Factor: 10.179; 6 citations)
 157. Jianfeng Zang and Xiaodong Li, "In Situ Synthesis of Ultrafine MnO₂/Polypyrrole Nanorod Composites for High Performance Supercapacitors," *Journal of Materials Chemistry*, 21 (2011) 10965-10969. (Impact Factor: 5.968; 12 citations)
 156. Xinyong Tao, Yiping Li, Jun Du, Yang Xia, Yingchao Yang, Hui Huang, Yongping Gan, Wenkui Zhang, and Xiaodong Li, "A Generic Bamboo-based Carbothermal Method for Preparing Carbide (SiC, B₄C, TiC, TaC, NbC, Ti_xNb_{1-x}C, and Ta_xNb_{1-x}C) Nanowires," *Journal of Materials Chemistry*, 21 (2011) 9095-9102. (Impact Factor: 5.968; 6 citations)
 155. Yong Sun, Elizabeth N. Hoffman, Poh-Sang Lam, and Xiaodong Li, "Evaluation of Local Stress Evolution from Metallic Whisker Formation," *Scripta Materialia*, 65 (2011) 388-391. (Impact Factor: 2.699; 1 citation)
 154. Yingchao Yang, Guofeng Wang, and Xiaodong Li, "Water Molecule Induced Stiffening in ZnO Nanobelts," *Nano Letters*, 11 (2011) 2845-2848. (Impact Factor: 13.198; 5 citations)
 153. Laying Wu, Jianfeng Zang, Andrew L. Lee, Zhongwei Niu, Gary Horvath, Vaughn Braxton, Arief Cahyo Wibowo, Michael A. Bruckman, Soumitra Ghoshroy, Hans-Conrad zur Loye, Xiaodong Li, and Qian Wang, "Electrospinning Fabrication, Structural and Mechanical Characterization of Rod-like Virus-based Composite Nanofibers," *Journal of Materials Chemistry*, 21 (2011) 8550-8557. (Impact Factor: 5.968; 9 citations)
 152. Lihong Bao, Jianfeng Zang and Xiaodong Li, "Flexible Zn₂SnO₄/MnO₂ Core/Shell Nanocable - Carbon Microfiber Hybrid Composites for High-Performance Supercapacitor Electrodes," *Nano Letters*, 11 (2011) 1215-1220. (Impact Factor: 13.198; 56 citations)
 151. Zhanjun Gu, Yingchao Yang, Kaiyuan Li, Xinyong Tao, Gyula Eres, Jane Y. Howe, Litong Zhang, Xiaodong Li, and Zheng Wei Pan, "Ultra-Tough Carbon Nanotube Reinforced Silicon Carbide Composites by Chemical Vapor Infiltration," *Carbon*, 49 (2011) 2475-2482. (Impact Factor: 5.378; 4 citations)
 150. Zhi-Hui Xu, Helena Jin, Wei-Yang Lu, Michael A. Sutton, and Xiaodong Li, "Influence of Scanning Rotation on Nanoscale Artificial Strain in Open-loop Atomic Force Microscopy," *Experimental Mechanics*, 51 (2011) 619-624. (Impact Factor: 1.522)
 149. Jianfeng Zang, Zhi-Hui Xu, Richard A. Webb, and Xiaodong Li, "Electrical Self-healing of Mechanically Damaged Zinc Oxide Nanobelts," *Nano Letters*, 11 (2011) 241-244. (Impact Factor: 13.198; 6 citations)
 148. T. Zhu, M. A. Sutton, N. Li, J. J. Orteu, N. Cornille, X. Li; A. P. Reynolds, "Quantitative Stereovision in a Scanning Electron Microscope," *Experimental Mechanics*, 51 (2011) 97-109. (Impact Factor: 1.522; 5 citations)
 147. Zhi-Hui Xu, Yingchao Yang, Peng Huang, and Xiaodong Li, "Determination of Interfacial Properties of Thermal Barrier Coatings by Shear Test and Inverse Finite Element Method," *Acta Materialia*, 58 (2010) 5972-5979. (Impact Factor: 3.755; 3 citations)
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39. Xiaodong Li and Bharat Bhushan, "Micro/Nanomechanical Characterization of Ceramic Films for Microdevices," *Thin Solid Films*, 340 (1999) 210-217. (Impact Factor: 1.89; 55 citations)
38. Xiaodong Li and Bharat Bhushan, "Micromechanical and Tribological Characterization of Hard Amorphous Carbon Coatings as Thin as 5 nm for Magnetic Recording Heads," *Wear*, 220 (1998) 51-58. (Impact Factor: 1.872; 30 citations)
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23. Xiaodong Li and Zhongda Yin, "Mössbauer Study of the Aging Behavior of 18Ni(350) Maraging Steel," *Materials Letters*, 24 (1995) 235-238. (Impact Factor: 2.307; 5 citations)
22. Xiaodong Li and Zhongda Yin, "Reverted Austenite during Aging in 18Ni(350) Maraging Steels," *Materials Letters*, 24 (1995) 239-242. (Impact Factor: 2.307; 25 citations)
21. You Wang, Xiaodong Li, and Zhencheng Feng, "Relationships between the Product of Load and Sliding Speed with Friction Temperature and Sliding Wear of a 52100 Steel," *Scripta Metallurgica et Materialia*, 33 (1995) 1163-1168. (Impact Factor: 2.699; 7 citations)
20. Zhongda Yin, Xiaodong Li, Haibin Li, and Zhonghong Lai, "Aging Mechanism of 18Ni Maraging Steel," *Acta Metallurgica Sinica*, 31 (1995) A7-13 (in Chinese). (Impact Factor: 0.464)
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14. Xiaodong Li, You Wang, and Zhongda Yin, "Microanalysis of the Thermal Stress Fatigue of 4Cr5MoV1Si Steel," *Physical Testing and Chemical Analysis, Part A: Physical Testing*, 29(6) (1993) 47-49 (in Chinese).
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11. Xiaodong Li and Zhongda Yin, "Microstructure of Laser Melted Layer on Cr12MoV Steel," *Acta Metallurgica Sinica*, 4 (1991) 296-298. (Impact Factor: 0.464)
10. Zhongda Yin and Xiaodong Li, "Study on Laser Rapid Melting-Solidifying of 4Cr5MoV1Si Steel Surface," *Chinese Journal of Lasers*, 18(9) (1991) 709-711(in Chinese).
9. Xiaodong Li, Zhongda Yin, and You Wang, "Structure Feature of 4Cr5MoV1Si Steel Treated by Laser Rapid Melting," *Laser Technology*, 15(6) (1991) 341-343 (in Chinese).
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7. Zhongda Yin, Xiaodong Li, and Mingzhe Zheng, "A Small Angle X-ray Scattering Study of the Early Stages of Decomposition in 10Ni Maraging Steel," *Materials Chemistry and Physics*, 26 (1990) 527-534. (Impact Factor: 2.234; 2 citations)
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3. Zhongda Yin and Xiaodong Li, "Structural Characterization of Laser Surface Treated Cr12MoV Steel," *Physical Test*, (3) (1988) 8-16 (in Chinese).
2. Zhongda Yin and Xiaodong Li, "Laser Surface melting-solidifying of 4Cr5MoV1Si Steel," *Army Materials Science and Technology*, (4) (1988) 28-31 (in Chinese).
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Peer-Reviewed Papers in Conference/Workshop Proceedings

