

**Xiaodong (Chris) Li**  
Department of Mechanical Engineering  
University of South Carolina  
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Website: [www.me.sc.edu/research/nano/](http://www.me.sc.edu/research/nano/)



### **Professional Experience**

- 10/09-present: CEC Distinguished Professor in Mechanical Engineering, University of South Carolina
- 8/09-present: Professor, Department of Mechanical Engineering, University of South Carolina
- 8/07-present: 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, Nanotribology Laboratory for Information Storage and MEMS/NEMS, 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**

- USC College of Engineering and Computing Research Achievement Award, 2011
- Michael J. Mungo Undergraduate Teaching Award Nominee, 2011
- 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
- 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

- 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 international news and magazines.
  - New York Times
  - 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**

- 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, International Journal of Applied Mechanics
- Editorial Board, Journal of Biomaterials and Nanobiotechnology
- Editorial Board, Journal of Nanoscience Letters
- Editorial Board, International Journal of Nanotechnology and Applications
- 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
- 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 106 journals (including Science)
  - ACS Nano
  - Acta Biomaterialia
  - Acta Materialia
  - 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
  - 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 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 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 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 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  
 Ultramicroscopy  
 Wear

### **Symposiums and Sessions Organized/Chaired**

- Session Co-Chair - “International Workshop on Nanoindentation Related Research (4<sup>th</sup> 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 (4<sup>th</sup> International Workshop on Materials Behavior at Micro- and Nano-Scale),” Xi’an, China, May 19-21, 2011.
- Session Co-Chair – “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 – “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.
- 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 “Advances in Composite, Cellular and Natural Materials: Metal Matrix Composites,” TMS 2010, 139th Annual Meeting & Exhibition, Seattle, WA, February 14-18, 2010.
- 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.
- 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 – “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-“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.

- Session Chair- “Nanostructured Materials,” ASME Annual Conference, International Mechanical Engineering Congress & Exposition (IMECE), Seattle, Washington, November 12-15, 2007.
- Session Chair- “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 –“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)

### **Publications (Peer-Reviewed)**

**\*H index factor: 26**

**\*Published papers have been cited over 2,800 times (according to Science Citation Index)**

**\*Journal Impact factors are based on 2010 Science Citation Index Report**

**\*Times cited for each paper are based on Science Citation Index Database of 08/26/2011**

(177 total, including 11 in Nano Letters, 2 in Advanced Materials, 1 in Advanced Functional Materials, 1 in Advanced Energy Materials, 1 in Physical Review Letters, 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, 2 in Philosophical Magazine, 3 in Carbon, 6 in Nanotechnology, 7 in Journal of Applied Physics, 3 in Journal of Materials Research, 4 in Scripta Materialia, and 6 in Journal of Biomedical Materials Research)

177. 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," submitted for publication.

