

Enrique J. Lavernia

Curriculum Vitae

Provost and Executive Vice Chancellor
Distinguished Professor of Materials Science and Engineering
University of California, Irvine

Revised October 2018

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ENRIQUE J. LAVERNIA

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CITIZENSHIP

U.S.A.

RESEARCH INTERESTS

Synthesis and behavior of nanostructured and multi-scale materials with particular emphasis on processing fundamentals and mechanical/physical behavior; novel deformation phenomena in fcc and hcp metals; thermal spray processing of nanostructured materials; spray atomization and deposition of structural materials; high temperature-high pressure atomization processes; mathematical modeling of advanced materials and processes; and additive manufacturing of metallic structures using laser-based systems.

RESEARCH FUNDING

Actively involved in seeking extramural research funding to support various research programs. During tenure at the University of California, responsible for approximately \$46 million dollars in research funds (including grants as co-PI). Sponsoring organizations include NSF, ARO, AFOSR, ONR, DOE, DARPA, NASA, national laboratories, and numerous industrial sponsors. In addition, responsible for the acquisition, installation and operation of extensive laboratory facilities including: four spray processing facilities, four cryomilling facilities, hot isostatic press, cold isostatic press, SPS-825SS spark plasma sintering facility, LENS[®] Net Shape Fabrication facility, high velocity oxygen fuel (HVOF) thermal spray system, Instron mechanical testing facilities, MTS nanoindenter, in-situ TEM/SEM nanoindentation, focused-ion beam (FIB) system, NanoSTAR small angle X-ray scattering (SAXS), atomic force microscope, phase Doppler interferometry, thermal analysis facilities, computational facilities, dynamic mechanical analyzer, two elevated temperature arc melters, vacuum furnaces, electric discharge machining (EDM), and numerous others.

EDUCATION

| | |
|---------------------------------------|-------------|
| MASSACHUSETTS INSTITUTE OF TECHNOLOGY | 1984 - 1986 |
| Ph.D. Materials Engineering | 1986 |
| M.S. Materials Engineering | 1984 |
| BROWN UNIVERSITY | 1978-1982 |
| B.S. Solid Mechanics, with honors | 1982 |

ACADEMIC APPOINTMENTS, UNIVERSITY OF CALIFORNIA

| Rank | Beginning | Ending |
|--|------------------|---------------|
| Provost, Executive Vice Chancellor, UC Irvine | July 2015 | Present |
| Distinguished Professor, UC Irvine | July 2015 | Present |
| Dean, Distinguished Professor, College of Engineering, UC Davis | Jan. 2011 | July 2015 |
| Provost, Executive Vice Chancellor, UC Davis | Jan. 2009 | Jan. 2011 |
| Dean, College of Engineering, UC Davis | Sept. 2002 | Dec. 2008 |

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|---|-----------|------------|
| Chancellor's Professor, UC Irvine | July 2002 | Sept. 2002 |
| Department Chair, CBEMS, UC Irvine | Jan. 1998 | Sept. 2002 |
| Visiting Professor, Max Planck Inst., Stuttgart, Germany | Feb. 1997 | Sept. 1997 |
| Professor, UC Irvine | July 1995 | June 2002 |
| Associate Professor, UC Irvine | July 1991 | June 1995 |
| Assistant Professor, UC Irvine | July 1987 | June 1991 |

OTHER ACADEMIC APPOINTMENTS

| Rank | Beginning | Ending |
|--------------------------------|------------|-----------|
| Research Associate, M.I.T. | Oct. 1986 | Jun. 1987 |
| Postdoctoral Associate, M.I.T. | Jan. 1986 | Oct. 1986 |
| Research Assistant, M.I.T. | Sept. 1982 | Jan. 1986 |