8. Xinnan Wang, Xiaodong Li, "Capillary force induced elastic deformation on ZnS nanobeams", ASME Proceedings 2011, MSEC2011-50302, pp. 563-567.
7. Yong Sun, Zaiwang Huang, Xiaodong Li, "Synthesis, Structural and Mechanical Characterization of Artificial Nacre," Materials Research Society Symposium Proceedings (Micro- and Nanoscale Processing of Biomaterials), 1239 (2010) 147-155.
6. Xiaodong Li, "AFM Imaging of Water, Cells and Tissues," *Materials Research Society Meeting Proceedings, Symposium L - Structure and Mechanical Behavior of Biological Materials*, Editors: Peter Fratzl, William J. Landis, Rizhi Wang, and Fred H. Silver, Materials Research Society, Warrendale PA , 2005, pp. L4.1.1-L4.1.6.
5. Bharat Bhushan, Sriram Sundararajan, Xiaodong Li, Christian Zorman, and Mehran Mehregany, "Micro/Nanotribological Studies of Single-Crystal Silicon and Polysilicon and SiC Films for Use in MEMS Devices," *Tribology Issues and Opportunities in MEMS*, Edited by Bharat Bhushan, Kluwer Academic Publishers, The Netherlands, 1998, pp. 407-430.
4. Zhongda Yin, Jingchuan Zhu, Zhonghong Lai, Xiaodong Li, and Dezhuang Yang, "Characterization of Microstructure in a ZrO₂-Ni Functionally Gradient Materials," *Proceedings of the Second Pacific Rim International Conference on Advanced Materials and Processing (PRICM-2)*, Edited by K. S. Shin, J. K. Yoon and S. J. Kim, The Korean Institute of Metals and Materials, Seoul, 1995, Vol. 2, pp.1731-1737.
3. Zhongda Yin, Xinhua Xiang, Jingchuan Zhu, and Xiaodong Li, "Fabrication of Plasma Spraying ZrO₂/NiCrCoAlY Graded Coating," *Proceedings of the Second Pacific Rim International Conference on Advanced Materials and Processing (PRICM-2)*, Edited by K. S. Shin, J. K. Yoon and S. J. Kim, The Korean Institute of Metals and Materials, Seoul, 1995, Vol. 2, pp.1745-1749.
2. Xiaodong Li, Jiahu Ouyang, and Zhongda Yin, "Effect of Laser Surface Hardening on the Wear Resistance of Cr12MoV Steel", *Proceedings of Satellite Conference of China Association for Science and Technology - First Academic Annual Meeting of Youth and Harbin Second Academic*

Conference of Youth (Science and Engineering), Edited by Zhengfu Cao, Harbin Institute of Technology Press, Harbin, 1992, pp. 280-282 (in Chinese).

1. Xiaodong Li, Zechun Li, and Zhongda Yin, "Spinodal Decomposition of Fe-Mo Alloys", *Proceedings of Satellite Conference of China Association for Science and Technology - First Academic Annual Meeting of Youth and Harbin Second Academic Conference of Youth (Science and Engineering)*, Edited by Zhengfu Cao, Harbin Institute of Technology Press, Harbin, 1992, pp. 304-307 (in Chinese).

Book Chapters

9. Hongsheng Gao and Xiaodong Li, "Mechanical Characterization of Polymer Nanocomposites" *Bottom-up Nanofabrication: Supramolecules, Self-Assemblies, and Organized Films*, Edited by Katsuhiko Ariga, American Scientific Publishers, California, 2009, Vol. 2, pp. 451-463.
8. Zhongke Wang, Hai Ni, and Xiaodong Li, "Boron Nanomaterials: Synthesis, Characterization and Applications," *Bottom-up Nanofabrication: Supramolecules, Self-Assemblies, and Organized Films*, Edited by Katsuhiko Ariga, American Scientific Publishers, California, 2009, Vol. 6, pp. 301-313.
7. Zhi-Hui Xu and Xiaodong Li, "Residual Stress Determination using Nanoindentation Technique," *Micro and Nano Mechanical Testing of Materials and Devices*, Edited by Fuqian Yang and James C.M. Li, Springer, 2008, pp. 139-153.
6. Jonathan W. Bender and Xiaodong Li, "Nanotribology," *Encyclopedia of Chemical Processing*, (2006) 1837-1847.
5. Bharat Bhushan and Xiaodong Li, "Nanomechanical Characterization of Ceramic Materials," *High Pressure Surface Science and Engineering*, Edited by Y. Gogotsi and V. Domnich, IOP Publishing, Bristol, 2003, pp 321-348.
4. Xiaodong Li, "Transmission Electron Microscopy," *X-ray and Electron Microscopy Analyses of Materials*, Edited by Y. Zhou, Harbin Institute of Technology Press, Harbin, 1991, pp. 68-80 (in Chinese).
3. Xiaodong Li, "Replica Techniques," *X-ray and Electron Microscopy Analyses of Materials*, Edited by Y. Zhou, Harbin Institute of Technology Press, Harbin, 1991, pp. 81-89 (in Chinese).
2. Xiaodong Li, "Transmission Electron Microscopy Structure, Sample Preparation and Observation," *X-ray and Electron Microscopy Analyses of Materials*, Edited by Y. Zhou, Harbin Institute of Technology Press, Harbin, 1991, pp. 157-162 (in Chinese).
1. Xiaodong Li, "Scanning Electron Microscopy and Electron Probe Structures and Sample Analyses," *X-ray and Electron Microscopy Analyses of Materials*, Edited by Y. Zhou, Harbin Institute of Technology Press, Harbin, 1991, pp. 162-166 (in Chinese).

Invited Plenary Lectures/Keynotes/Talks at International Conferences/Workshops

48. Xiaodong Li, "Flexible Nanostructured Composite Electrodes for High Performance Supercapacitors," TMS 2013, 142nd Annual Meeting & Exhibition, San Antonio, TX, March 3-7, 2013 (**invited talk**).
47. Xiaodong Li, "Uncovering the Multiscale Structural Origin of Nacre's Exceptional Mechanical Performance," TMS 2013, 142nd Annual Meeting & Exhibition, San Antonio, TX, March 3-7, 2013 (**invited talk**).
46. Xiaodong Li, "Uncovering the Multiscale Structural Origin of Nacre's Exceptional Mechanical Performance," 37th International Conference and Exposition on Advanced Ceramics and Composites (ICACC'12), Daytona Beach, Florida, January 27-February 1, 2013. (**invited talk**).
45. Xiaodong Li, "Flexible Nanomaterials-Enabled High-Performance Supercapacitor Electrodes," MS&T'2012, Material Science & Technology 2012 Conference & Exhibition, Pittsburgh, PA, October 7-11, 2012 (**invited talk**).
44. Xiaodong Li, "Boron and Boride Nanowires and Their Composites," MS&T'2012, Material Science & Technology 2012 Conference & Exhibition, Pittsburgh, PA, October 7-11, 2012 (**invited talk**).
43. Xiaodong Li, "Surface and Environmental Effects on the Mechanical Behavior and Function of Nanostructures," MS&T'2012, Material Science & Technology 2012 Conference & Exhibition,