176. Junjie Zhang, Tao Sun, Yongda Yan, Shen Dong, Xiaodong Li, "Nanoscratching-induced Deformation Twinning in Nanocrystalline Cu," submitted for publication.
175. Junjie Zhang, Yujie Wei, Tao Sun, Yongda Yan, Alexander Hartmaier, Xiaodong Li, "Twin Boundary Spacing-dependent Friction in Nanotwinned Copper," submitted for publication.
174. Xingmao Jiang, Lihong Bao, Yung-Sung Cheng, Darren R. Dunphy, Xiaodong Li, and C. Jeffrey Brinker, "Aerosol-Assisted Synthesis of Monodisperse Single-Crystalline  $\alpha$ -Cristobalite Nanospheres," submitted for publication.
173. Zaiwang Huang, Haoze Li, Zhiliang Pan, Qiuming Wei, Xiaodong Li, "Dynamic Self-stiffening in Nacre," submitted for publication.
172. Gangsheng Zhang and Xiaodong Li, "Unveiling Dome-shaped Aragonite Platelets in Nacre," submitted for publication.
171. Xinyong Tao, Lixin Dong, Bradley J. Nelson, and Xiaodong Li, "Nano-ElectroMechanical Position/Force Sensing Based on Ductile Peapod B<sub>4</sub>C Nanowires," submitted for publication.
170. Haoze Li, Zhi-Hui Xu, and Xiaodong Li, "Nanoscale Structural and Mechanical Characterization of Conch Shell (*Busycon carica*)," submitted for publication.
169. Jianfeng Zang, Lihong Bao, Richard A. Webb, and Xiaodong Li, "Electron Beam Irradiation Stiffens Zinc Tin Oxide Nanowires," submitted for publication.
168. 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," submitted for publication.
167. Xinyong Tao, Yiping Li, Jun Du, Yingchao Yang, Yang Xia, Hui Huang, Yongping Gan, Wenkui Zhang, and Xiaodong Li "Biotemplate Synthesis, Structural and Mechanical Characterization of TiC Nanorods," *Crystal Growth & Design* (in press) (Impact Factor: 4.389).
166. Rui Li, Lihong Bao, and Xiaodong Li, "Synthesis, Structural, Optical and Mechanical Characterization of SrB<sub>2</sub>O<sub>4</sub> Nanorods," *CrystEngComm* (in press) (Impact Factor: 4.006).
165. 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* (in press).
164. Zhi-Hui Xu and Xiaodong Li, "Deformation Strengthening of the Biopolymer Matrix of Nacre," *Advanced Functional Materials* (in press) (Impact Factor: 8.486).
163. Jianfeng Zang and Xiaodong Li, "In Situ Synthesis of Ultrafine MnO<sub>2</sub>/Polypyrrole Nanorod Composites for High Performance Supercapacitors," *Journal of Materials Chemistry*, 21 (2011) 10965-10969. (Impact Factor: 5.099).
162. 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, B<sub>4</sub>C, TiC, TaC, NbC, Ti<sub>x</sub>Nb<sub>1-x</sub>C, and Ta<sub>x</sub>Nb<sub>1-x</sub>C) Nanowires," *Journal Of Materials Chemistry*, 21 (2011) 9095-9102. (Impact Factor: 5.099).
161. 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: 2.806).
160. Yingchao Yang, Guofeng Wang, and Xiaodong Li, "Water Molecule Induced Stiffening in ZnO Nanobelts," *Nano Letters*, 11 (2011) 2845-2848. (Impact Factor: 12.186).
159. 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: 5.099).
158. Lihong Bao, Jianfeng Zang and Xiaodong Li, "Flexible Zn<sub>2</sub>SnO<sub>4</sub>/MnO<sub>2</sub> Core/Shell Nanocable - Carbon Microfiber Hybrid Composites for High-Performance Supercapacitor Electrodes," *Nano Letters*, 11 (2011) 1215-1220. (Impact Factor: 12.186; 3 citations)