-Pittsburgh, PA, October 7-11, 2012 **(invited talk)**.
42. Xiaodong Li, "What Roles do Nanostructures Play in the Strengthening and Toughening of Seashells? Lessons from Nature," MS&T'2012, Material Science & Technology 2012 Conference & Exhibition, Pittsburgh, PA, October 7-11, 2012 **(invited talk)**.
 41. Xiaodong Li, "Nature-inspired Composite Design and Manufacturing," Innovations in Biomedical Materials 2012, Raleigh, NC, September 10-13, 2012 **(invited talk)**.
 40. Xiaodong Li, "Unveiling the Strengthening and Toughening Mechanisms of Nacre - Lessons from Nature," TMS 2012, 141st Annual Meeting & Exhibition, Orlando, FL, March 11-15, 2012 **(invited talk)**.
 39. Xiaodong Li, "Environmental Effects on the Mechanical Behavior and Function Performance of Nanostructures," Plasticity 2012, San Juan, Puerto Rico, January 3-8, 2012 **(invited talk)**.
 38. Xiaodong Li, "Unveiling the Strengthening and Toughening Mechanisms of Nacre - Lessons from Nature," 36th International Conference and Exposition on Advanced Ceramics and Composites (ICACC'12), Daytona Beach, Florida, January 22-27, 2012. **(invited talk)**.
 37. Xiaodong Li, "What Roles do Nanostructures Play in the Strengthening and Toughening of Nacre? Lessons from Nature," 2011 MRS Fall Meeting, Boston, MA, November 27 - December 1, 2011 **(invited talk)**.
 36. Xiaodong Li, "Unveiling the Strengthening and Toughening Mechanisms of Nacre - Lessons from Nature," Xiangshan Science Conference on Biomimetic Materials and Devices, Beijing, China, October 17-19, 2011 **(invited talk)**.
 35. Xiaodong Li, "Unveiling the Strengthening and Toughening Mechanisms of Nacre - Lessons from Nature," 2011 ASME Annual Conference, International Mechanical Engineering Congress & Exposition (IMECE), Denver, Colorado, November 11- 17, 2011 **(invited keynote)**.
 34. Xiaodong Li, "Environmental Effects on the Mechanical Behavior and Function Performance of Nanostructures," International Workshop on Nanoindentation Related Research, Xi'an, China, May 19-21, 2011 **(invited talk)**.
 33. Elizabeth N. Hoffman, Yong Sun, Poh-Sang Lam, and Xiaodong Li, "Role of Stress and Oxidation on Metallic Whisker Growth," TMS 2011, 140th Annual Meeting & Exhibition, San Diego, California, February 27 - March 3, 2011 **(invited talk)**.
 32. Xiaodong Li, "Environmental Effects on the Mechanical Behavior and Function Performance of Nanostructures," TMS 2011, 140th Annual Meeting & Exhibition, San Diego, California, February 27 - March 3, 2011 **(invited talk)**.
 31. Xiaodong Li, "Unveiling Deformation and Toughening Mechanisms of Nacre," 35th International Conference and Exposition on Advanced Ceramics and Composites (ICACC'11), Daytona Beach, Florida, January 23-28, 2011 **(invited talk)**.
 30. Xiaodong Li, "In situ Atomic Force Microscopy Nanomechanical Testing and Nanofabrication," 2010 MRS Fall Meeting, Boston, MA, November 29 - December 3, 2010 **(invited talk)**.
 29. Xiaodong Li, "In-situ AFM and Nanoindentation Mechanical Testing," International Workshop on Materials Behavior at the Micro- and Nano-Scale," Xi'an, China, June 8-11, 2010 **(invited talk)**.
 28. Xinyong Tao, Jie Liu, Goutam Koley, and Xiaodong Li, "B/SiO_x Nanonecklace Reinforced Nanocomposites by Unique Mechanical Interlocking Mechanism," TMS 2010, 139th Annual Meeting & Exhibition, Seattle, WA, February 14-18, 2010 **(invited talk)**.
 27. Xiaodong Li, "Deformation and Toughening Mechanisms of Natural Biological Nanocomposites - Lessons from Nature," The 3rd International Conference on One-dimensional Nanomaterials (ICON 2009), Atlanta, Georgia, December 7- 9, 2009 **(invited)**.
 26. Xiaodong Li and Zaiwang Huang, "Unveiling the Formation Mechanism of Pseudo Single-Crystal Aragonite Platelets in Nacre," MS&T'09, Material Science & Technology 2009 Conference & Exhibition, Pittsburgh, PA, October 25-29, 2009 **(invited talk)**.
 25. Zhi-Hui Xu, Xiaodong Li, Michael A. Sutton, and Ning Li, "Drift and Spatial Distortion Elimination in Atomic Force Microscopy Images by the Digital Image Correlation Technique," 2009 SEM Fall Symposium and Workshop - Advanced Image-Based Measurement Methods: Recent Developments and Applications in Engineering and

- Medicine, Columbia, SC, October 5-7, 2009 **(invited talk)**.
24. Xiaodong Li, "Deformation and Toughening Mechanisms of Natural Biological Nanocomposites - Lessons from Nature," Sumer School of Advanced Function Materials 2009, Shenyang, China, July 7 - 9, 2009 **(invited talk)**.
 23. Xiaodong Li, "Deformation and Toughening Mechanisms of Natural Biological Nanocomposites- Lessons from Nature," International Workshop on Size Effect on Materials Mechanical Behavior, Beijing, China, May 24-26, 2009 **(invited talk)**.
 22. Xiaodong Li, "What Roles do Nanostructures Play in the Strengthening and Toughening of Nacre?," MS&T '08, Material Science & Technology 2008 Conference & Exhibition, Pittsburgh, PA, October 5-9, 2008 **(invited talk)**.
 21. Xiaodong Li, "Nanomechanics of Biological Systems," 2008 MRS Spring Meeting, San Francisco, CA, March 24-28, 2008 **(invited talk)**.
 20. Xiaodong Li, "Nanomechanical Testing and Size Effect of Low-dimensional Nanostructures," ACER /ASTM Workshop on Strength and Fracture Standards at Micro and Nano Scales, Daytona Beach, Florida, January 27, 2008 **(invited talk)**.
 19. Xiaodong Li, "Deformation and Toughening Mechanisms of Nanograins - Lessons from Nature," TMS 2008, 137th Annual Meeting & Exhibition, New Orleans, LA, March 9-13, 2008 **(invited talk)**.
 18. Xiaodong Li, "Micro/Nanomechanical Characterization of Coatings and its Applications to Fuel Cell Systems," TMS 2008, 137th Annual Meeting & Exhibition, New Orleans, LA, March 9-13, 2008 **(invited talk)**.
 17. Xiaodong Li, "Deformation and Toughening Mechanisms of Natural Nanocomposites - Lessons from Nature," 32nd International Conference & Exposition on Advanced Ceramics & Composites, Daytona Beach, Florida, January 27-February 1, 2008 **(invited talk)**.
 16. Xiaodong Li, "Experimental Nanomechanics and Nanomachining of Low-dimensional Nanostructures," International Workshop on One-Dimensional Nano-Structured Materials: Properties, Devices and MEMS, Beijing and Nanchang, China, June 24-28, 2007 **(invited plenary lecture)**.
 15. Xiaodong Li (panelist on nanotechnology), "Nanotechnology Panel," NanoASME 2007 ASME Pressure Vessels and Piping/CREEP8 Conference, San Antonio, Texas, July 22-26, 2007 **(invited talk)**.
 14. Xiaodong Li, "Structural and Mechanical Characterization of Biomaterials - Lessons from Nature," ICMCTF 2007, 34th the International Conference on Metallurgical Coatings and Thin Films, San Diego, California, April 23-27, 2007 **(invited talk)**.
 13. Xiaodong Li, "Application of Digital Image Correlation Techniques to Atomic Force Microscopy: Challenges and Opportunities," 2007 SEM Annual Conference, Springfield, MA, June 3-6, 2007 **(invited talk)**.
 12. Xiaodong Li, "Experimental Mechanics of Nanostructures – Challenges and Opportunities," TMS 2007, 136th Annual Meeting & Exhibition, Orlando, Florida, February 25 - March 1, 2007 **(invited talk)**.
 11. Xiaodong Li, "Atomic Force Microscopy Nanometrology and In-situ Mechanical Testing - Challenges and Opportunities," TMS 2007, 136th Annual Meeting & Exhibition, Orlando, Florida, February 25 - March 1, 2007 **(invited talk)**.
 10. Xiaodong Li, "Nanoscale Deformation and Toughening Mechanisms of Nacre," 2006 MRS Fall Meeting, Boston, MA, November 27 - December 1, 2006 **(invited talk)**.
 9. Xiaodong Li, "Nanoscale Structural and Mechanical Characterization of Natural Nanocomposites - Seashells," MS&T'06, Material Science & Technology 2006 Conference & Exhibition, Cincinnati, Ohio, October 15-19, 2006 **(invited talk)**.
 8. Xiaodong Li, "Nanomechanical and Interface Properties" The Chem-Semi Nnaotechnology Modeling Workshop, Gaitherburg, Maryland, May 24-25, 2006 **(invited talk)**.

7. Xiaodong Li, "Nanomechanical Testing and Nanomechanical Machining of Nanobuilding Blocks," TMS 2006, 135th Annual Meeting Exhibition, San Antonio, Texas, March 12-16, 2006 (**invited talk**).
6. Xiaodong Li, "Structural and Mechanical Characterization of Polymer Nanocomposites," TMS 2006, 135th Annual Meeting Exhibition, San Antonio, Texas, March 12-16, 2006 (**invited talk**).
5. Xiaodong Li, "Nanomechanical Testing and Mechanical Machining of Zero- and One-dimensional Nanobuilding Blocks," China International Conference on Nanoscience and Technology (Chinanano2005), Beijing, China, June 9-11, 2005 (**invited talk**).
4. Xiaodong Li and Zhi-Hui Xu, "Development of a Nanoindentation-Based Nanoscale Residual Stress Measurement Technique and Its Applications to Solid Surfaces and Thin Films," MS&T'05, Materials Science & Technology 2005 Conference and Exhibition, Pittsburgh, PA, September 25-28, 2005 (**invited talk**).
3. Xiaodong Li, "Experimental Nanomechanics and Nanomechanical Machining of Nanobuilding Blocks," Nanomechanics: Sensors and Actuators Conference- ASME, Knoxville, Tennessee, May 16-18, 2005 (**invited talk**).
2. Xiaodong Li, "Nanoindentation Mechanical Testing of Bulk and Thin Films of Ferric Materials," 107th Annual Meeting & Exposition of The American Ceramic Society, Baltimore, Maryland, April 10-13, 2005 (**invited talk**).
1. Xiaodong Li, "AFM Imaging and Nanomechanical Testing of Cells and Tissues" 2005 Spring MRS Meeting, San Francisco, CA, March 28- April 12 2005 (**invited talk**).

Invited University/Industry Seminars

28. Xiaodong Li, "Electrical Self-healing of Mechanically Damaged Zinc Oxide Nanobelts," Harbin Institute of Technology, June 2, 2011.
27. Xiaodong Li, "Environmental Effects on the Mechanical Behavior of Nanostructures," Harbin Institute of Technology, May 31, 2011.
26. Xiaodong Li, "Unveiling the Strengthening and Toughening Mechanisms of Nacre - Lessons from Nature," Jilin University, May 27, 2011.
25. Xiaodong Li, "Unveiling the Strengthening and Toughening Mechanisms of Nacre - Lessons from Nature," Beijing University of Technology, May 23, 2011.
24. Xiaodong Li, "Unveiling the Strengthening and Toughening Mechanisms of Nacre - Lessons from Nature," Xi'an University of Technology, May 19, 2011.
23. Xiaodong Li, "Differences and Challenges in Doctoral Education in USA and China," Harbin Institute of Technology, June 26, 2010.
22. Xiaodong Li, "In situ Atomic Force Microscopy Nanomechanical Testing and Nanofabrication," Xi'an Jiaotong University, June 18, 2010.
21. Xiaodong Li, "Deformation and Toughening Mechanisms of Natural Biological Nanocomposites – Lessons from Nature," Harbin Normal University, July 6, 2009.
20. Xiaodong Li, "Deformation and Toughening Mechanisms of Natural Biological Nanocomposites – Lessons from Nature," Harbin University of Science and Technology, May 31, 2009.
19. Xiaodong Li, "Experimental Nanomechanics," Harbin Institute of Technology, May 13, 2009.
18. Xiaodong Li, "Deformation and Toughening Mechanisms of Natural Biological Nanocomposites – Lessons from Nature," Harbin Institute of Technology, May 13, 2009.
17. Xiaodong Li, "Nanoindentation Principles and Their Applications to Solid Surface and Thin Films," Harbin Institute of Technology, July 22, 2008.
16. Xiaodong Li, "Experimental Nanomechanics," University of North Carolina at Charlotte, March 20, 2008.
15. Xiaodong Li, "Deformation and Toughening Secrets of Natural Biological Nanocomposites - Lessons from Nature," University of Georgia, October 11, 2007.
14. Xiaodong Li, "Strengthening and Toughening Mechanisms of Natural Biological Nanocomposites - Lessons from Nature," General Motor Corporation, September 19, 2007.

13. Xiaodong Li, "Experimental Nanomechanics of Low-dimensional Nanomaterials and Biomaterials," Dalian University of Technology, July 2, 2007.
12. Xiaodong Li, "Experimental Nanomechanics of Nano Building Blocks and Biomaterials," Johns Hopkins University, December 1, 2006.
11. Xiaodong Li, "Experimental Nanomechanics of Nanostructures and Biomaterials," Rice University, October 11, 2006.
10. Xiaodong Li, "Nanoscale Structural and Mechanical Characterization of Low-dimensional Nanomaterials and Biomaterials, Challenges and Opportunities," Clemson University, December 7, 2006.
9. Xiaodong Li, "In-situ Nanomechanical Testing of Nanomaterials and Biomaterials – Challenges and Opportunities," Veeco Metrology Group, June 21, 2006.
8. Xiaodong Li, "Nanoscale Structural and Mechanical Characterization of Low-dimensional Nanomaterials and Biomaterials," University of California at Riverside, April 21, 2006.
7. Xiaodong Li, "Nanomechanical Testing and Nanomachining of Low-Dimensional Nanomaterials," North Carolina State University, March 31, 2006.
6. Xiaodong Li, "Nanoscale Mechanical Characterization of Low-Dimensional Nanomaterials And Biomaterials," Harbin Institute of Technology, June 15, 2005.
5. Xiaodong Li, "Nanoscale Imaging and Mechanical Testing of Cells and Tissues," Medical University of South Carolina, October 31, 2005.
4. Xiaodong Li, "Micro/Nanoscale Mechanical and Tribological Characterization of Amorphous Carbon Coatings," BMW Manufacturing Corp., Spartanburg, SC, June, 2003.
3. Xiaodong Li, "Micro/Nanoscale Mechanical and Tribological Studies of Information Storage Devices and MEMS/NEMS," University of South Carolina, April 2002.
2. Xiaodong Li, "Micro/Nanoscale Mechanical and Tribological Studies of Information Storage Devices and MEMS/NEMS," Western Michigan University, March 2002.
1. Xiaodong Li, "Micro/Nanoscale Mechanical and Tribological Studies of Information Storage Devices and MEMS/NEMS," University of South Florida, March 2002.