157. 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: 4.893)
156. 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: 1.854)
155. 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: 12.186)
154. 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: 3.781)
153. Chia-Hung Lin, Hai Ni, Xinnan Wang, Ming Chang, Yuh J. Chao, Juti Rani Deka, Xiaodong Li, "In-situ Nanomechanical Characterization of Single Crystalline Boron Nanowires by Buckling," *Small*, 6 (2010) 927-931. (Impact Factor: 7.333; 2 citations)
152. Xiaodong Li, Ioannis Chasiotis, and Takayuki Kitamura, "In situ Scanning Probe Microscopy Nanomechanical Testing," *MRS Bulletin*, 35 (2010) 361-367. (Impact Factor: 4.747; 2 citations)
151. Zhi-Hui Xu, Young-Bae Park, and Xiaodong Li, "Nano/Micro-mechanical and Tribological Characterization of Ar, C, N, and Ne Ion Implanted Si," *Journal of Materials Research*, 25 (2010) 880-889. (Impact Factor: 1.395)
150. Yongda Yan, Zhengjiang Hu, Xueshen Zhao, Tao Sun, Shen Dong, and Xiaodong Li, "Top-down Nanomechanical Machining of Three-dimensional Nanostructures by Atomic Force Microscopy," *Small*, 6 (2010) 724-728. (Impact Factor: 7.333; 4 citations)
149. Haibo Guo, Yue Qi, and Xiaodong Li, "Adhesion at Diamond/Metal Interfaces: A Density Functional Theory Study," *Journal of Applied Physics*, 107 (2010) 033722. (Impact Factor: 2.064)
148. Xinyong Tao, Lixin Dong, Xinnan Wang, Wenkui Zhang, Bradley J. Nelson, and Xiaodong Li, "B<sub>4</sub>C Nanowire - Carbon Microfiber Hybrid Structures and Composites from Cotton T-shirts," *Advanced Materials*, 22 (2010) 2055-2059. (Impact Factor: 10.857; 3 citations)
147. Lihong Bao, Zhi-Hui Xu, Rui Li, and Xiaodong Li, "Catalyst-Free Synthesis and Structural and Mechanical Characterization of Single Crystalline Ca<sub>2</sub>B<sub>2</sub>O<sub>5</sub>-H<sub>2</sub>O Nanobelts and Stacking Faulted Ca<sub>2</sub>B<sub>2</sub>O<sub>5</sub> Nanogrooves," *Nano Letters*, 10 (2010) 255-262. (Impact Factor: 12.186; 7 citations)
146. Guoxin Cao, Xi Chen, Zhi-Hui Xu and Xiaodong Li, "Measuring Mechanical Properties of Micro-and Nano-Fibers Embedded in an Elastic Substrate: Theoretical Framework and Experiment," *Composites: Part B*, 41 (2010) 33-41. (Impact Factor: 1.763; 1 citation)
145. Haibo Guo, Xingcheng Xiao, Yue Qi, Zhihui Xu, and Xiaodong Li, "Enhance Diamond Coating Adhesion by Oriented Interfacial Interlayer Microcracking," *Journal of Applied Physics*, 106 (2009) 123514. (Impact Factor: 2.064)
144. Jinzhu Tan, Y. J. Chao, Xiaodong Li, and J. W. Van Zee, "Microindentation Test for Assessing the Mechanical Properties of Silicone rubber Exposed to a Simulated PEM Fuel Cell Environment," *Journal of Fuel Cell Science and Technology*, 6 (2009) 041017. (Impact Factor: 0.884; 2 citations)
143. Xiaodong Li and Xinhang Zhang, "Nanomechanical Testing: Challenges and Opportunities," *JOM*, 61 (12) (2009) 18. (Impact Factor: 1.175)
142. Zaiwang Huang and Xiaodong Li, "Nanoscale Structural and Mechanical Characterization of Heat Treated Nacre," *Materials Science and Engineering C*, 29 (2009) 1803-1807. (Impact Factor: 2.178; 1 citation)
141. Xiaodong Li and Zaiwang Huang, "Unveiling the Formation Mechanism of Pseudo-Single Crystal Aragonite Platelets in Nacre," *Physical Review Letters*, 102 (2009) 075502. (Impact Factor: 7.621; 12 citations)

140. Jianhua Rong, Fiona Oberbeck, Xinnan Wang, Xiaodong Li, Jerry Oxsher, Zhongwei Niu, and Qian Wang, "Tobacco Mosaic Virus Templated Synthesis of One Dimensional Inorganic-polymer Hybrid Fibres," *Journal of Materials Chemistry*, 19 (2009) 2841-2845. (Impact Factor: 5.099; 6 citations)
139. P. Venkateswaran, Zhi-Hui Xu, Xiaodong Li, and Anthony P. Reynolds, "Determination of Mechanical Properties of Al-Mg Alloys Dissimilar Friction Stir Welded Interface by Indentation Methods," *Journal of Materials Science*, 44 (2009) 4140-4147. (Impact Factor: 1.855; 14 citations)
138. Guofeng Wang and Xiaodong Li, "Predicting Young's Modulus of Nanowires from First-principles Calculations on Their Surface and Bulk Materials," *Journal of Applied Physics*, 104 (2009) 113517. (Impact Factor: 2.064; 8 citations)
137. Rui Li, Xinyong Tao, and Xiaodong Li, "Low Temperature, Organic-Free Synthesis of  $Ba_3B_6O_9(OH)_6$  Nanorods and  $\beta$ - $BaB_2O_4$  Nanospindles," *Journal of Materials Chemistry*, 19 (2009) 983-987. (Impact Factor: 5.099; 7 citations)
136. Yong Sun, Jin Liang, Zhi-Hui Xu, Guofeng Wang, and Xiaodong Li, "In-situ Observation of Small-scale Deformation in a Lead-free Solder Alloy," *Journal of Electronic Materials*, 38 (2009) 400-409. (Impact Factor: 1.390; 2 citation)
135. Linhua Zou, Helena Jin, Wei-Yang Lu, and Xiaodong Li, "Nanoscale Structural and Mechanical Characterization of the Cell Wall of Bamboo Fibers," *Materials Science and Engineering C*, 28 (2009) 1501-1508. (Impact Factor: 2.178; 6 citations)
134. Zhi-Hui Xu, Xiaodong Li, Michael A Sutton, and Ning Li, "Drift and Spatial Distortion Elimination in Atomic Force Microscopy Images by Digital Image Correlation Technique," *Journal of Strain Analysis for Engineering Design*, 43 (2008) 729-743. (Impact Factor: 0.897; 11 citations)
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31. Xiaodong Li, Zhongda Yin, and Haibin Li, "Mössbauer Study of the 430 °C Decomposition of 18Ni(350) Maraging Steel," *Journal of Materials Science Letters*, 15 (1996) 314-316. (Impact Factor: 1.181)
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  28. Xiaodong Li and Zhongda Yin, "A Computer-simulated Electron Diffraction Analysis of Precipitates in 18Ni(350) Maraging Steels," *Materials Letters*, 23 (1995) 269-272. (Impact Factor: 2.117)
  27. Xiaodong Li and Zhongda Yin, "Mössbauer Study of the Aging Behavior of 18Ni(350) Maraging Steel," *Materials Letters*, 24 (1995) 235-238. (Impact Factor: 2.117; 5 citations)
  26. Xiaodong Li and Zhongda Yin, "Reverted Austenite during Aging in 18Ni(350) Maraging Steels," *Materials Letters*, 24 (1995) 239-242. (Impact Factor: 2.117; 24 citations)
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  23. Zhongda Yin, Xinhua Xiang, Jingchuan Zhu, and Xiaodong Li, "Fabrication of Plasma Spraying ZrO<sub>2</sub>/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.
  22. 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: 0.474)
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  17. Jiahu Ouyang, Xiaodong Li, and Yuto Pei, "Structure and Properties of Laser Quenched 4Cr13 Steel," *Chinese Journal of Lasers*, B2 (5) (1993) 475-480.
  16. 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).