Contributed Talks at National/International Conferences/Workshops

107. Haoze Li, Zhi-Hui Xu, and Xiaodong Li, "Nanoscale Structural and Mechanical Characterization of Conch Shells," 2011 ASME Annual Conference, International Mechanical Engineering Congress & Exposition (IMECE), Denver, Colorado, November 11- 17, 2011.
106. Xiaodong Li, Yingchao Yang, Jianfeng Zang, Zhi-Hui Xu, and Richard A. Webb, "Environmental Effects on the Mechanical Behavior and Function Performance of Nanostructures," 2011 ASME Annual Conference, International Mechanical Engineering Congress & Exposition (IMECE), Denver, Colorado, November 11- 17, 2011.
105. Xiaodong Li, "Unveiling the Deformation and Toughening Mechanisms of Nacre – Lessons from Nature," TMS 2011, 140th Annual Meeting & Exhibition, San Diego, California, February 27 - March 3, 2011.
104. Xinyong Tao, Lixin Dong, Xinnan Wang, Wenkui Zhang, Bradley Nelson, Xiaodong Li, "Boron Carbide-Nanowires/Carbon-Microfiber Hybrid Structures and Composites from Cotton T-shirts," TMS 2011, 140th Annual Meeting & Exhibition, San Diego, California, February 27 - March 3, 2011.
103. Xinyong Tao, Lixin Dong, Xinnan Wang, Wenkui Zhang, Bradley Nelson, and Xiaodong Li, "B₄C Nanowire - Carbon Microfiber Hybrid Structures and Composites from Cotton T-shirts," 2010 ASME Annual Conference, International Mechanical Engineering Congress & Exposition (IMECE), Vancouver, British Columbia, Canada, November 12- 18, 2010.
102. Xinyong Tao, Lixin Dong, Xinnan Wang, Wenkui Zhang, Bradley Nelson, and Xiaodong Li, "B₄C Nanowire - Carbon Microfiber Hybrid Structures and Composites from Cotton T-shirts," MS&T '10, Materials Science & Technology 2010 Conference & Exhibition, Houston, Texas, October 17-21, 2010.
101. Xiaodong Li and Zaiwang Huang, "Unveiling the Formation Mechanism of Pseudo Single-

- Crystal Aragonite Platelets in Nacre," TMS 2010, 139th Annual Meeting & Exhibition, Seattle, WA, February 14-18, 2010.
100. Xiaodong Li and Zaiwang Huang, "Unveiling the Formation Mechanism of Nanostructured Aragonite Platelets in Nacre," 2009 MRS Fall Meeting, Boston, MA, November 30 – December 4, 2009.
 99. Zhi-Hui Xu, Xiaodong Li, Michael A. Sutton, and Ning Li, "Drift and Spatial Distortion Elimination in Atomic Force Microscopy Images by the Digital Image Correlation Technique," 2009 MRS Fall Meeting, Boston, MA, November 30 – December 4, 2009.
 98. Zhi-Hui Xu, Michael A. Sutton, and Xiaodong Li, "Mapping Nanoscale Wear Field by Combined Atomic Force Microscopy and Digital Image Correlation Techniques," 2009 MRS Fall Meeting, Boston, MA, November 30 – December 4, 2009.
 97. Xinyong Tao, Jie Liu, Goutam Koley, and Xiaodong Li, "B/SiO_x Nanonecklace Reinforced Nanocomposites by Unique Mechanical Interlocking Mechanism," 2009 ASME Annual Conference, International Mechanical Engineering Congress & Exposition (IMECE), Lake Buena, FL, November 13- 19, 2009.
 96. Zhi-Hui Xu, Yong-Bae Park, and Xiaodong Li, "Micro/Nanomechanical and Tribological Characterization of Ion Implanted Silicon," 2009 ASME Annual Conference, International Mechanical Engineering Congress & Exposition (IMECE), Lake Buena, FL, November 13- 19, 2009.
 95. Xinyong Tao, Jie Liu, Goutam Koley, and Xiaodong Li, "B/SiO_x Nanonecklace Reinforced Nanocomposites by Unique Mechanical Interlocking Mechanism," MS&T '09, Materials Science & Technology 2009 Conference & Exhibition, Detroit, Michigan, October 25-29, 2009.
 94. Zaiwang Huang and Xiaodong Li, "Nanoscale Structural and Mechanical Characterization of Heat Treated Natural Nanoparticle-based Material – Nacre," MS&T '09, Materials Science & Technology 2009 Conference & Exhibition, Detroit, Michigan, October 25-29, 2009.
 93. Yong Sun, Zaiwang Huang, and Xiaodong Li, "Synthesis, Structural and Mechanical Characterization of Artificial Nacre Nanocomposites," MS&T '09, Materials Science & Technology 2009 Conference & Exhibition, Detroit, Michigan, October 25-29, 2009.
 92. Yiping Zhao and Xiaodong Li, "Understanding and Preventing Nanocarpeting Effect, NSF CMMI Engineering Research and Innovation Conference," Honolulu, Hawaii, June 22-25, 2009.
 91. Xiaodong Li, "Synthesis of Necklace-Shaped Boron and Boride Nanowires for Polymer Nanocomposite Applications," NSF CMMI Engineering Research and Innovation Conference, Honolulu, Hawaii, June 22-25, 2009.
 90. Zhi-Hui Xu, Helen Jin, Wei-Yang Lu, and Xiaodong Li, "Mapping Small Scale Damage by Combined Atomic Force Microscopy and Digital Image Correlation Techniques," 2009 SEM Annual Conference, Albuquerque, New Mexico, June 2-5, 2008.
 89. Xinyong Tao, Jie Liu, Goutam Koley, and Xiaodong Li, B/SiO_x Nanonecklace Reinforced Nanocomposites by Unique Mechanical Interlocking Mechanism, TMS 2009, 138th Annual Meeting & Exhibition, San Francisco, CA, February 15-19, 2009.
 88. Zaiwang Huang and Xiaodong Li, Temperature Effect on the Structure and Mechanical Properties of Nacre, TMS 2009, 138th Annual Meeting & Exhibition, San Francisco, CA, February 15-19, 2009.
 87. Young-Bae Park, Matthew Dicken, Zhi-Hui Xu, Xiaodong Li Nanoindentation induced domain switching in a tetragonal BaTiO₃ single crystal, 2008 ASME Annual Conference, International Mechanical Engineering Congress & Exposition (IMECE), Boston, MA, October 31- November 6, 2008.
 86. Xiaodong Li, Zhi-Hui Xu, Zaiwang Huang, Wei-Che Chang, Yuh J. Chao, Rizhi Wang, and Min Chang, Deformation and Toughening Mechanisms of Nacre, 2008 ASME Annual Conference, International Mechanical Engineering Congress & Exposition (IMECE), Boston, MA, October 31- November 6, 2008.
 85. Yong Sun, Jin Liang and Xiaodong, Novel 3-D Micro/Nanostructured Sn/SnO₂ Films, MS&T '08, Material Science & Technology 2008 Conference & Exhibition, Pittsburgh, PA, October 5-9, 2008.

84. Xiaodong Li, Zhi-Hui Xu, Wei-Che Chang, Yuh J. Chao, Rizhi Wang, and Min Chang, Nanoscale Structural and Mechanical Characterization of Nacre, 2008 SEM Annual Conference, Orlando, FL, June 2-5, 2008.
83. Guofeng Wang and Xiaodong Li, Relation Between the Elastic Modulus of ZnO Nanowires and its Size: Surface Stress Effect, 2006 Spring MRS Meeting, San Francisco, CA, March 25 - 28, 2008.
82. Zhi-Hui Xu, Xiaodong Li, Michael Sutton, and Ning Li, "Drift and Spatial Distortion Elimination in Atomic Force Microscopy Images by Digital Image Correlation Technique," TMS 2007, 137th Annual Meeting Exhibition, New Orleans, Louisiana, March 9-13, 2008.
81. Xinyong Tao and Xiaodong Li, "Catalyst-free Synthesis, Structural and Mechanical Characterization of Twinned Mg₂B₂O₅ Nanowires," NSF CMMI Engineering Research and Innovation Conference, Knoxville, TN, January 7-11, 2008
80. Zhi-Hui Xu, Xiaodong Li and Michael A. Sutton, Surface Nanowear Determination of Soft Gold Coating Using Atomic Force Microscopy and Digital Image Correlation Techniques, 2007 MRS Fall Meeting, Boston, MA, November 26 - 29, 2007.
79. Xinnan Wang, Zhongwei Niu, Siqi Li, Qian Wang, and Xiaodong Li, "Nanomechanical Characterization of Polyaniline Coated Tobacco Mosaic Virus Nanotubes," 2007 ASME International Mechanical Engineering Congress & Exhibition, Seattle, Washington, November 11-15, 2007.
78. Xiaodong Li, Yong Sun, and Zhi-Hui Xu, "In Situ Observation of Deformation and Fracture of Lead-Free Solder Alloys," 2007 ASME International Mechanical Engineering Congress & Exhibition, Seattle, Washington, November 11-15, 2007.
77. Xiaodong Li, "In Situ Observation of Small Scale Deformation and Fracture with an Atomic Force Microscope," 2007 ASME International Mechanical Engineering Congress & Exhibition, Seattle, Washington, November 11-15, 2007.
76. Xiaodong Li and Hai Ni, "Synthesis, Structural and Mechanical Characterization of One-dimensional Boron and Boride Nanostructures," 2007 ASME International Mechanical Engineering Congress & Exhibition, Seattle, Washington, November 11-15, 2007.
75. Xiaodong Li and Linhua Zou, "Nanoscale Structural and Mechanical Characterization of a Natural Nanocomposite Material-Bamboo," 2007 ASME International Mechanical Engineering Congress & Exhibition, Seattle, Washington, November 11-15, 2007.
74. Xinnan Wang, Zhongwei Niu, Siqi Li, Qian Wang, and Xiaodong Li, "Nanomechanical Characterization of Polyaniline Coated Tobacco Mosaic Virus Nanotubes," MS&T '07, Material Science & Technology 2007 Conference & Exhibition, Detroit, Michigan, September 16-20, 2007.
73. Yong Sun, Zhi-Hui Xu, Jin Liang, Dongkai Shanguan, and Xiaodong Li, "In-situ Observation of Deformation and Cracking of SnAgCu Lead Free Solder Alloy," MS&T '07, Material Science & Technology 2007 Conference & Exhibition, Detroit, Michigan, September 16-20, 2007.
72. Haibo Guo, Yue Qi and Xiaodong Li, "Equilibrium Partial Pressure of Hydrogen to Achieve Low Friction at Diamond and Diamond-like Carbon Coating Surfaces," MS&T '07, Material Science & Technology 2007 Conference & Exhibition, Detroit, Michigan, September 16-20, 2007.
71. Xiaodong Li, Nanoindentation/AFM Mechanical Testing and Mechanical Machining of MEMS/NEMS Structures, 2007 SEM Annual Conference, Springfield, MA, June 3-6, 2007.
70. Zhi-Hui Xu and Xiaodong Li, "Indenter Geometry Effect on Depth-sensing Indentation of Elastic-plastic Materials," 2007 Spring MRS Meeting, San Francisco, CA, April 10- 13, 2007.
69. Xiaodong Li and Linhua Zou, "Structural and Mechanical Characterization of a Natural Multiscale Composite – Bamboo," 2007 Spring MRS Meeting, San Francisco, CA, April 10- 13, 2007.
68. Xiaodong Li, "Nanoindentation/AFM Mechanical Testing and Mechanical Machining of MEMS/ NEMS Structures, 2007 SEM Annual Conference, Springfield, MA, June 3-6, 2007.
67. Hai Ni and Xiaodong Li, "Self-assembled Boron-based 1D Composite Nano/microstructures," 2006 ASME International Mechanical Engineering Congress & Exhibition, Chicago, Illinois, November 5-10, 2006.

66. Zhi-Hui Xu and Xiaodong Li, "Indenter Geometry Effects on Depth-sensing Indentation of Elastic-plastic Materials," 2006 ASME International Mechanical Engineering Congress & Exhibition, Chicago, Illinois, November 5-10, 2006.
65. 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 & Exhibition, Chicago, Illinois, November 5-10, 2006.
64. Xiaodong Li and Zhi-Hui Xu, "Strengthening and Toughening Secrets of a Natural Nanocomposite-Nacre," 2006 ASME International Mechanical Engineering Congress & Exhibition, Chicago, Illinois, November 5-10, 2006.
63. Zhi-Hui Xu, Anthony P. Reynolds and Xiaodong Li, "In-situ Nanoscale Observation of Deformation and Cracking of a Nacre-like Al₃Ti/Ti Multilayered Composite, " 2006 ASME International Mechanical Engineering Congress & Exhibition, Chicago, Illinois, November 5-10, 2006.
62. Zhi-Hui Xu and Xiaodong Li, Sample Size Effect on Nanoindentation of Small Scale Structures, 2006 MRS Fall Meeting, Boston, MA, November 27 - December 1, 2006.
61. 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.
60. Kanaga Karupppiah Kanaga Subramanian, Angela L Bruck, Sriram Sundararajan, Zhiquan Lin, Zhi-Hui Xu and Xiaodong Li, "Effect of Crystallinity on the Protein Adsorption and Friction Behavior of Ultra-high-molecular-weight-polyethylene, " 2006 MRS Fall Meeting, Boston, MA, November 27 - December 1, 2006.
59. Jin Liang, Zhi-Hui Xu, Xiaodong Li, "Creep Effects on Mechanical Properties of Lead Free Solder Alloy Coatings Measured by Nanoindentation, "MS&T '06, Material Science & Technology 2006 Conference & Exhibition, Cincinnati, Ohio, October 15-19, 2006.
58. Zhi-Hui Xu, Xiaodong Li, "Sample Size Effect on Nanoindentation Mechanical Property Measurements," MS&T '06, Material Science & Technology 2006 Conference & Exhibition, Cincinnati, Ohio, October 15-19, 2006.
57. 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.
56. 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.
55. 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.
54. Xiaodong Li, Hongsheng Gao, Wally A. Scrivens, Dongling Fei , Xiaoyou Xu, VivekThakur, Michael A. Sutton, Anthony P. Reynolds, and Michael L. Myrick, "Nanoscale Structural and Mechanical Characterization of Polymer Nanocomposites," 2006 NSTI Nanotechnology Conference and Trade Show, Boston, Massachusetts, May 7-11, 2006.
53. Xiaodong Li, Weijie Xu, Michael A. Sutton, and Michael Mello, "Nanoscale Deformation and Cracking Studies of Advanced Metal Evaporated Magnetic Tapes Using Atomic Force Microscopy and Digital Image Correlation Techniques," 2006 SEM Annual Conference & Exposition on Experimental and Applied Mechanics, Saint Louis, Missouri, June 4-7, 2006.
52. Xiaodong Li, "Nanoscale Imaging and Mechanical Testing of Cells and Tissues," 2006 NSTI Nanotechnology Conference and Trade Show, Boston, Massachusetts, May 7-11, 2006.
51. Zhi-Hui Xu and Xiaodong Li, "Sample Size Effect on Nanoindentation of Micro/Nanostructures," 2006 NSTI Nanotechnology Conference and Trade Show, Boston, Massachusetts, May 7-11, 2006.
50. Xiaodong Li and Zhi-Hui Xu, "Nanoscale Deformation Mechanisms of a Biological Nanostructured Material - Nacre," 2006 NSTI Nanotechnology Conference and Trade Show, Boston, Massachusetts, May 7-11, 2006.