15. 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).
14. 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).
13. Xiaodong Li, You Wang, and Jiajun Liu, "A Study of Dry Sliding Friction of Eutectoid Steel," *Wear*, 150 (1991) 59-65. (Impact factor: 1.635, 6 citations)
12. Zhongda Yin, Mingzhe Zheng, and Xiaodong Li, "Mössbauer Study of the Spinodal Decomposition of a 10Ni Alloy," *Chinese Science Bulletin*, 36 (1991) 1159-1161. (Impact Factor: 1.087)
11. Xiaodong Li and Zhongda Yin, "Microstructure of Laser Melted Layer on Cr12MoV Steel," *Acta Metallurgica Sinica*, 4 (1991) 296-298. (Impact Factor: 0.477)
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).
8. Xiaodong Li and Zhongda Yin, "Microstructure of the Laser Quenched Layer of Cr12MoV Steel," *Physical Testing and Chemical Analysis, Part A: Physical Testing*, 27(1) (1991) 13-15 (in Chinese).
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: 2.353; 2 citations)
6. Zhongda Yin, Xiaodong Li, Mingzhe Zheng, and Jianying Che, "Modulated Structures in 10Ni and 18Ni Maraging Steels," *Chinese Journal of Metals Science and Technology*, 6 (1990) 368-370.
5. Zhongda Yin, Mingzhe Zheng, Jianying Che, and Xiaodong Li, "Modulated Structures in Maraging Steels," *Materials Science Progress*, 4 (1990) 425-428 (in Chinese).
4. Zhongda Yin and Xiaodong Li, "Microstructure and Wear Resistance of Cr12MoV Steel after Laser Surface Hardening," *Heat Treatment of Metals*, (11) (1989) 3-5 (in Chinese).
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).
1. Maoyuan Ma, Tiejun Chang, Zhaoyu Liu, and Xiaodong Li, "Transformation Mechanisms of Retained Austenite in the Carbonized Layer of 18Cr2Ni4WA Steel during High Temperature Tempering," *Heat Working Technology*, (6) (1986) 50-56 (in Chinese).

### Book Chapters

8. Hongsheng Gao and Xiaodong Li, "Mechanical Characterization of Polymer Nanocomposites (**invited**)," *Bottom-up Nanofabrication: Supramolecules, Self-Assemblies, and Organized Films*, Edited by Katsuhiko Ariga, American Scientific Publishers, California, 2009, Vol. 2, pp. 451-463.
7. Zhongke Wang, Hai Ni, and Xiaodong Li, "Boron Nanomaterials: Synthesis, Characterization and Applications (**invited**)," *Bottom-up Nanofabrication: Supramolecules, Self-Assemblies, and Organized Films*, Edited by Katsuhiko Ariga, American Scientific Publishers, California, 2009, Vol. 6, pp. 301-313.