49. Xiaodong Li and Hai Ni, "Mechanical Property Measurements of One-dimensional Nanomaterials," 2006 NSTI Nanotechnology Conference and Trade Show, Boston, Massachusetts, May 7-11, 2006.
48. Zhi-Hui Xu and Xiaodong Li, "Effect of Sample Tilt on Nanoindentation Behavior of Materials," 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.
47. Zhi-Hui Xu, and Xiaodong Li, "Determination of Residual Stress using Nanoindentation-bending Technique," 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.
46. 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.
45. Xiaodong Li, Hongsheng Gao, Wally A Scrivens, Dongling Fei, Xiaoyou Xu, Michael A Sutton, Anthony A Reynolds, and Michael L Myrick, "Reinforcing Mechanisms of Single-walled Carbon Nanotube-reinforced Polymer Composites," 2006 Spring MRS Meeting, San Francisco, CA, April 17- 21, 2006.
44. Hai Ni and Xiaodong Li, "Mechanical Property Measurements of 1D Nanomaterials Using AFM Three-point Bending Techniques," 2006 Spring MRS Meeting, San Francisco, CA, April 17- 21, 2006.
43. Zhi-Hui Xu and Xiaodong Li, "Sample Size Effect on Nanoindentation Mechanical Property Measurements," 2006 Spring MRS Meeting, San Francisco, CA, April 17- 21, 2006.
42. 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.
41. Zhi-Hui Xu and Xiaodong Li, "Influence of Sample Offset Angle on Nanoindentation Test," TMS 2006, 135th Annual Meeting Exhibition, San Antonio, Texas, March 12-16, 2006.
40. Xiaodong Li and Zhi-Hui Xu, "Development of a Nanoindentation-Based Residual Stress Measurement Technique and Its Applications to Solid Surfaces and Thin Films," MS&T'05, Materials Science and Technology 2005 Conference & Exhibition, Pittsburgh, PA, September 25-28, 2005.
39. Xiaodong Li, Hai Ni, Hongsheng Gao, and Thien Phap Nguyen, "A Simple Way to Make Super-Tough Mechanical Bamboo-like Polymer/Silicon Nanocomposites," MS&T'05 Materials Science and Technology 2005 Conference & Exhibition, Pittsburgh, PA, September 25-28, 2005.
38. Xiaodong L, Zhi-Hui Xu and Jin Liang, "A Nano/Micro-Indentation Approach to Study Tin Whisker Formation on Tin Plated Component Leads," MS&T'05, Materials Science and Technology 2005 Conference & Exhibition, Pittsburgh, PA, September 25-28, 2005.
37. Xiaodong Li, "Nanoscale Mechanical Testing and Nanomechanical Machining of Zero- and One-Dimensional Nanobuilding Blocks," MS&T'05, Materials Science and Technology 2005 Conference & Exhibition, Pittsburgh, PA, September 25-28, 2005.
36. Xiaodong Li, Hongsheng Gao, Wally A. Scrivens, Dongling Fei, Michael A. Sutton, Anthony P. Reynolds, and Michael L. Myrick, "Structural and Mechanical Characterization of Nanoclay-reinforced Agarose Nanocomposites," MS&T'05, Materials Science and Technology 2005 Conference & Exhibition, Pittsburgh, PA, September 25-28, 2005.
35. Xiaodong Li, "Nanomechanical Testing and Nanomechanical Machining of Zero- and One-Dimensional Nanobuilding Blocks," 2005 ASME International Mechanical Engineering Congress & Exposition, Orlando, FL, November 5-11, 2005.
34. Hai Ni, Hongsheng Gao, Xiaodong and Thien Phap Nguyen, "Mechanical Characterization of Bamboo-like Polymer/Silicon Nanocomposites," 2005 ASME International Mechanical Engineering Congress & Exposition, Orlando, FL, November 5-11, 2005.

33. Zhi-Hui Xu and Xiaodong Li, "A New Method for Determining Residual Stresses by Nanoindentation," 2005 ASME International Mechanical Engineering Congress & Exposition, Orlando, FL, November 5-11, 2005.
32. Xiaodong Li, Hongsheng Gao, Wally A. Scrivens, Dongling Fei, Michael A. Sutton, Anthony P. Reynolds, and Michael L. Myrick, "Mechanical Characterization of Nanoclay-reinforced Polymer Composites," 2005 ASME International Mechanical Engineering Congress & Exposition, Orlando, FL, November 5-11, 2005.
31. Zhi-Hui Xu and Xiaodong Li, "Determination of Residual Stresses from the Unloading Curve of Nanoindentation," World Tribology Congress, Washington DC, September 12-16, 2005.
30. Hai Ni and Xiaodong Li, "Synthesis, Structural and Mechanical Characterization of Boron Nanowires," 2005 MRS Fall Meeting, Boston, MA, November 28-December 1, 2005.
29. Xiaodong Li, Young-Bae Park, Zhi-Hui Xu, Matthew J. Dicken and Harry A. Atwater, "Nanomechanical Characterization of c and a Domains in Tetragonal Barium Titanate," 2005 MRS Fall Meeting, Boston, MA, November 28-December 1, 2005.
28. Xiaodong Li and Zhi-Hui Xu, "Residual Stress Estimation from the Elastic Recovery of Nanoindentation," 2005 MRS Fall Meeting, Boston, MA, November 28-December 1, 2005.
27. Zhi-Hui Xu and Xiaodong Li, "Effect of Residual Stress on Nanoindentation Behavior of Materials," 2005 Spring MRS Meeting, San Francisco, CA, March 28- April 12005.
26. 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 12005.
25. Xiaodong Li, Hongsheng Gao, Wally A. Scrivens, Dongling Fei, Michael A. Sutton, Anthony P. Reynolds, and Michael L. Myrick; "Structural and Mechanical Characterization of Nanoclay-reinforced Nacre-like Polymer Composites," 2005 Spring MRS Meeting, San Francisco, CA, March 28- April 12005.
24. 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," MS&T'04, Materials Science and Technology 2004 Conference & Exhibition, New Orleans, Louisiana, September 26-29, 2004.
23. Xiaodong Li, Hongsheng Gao, Wally A. Scrivens, Michael A. Sutton, Anthony P. Reynolds, and Michael L. Myrick "Nanoscale Structural and Mechanical Studies of Single-wall Carbon Nanotube-reinforced Epoxy Composites," MS&T,04, Materials Science and Technology 2004 Conference & Exhibition, New Orleans, Louisiana, September 26-29, 2004.
22. Xiaodong Li, Patrick Nardi, Wei-Che Chang, Yuh J. Chao, Rizhi Wang, and Ming Chang, "Nanoscale Toughening Secrets of Natural Seashell Nanocomposites," MS&T'04, Materials Science and Technology 2004 Conference & Exhibition, New Orleans, Louisiana, September 26-29, 2004.
21. 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.
20. Xiaodong Li, Patrick Nardi, Wei-Che Chang, Yuh J. Chao, Rizhi Wang, and Ming Chang, "Nanoscale Structural Secrets and Toughening Mechanisms of Nnatural Seashell Nanocomposites," 2004 MRS Fall Meeting, Boston, MA, November 28-December 3, 2004.
19. Xiaodong Li, Patrick Nardi, Chang-Wook Baek, Jong-Man Kim, and Yong-Kweon Kim, "Mechanical Characterization of Nanoscale Gold Beam Structures Using AFM and Nanoindentation Techniques," TMS 2004, 133th Annual Meeting & Exhibition, Charlotte, North Carolina, March 14-18, 2004.
18. Xiaodong Li, Hongsheng Gao, Catherine J. Murphy, Linfeng Gou, and K. K. Caswell "Nanoscale Mechanical Characterization of Silver Nanowires and Cu₂O Nanocubes," TMS 2004, 133th Annual Meeting & Exhibition, Charlotte, North Carolina, March 14-18, 2004.
17. Jong-Man Kim, Chang-Wook Baek, Yong-Kweon Kin, Patrick Nardi, and Xiaodong Li, "Fabrication and Mechanical Characterization of Nanoscale Gold Beam Structures Using a Nanoindenter," 5th Korean MEMS Conference, Jeju, South Korea, May 15-17, 2003.