6. Zhi-Hui Xu and Xiaodong Li, "Residual Stress Determination using Nanoindentation Technique (**invited**)," *Micro and Nano Mechanical Testing of Materials and Devices*, Edited by Fuqian Yang and James C.M. Li, Springer, 2008, pp. 139-153.
5. Bharat Bhushan and Xiaodong Li, "Nanomechanical Characterization of Ceramic Materials (**invited**)," *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**

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 keynote**).
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<sub>x</sub> 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 Nanotechnology Modeling Workshop, Gaithersburg, 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 **(invited)**.
27. Xiaodong Li, "Environmental Effects on the Mechanical Behavior of Nanostructures," Harbin Institute of Technology, May 31, 2011 **(invited)**.
26. Xiaodong Li, "Unveiling the Strengthening and Toughening Mechanisms of Nacre - Lessons from Nature," Jilin University, May 27, 2011 **(invited)**.
25. Xiaodong Li, "Unveiling the Strengthening and Toughening Mechanisms of Nacre - Lessons from Nature," Beijing University of Technology, May 23, 2011 **(invited)**.
24. Xiaodong Li, "Unveiling the Strengthening and Toughening Mechanisms of Nacre - Lessons from Nature," Xi'an University of Technology, May 19, 2011 **(invited)**.
23. Xiaodong Li, "Differences and Challenges in Doctoral Education in USA and China," Harbin Institute of Technology, June 26, 2010 **(invited)**.
22. Xiaodong Li, "In situ Atomic Force Microscopy Nanomechanical Testing and Nanofabrication," Xi'an Jiaotong University, June 18, 2010 **(invited)**.

21. Xiaodong Li, "Deformation and Toughening Mechanisms of Natural Biological Nanocomposites – Lessons from Nature," Harbin Normal University, July 6, 2009 **(invited)**.
20. Xiaodong Li, "Deformation and Toughening Mechanisms of Natural Biological Nanocomposites – Lessons from Nature," Harbin University of Science and Technology, May 31, 2009 **(invited)**.
19. Xiaodong Li, "Experimental Nanomechanics," Harbin Institute of Technology, May 13, 2009 **(invited)**.
18. Xiaodong Li, "Deformation and Toughening Mechanisms of Natural Biological Nanocomposites – Lessons from Nature," Harbin Institute of Technology, May 13, 2009 **(invited)**.
17. Xiaodong Li, "Nanoindentation Principles and Their Applications to Solid Surface and Thin Films," Harbin Institute of Technology, July 22, 2008 **(invited)**.
16. Xiaodong Li, "Experimental Nanomechanics," University of North Carolina at Charlotte, March 20, 2008 **(invited)**.
15. Xiaodong Li, "Deformation and Toughening Secrets of Natural Biological Nanocomposites - Lessons from Nature," University of Georgia, October 11, 2007 **(invited)**.
14. Xiaodong Li, "Strengthening and Toughening Mechanisms of Natural Biological Nanocomposites - Lessons from Nature," General Motor Corporation, September 19, 2007 **(invited)**.
13. Xiaodong Li, "Experimental Nanomechanics of Low-dimensional Nanomaterials and Biomaterials," Dalian University of Technology, July 2, 2007 **(invited)**.
12. Xiaodong Li, "Experimental Nanomechanics of Nano Building Blocks and Biomaterials," Johns Hopkins University, December 1, 2006 **(invited)**.
11. Xiaodong Li, "Experimental Nanomechanics of Nanostructures and Biomaterials," Rice University, October 11, 2006 **(invited)**.
10. Xiaodong Li, "Nanoscale Structural and Mechanical Characterization of Low-dimensional Nanomaterials and Biomaterials, Challenges and Opportunities," Clemson University, December 7, 2006 **(invited)**.
9. Xiaodong Li, "In-situ Nanomechanical Testing of Nanomaterials and Biomaterials – Challenges and Opportunities," Veeco Metrology Group, June 21, 2006 **(invited)**.
8. Xiaodong Li, "Nanoscale Structural and Mechanical Characterization of Low-dimensional Nanomaterials and Biomaterials," University of California at Riverside, April 21, 2006 **(invited)**.
7. Xiaodong Li, "Nanomechanical Testing and Nanomachining of Low-Dimensional Nanomaterials," North Carolina State University, March 31, 2006 **(invited)**.
6. Xiaodong Li, "Nanoscale Mechanical Characterization of Low-Dimensional Nanomaterials And Biomaterials," Harbin Institute of Technology, June 15, 2005 **(invited)**.
5. Xiaodong Li, "Nanoscale Imaging and Mechanical Testing of Cells and Tissues," Medical University of South Carolina, October 31, 2005 **(invited)**.
4. Xiaodong Li, "Micro/Nanoscale Mechanical and Tribological Characterization of Amorphous Carbon Coatings," BMW Manufacturing Corp., Spartanburg, SC, June, 2003 **(invited)**.
3. Xiaodong Li, "Micro/Nanoscale Mechanical and Tribological Studies of Information Storage Devices and MEMS/NEMS," University of South Carolina, April 2002 **(invited)**.
2. Xiaodong Li, "Micro/Nanoscale Mechanical and Tribological Studies of Information Storage Devices and MEMS/NEMS," Western Michigan University, March 2002 **(invited)**.
1. Xiaodong Li, "Micro/Nanoscale Mechanical and Tribological Studies of Information Storage Devices and MEMS/NEMS," University of South Florida, March 2002 **(invited)**.