16. Xiaodong Li and Bharat Bhushan, "Fatigue Studies of Microscale Structures for MEMS Applications Using Nanoindentation Techniques," ICMCTF 2002, 29th Annual International Conference on Metallurgical Coatings and Thin Films, San Diego, California, April 22 – April 26, 2002.
15. Xiaodong Li and Bharat Bhushan, "Nanofatigue Studies of Ultra-Thin Hard Carbon Overcoats Used in Magnetic Storage Devices," 46th Annual Conference on Magnetism and Magnetic Materials, Seattle, Washington, Nov. 12-16, 2001.
14. Xiaodong Li and Bharat Bhushan, "Micro/Nanomechanical and Tribological Studies of Bulk and Thin-Film Materials used in Magnetic Recording Heads," ICMCTF 2001, 28th Annual International Conference on Metallurgical Coatings and Thin Films, San Diego, California, April 30 – May 4, 2001.
13. Xiaodong Li and Bharat Bhushan, "Time-Dependent Mechanical Properties and Tribological Behavior of Magnetic Tapes," 13th International Conference on Wear of Materials, Vancouver, British Columbia, Canada, 22 - 26 April 2001.
12. Xiaodong Li and Bharat Bhushan, "Dynamic Mechanical Characterization of Magnetic Tapes using Nanoindentation Techniques," 8th Joint MMM-Intermag Conference, San Antonio, Texas, Jan. 7-11, 2001.
11. Xiaodong Li and Bharat Bhushan, "Continuous Stiffness Measurement and Creep Behavior of Composite Magnetic Tapes," ICMCTF 2000, 27th Annual International Conference on Metallurgical Coatings and Thin Films, San Diego, California, April 10 - 14, 2000.
10. Xiaodong Li and Bharat Bhushan, "Evaluation of Fracture Toughness of Ultra-Thin Amorphous Carbon Coatings Deposited by Different Deposition Techniques," ICMCTF 99, 26th Annual International Conference on Metallurgical Coatings and Thin Films, San Diego, California, April 12 - 15, 1999.
9. Xiaodong Li and Bharat Bhushan, "Nanomechanical Characterization of Ultra-Thin Carbon Coatings for Magnetic Recording Applications", ICMCTF 98, 25th Annual International Conference on Metallurgical Coatings and Thin Films, San Diego California, April 27 - May 1, 1998.
8. Bharat Bhushan, Sriram Sundarajan, Xiaodong Li, Christian Zorman and Mehran Mehregany, "Microtribological and Micromechanical Characterization of Silicon-Based Materials for MEMS Devices", NSF/AFOSR/ASME Workshop - Tribology Issues and Opportunities in MEMS, Columbus, Ohio, November 9-11, 1997.
7. Xiaodong Li and Bharat Bhushan, "Micromechanical Characterization of Thin Films and Bulk Materials using Nanoindentation/Nanoscratching Techniques", NSF/AFOSR/ASME Workshop - Tribology Issues and Opportunities in MEMS, Columbus, Ohio, November 9-11, 1997.
6. Xiaodong Li and Bharat Bhushan, "Development of a New Fracture Toughness Measurement for Ultra-Thin Films and Its Application to Chromium Oxide", ICMCTF 97, 24th Annual International Conference on Metallurgical Coatings and Thin Films, San Diego, California, April 21 - 25, 1997.
5. Bharat Bhushan and Xiaodong Li, "Micromechanical Characterization of Chromium Oxide Films", ICMCTF 97, 24th Annual International Conference on Metallurgical Coatings and Thin Films, San Diego, California, April 21-25, 1997.
4. Xiaodong Li and Bharat Bhushan, "Micromechanical Characterization of Magnetic Tapes", 1997 IEEE International Magnetic Conference, New Orleans, Louisiana, April 1-4, 1997.
3. Xiaodong Li, Young-Bae Park, Dong-Hwan Kim and Shi-Woo Rhee, "Effect of SiF₄ Addition on the Structures of Silicon Films Deposited at Low Temperature by Remote Plasma Enhanced Chemical Vapor Deposition," The Second Korea-China Symposium on Ion Beam Modification and Thin Film Materials, Jeonju, South Korea, June 29-30, 1995.
2. Young-Bae Park, Xiaodong Li and Shi-Woo Rhee, "Comparison of Si/SiO₂ Interface Formed by Remote Plasma Enhanced Chemical Vapor Deposition and Thermal Oxidation," The Second Korea-China Symposium on Ion Beam Modification and Thin Film Materials, Jeonju, South Korea, June 29-30, 1995.

1. Xiaodong Li, J. M. Hyde and G.D.W. Smith, "An Atom Probe Field-Ion Microscopy Study of the Ageing Behaviour of a 3.5 GPa Grade Maraging Steel", 41st International Field Emission Symposium, Reoun, France, July 11-15, 1994.

Research Grants include NSF, ARO, NASA, DOE/National Labs, PRF, Intel, GE, GE-Hitachi Nuclear Energy, GM, and Westinghouse

Courses Taught

Graduate Courses:

Developed and taught a new graduate level 3 credit course – EMCH 778 Nanomaterials (taught 7 semesters)

- o Michael J. Mungo Graduate Teaching Award Nominee, 2008
- o Michael J. Mungo Graduate Teaching Award Nominee, 2007
- o Michael J. Mungo Graduate Teaching Award Nominee, 2005
- o Student evolution over the past ten years: **4.80/5.00**

EMCH 778 – Nanomaterials – Spring 2012, Spring 2011, Spring 2010, Spring 2009, Spring 2007, Spring 2006, Spring 2004

Co-developed and taught a new graduate level 3 credit course – ECHE789Z Materials Characterization (taught 1 semester)

Undergraduate Courses:

EMCH 371 Engineering Materials	3 credit hours	(taught 10 semesters)
EMCH 371 Engineering Materials Lab	1 credit hour	(taught 9 semesters)
EMCH 377 Manufacturing Processes	3 credit hours	(taught 8 semesters)

- o Michael J. Mungo Undergraduate Teaching Award Nominee, 2011
- o Michael J. Mungo Undergraduate Teaching Award Nominee, 2008
- o Michael J. Mungo Undergraduate Teaching Award Nominee, 2006
- o A teacher in the Department who was most influential in helping to prepare students for becoming engineering professionals, 2005, 2006
- o Student evolution over the past ten years: **4.59/5.00**

EMCH 371- Fall 2010, Fall 2007, Spring 2007, Fall 2006, Spring 2005, Fall 2004, Spring 2004, Fall 2003, Spring 2003, Fall 2002

EMCH 377-Fall 2012, Fall 2011, Fall 2009, Spring 2009, Spring 2008, Spring 2006, Fall 2005, Spring 2005

Co-developed a new undergraduate level 3 credit course – ENCP 460 Nano in a Global Context (taught 1 semester)