#### **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, "B<sub>4</sub>C 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, "B<sub>4</sub>C 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<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> 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 BaTiO<sub>3</sub> 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.
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## **Courses Taught at USC**

### Graduate Courses:

Developed and taught a new graduate level 3 credit course – EMCH 778 Nanomaterials (taught 5 semesters)

- Michael J. Mungo Graduate Teaching Award Nominee, 2008
- Michael J. Mungo Graduate Teaching Award Nominee, 2007
- Michael J. Mungo Graduate Teaching Award Nominee, 2005
- Student evolution over the past nine years: **4.81/5.00**

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

### 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 6 semesters)

- Michael J. Mungo Undergraduate Teaching Award Nominee, 2011
- Michael J. Mungo Undergraduate Teaching Award Nominee, 2008
- Michael J. Mungo Undergraduate Teaching Award Nominee, 2006
- A teacher in the Department who was most influential in helping to prepare students for becoming engineering professionals, 2005, 2006
- Student evolution over the past nine years: **4.57/5.00**

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 2011, Fall 2009, Spring 2009, Spring 2008, Spring 2006, Fall 2005, Spring 2005

Dr. LI Xiaodong studied in the Department of Computer Science and Technology, Nanjing University, and got his BSc degree in 2006. He became a Ph.D. student in City University of Hong Kong in 2009, supervised by Prof. DENG Xiaotie, and got his PhD degree in 2014 [Thesis]. Xiaodong Li is a Chinese Kung Fu Championships fighter from . Xiaodong Li Profile, MMA Record, Pro Fights and Amateur Fights. First Name: Xiaodong Last Name: Li Nickname: Login to update nickname Date of Birth: Login to update date of birth Weight: 143 lbs (64.9 kg) Height: 5' 9" (175.3 cm) Reach: Login to update reach Location: Login to update location Hometown: , Fighting Styles: Login to update fighting styles Affiliations: Login to update affiliations Website: Login to update website link Facebook: Login. Based on funding mandates. Follow. Xiaodong (Chris) Li. University of Virginia. Verified email at cec.sc.edu. S Nandi, HA Toliyat, X Li. IEEE transactions on energy conversion 20 (4), 719-729, 2005. 2696. 2005. A review of nanoindentation continuous stiffness measurement technique and its applications. X Li, B Bhushan. Materials characterization 48 (1), 11-36, 2002. 1531. 2002. Freestanding Three-Dimensional Graphene/MnO2 Composite Networks As Ultralight and Flexible Supercapacitor Electrodes. The Department of Mechanical and Aerospace Engineering in the School of Engineering and Applied Science at the University of Virginia seeks candidates for two Research Associate positions to assist in the development of low-cost carbon fiber techniques in Professor Xiaodong (Chris) Li's lab. A PhD in Mechanical Engineering or related field is required by the start date of the position.