AWARDS AND RECOGNITION RECEIVED

| Award | Dates |
|--|-------|
| <i>Distinguished Engineering Educator Award</i> , National Engineers' Council | 2018 |
| <i>Friendship Medal</i> , Peoples Republic of China | 2017 |
| <i>Lectureship</i> , China Distinguished Materials Scientists Forum | 2017 |
| <i>Member</i> , National Academy of Inventors | 2017 |
| <i>Alexander von Humboldt Foundation Research Award</i> | 2016 |
| <i>Chime Bell Award</i> , Hubei Province, China | 2016 |
| <i>TMS leadership Award</i> , The Minerals, Metals and Materials Society | 2016 |
| <i>Hispanic Hall of Fame</i> , HEENAC Great Minds in STEM | 2015 |
| <i>Distinguished Professor</i> , UC Irvine | 2015 |
| <i>TMS Fellows Award Class of 2014</i> , The Minerals, Metals and Materials Society | 2014 |
| <i>Member</i> , National Academy of Engineering | 2013 |
| <i>2013 Fellow</i> , Materials Research Society | 2013 |
| <i>ASM International 2013 Edward DeMille Campbell Memorial Lectureship</i> , The Materials Information Society | 2013 |
| <i>ASM International 2013 Gold Medal Award</i> , The Materials Information Society | 2013 |
| <i>Hispanic Engineer National Achievement Award</i> , Great Minds in STEM | 2011 |
| <i>2011 SACNAS Distinguished Scientist</i> , Society for Advancement of Chicanos and Native Americans in Science | 2011 |
| <i>Top 200 Most Influential Hispanics in Technology</i> , Hispanic Engineer & Information Technology magazine | 2011 |
| <i>Miegunyah Distinguished Fellow</i> , University of Melbourne, Australia | 2010 |
| <i>Distinguished Professor</i> , UC Davis | 2007 |
| <i>Fellow</i> , American Society of Mechanical Engineers | 2006 |
| <i>Best Paper Award</i> , with L. Ajdelsztajn and B. Jodoin, International Thermal Spray Conference, Seattle, WA | 2006 |
| <i>Honorary Member</i> , The Materials Research Society of India, Elected | 2006 |
| <i>Outstanding Engineering Alumnus Medal</i> , Brown University | 2005 |
| <i>Highly Cited Researcher</i> , ISI, Citation Impact for Research in Materials | 2002 |
| <i>Chancellor's Professor</i> , UCI | 2002 |
| <i>Fellow</i> , American Association for the Advancement of Science | 2000 |
| <i>1999 Marcus A. Grossmann Award for "Best Paper"</i> , Metallurgical and Materials Transactions, with Ph.D. Student Weidong Cai | 1999 |

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|--|-----------|
| <i>Chemical and Biochemical Engineering and Materials Science</i> | |
| <i>Teacher of the Year, UCI</i> | 1998 |
| 1998 Fellow, ASM International | 1998 |
| Marion Howe Medal for “Best Paper”, Metallurgical and Materials Transactions, with Ph.D. Students D. Lawrynowicz and B. Li | 1998 |
| Silver Medal, Materials Science Division of the ASM International | 1996 |
| Best Paper Award, <i>Journal of Thermal Spray Technology</i> with Ph.D. Student X. Liang and Faculty and Colleague J. Wolfenstine | 1995 |
| Fellowship, Ford Foundation | 1995 |
| Alexander Von Humboldt Fellowship, Germany | 1995 |
| Fellowship from the Iketani Science and Technology Foundation, Tokyo, Japan | 1993 |
| ASM International 1993 Bradley Stoughton Award for Young Teachers | 1993 |
| Phi Beta Delta, Honor Society for International Scholars | 1992 |
| Ranked 21 st in the World by Science Watch, ISI, Citation Impact for Research in Materials ¹ | 1990-1994 |
| Young Investigator Award, Office of Naval Research | 1990-1993 |
| Presidential Young Investigator, National Science Foundation | 1989-1994 |
| Aluminum Company of America Fellowship | 1990-1992 |
| National Honorary Society of Alpha Kappa Chapter of Phi Delta Beta, Elected | 1992 |
| Who is Who in Science and Engineering, Elected | 1993 |
| 2000 Notable American Men, Elected | 1992 |
| American Men and Women of Science, Elected | 1991 |
| Who is Who in the West, Elected | 1991 |
| Outstanding Assistant Professor, School of Engineering, UCI | 1989-1990 |
| Faculty Career Development Award, UCI | 1989 |
| Rockwell International Fellowship | 1982-1984 |
| George H. Main 1945 Fund Award, Brown University | 1982 |
| Alfred J. Loepsinger Scholarship, Brown University | 1978 |

AWARDS WON BY STUDENTS AND STAFF

| Name and Award | Dates |
|---|--------------|
| Dalong Zhang, <i>Acta Materialia Student Award</i> | 2015 |
| Martin Balog, Fulbright Scholar | 2014 |
| Baolong Zheng, Troy Topping, Yuhong Xiong, Yizhang Zhou, Suveen N. Mathaudhu and Enrique J. Lavernia, <i>Best Poster Award</i> , Poster Session, Magnesium Technology Symposium, TMS 2012, Orlando, Florida | 2012 |
| Haiming Wen, Yonghao Zhao, Troy Topping and Dustin Ashford, <i>Poster Award Winner</i> , Poster Session, Nanotechnology, <i>Materials Science and Technology</i> , Columbus, Ohio | 2011 |
| Jonathan Nguyen, Graduate Student, <i>Young Scientist Fellowship</i> , International Collaboration Center, Institute for Materials Research, Tohoku University | 2011 |
| Baolong Zheng, Osman Ertorer, Ying Li, Troy Topping, Yizhang Zhou, <i>Second Prize for Best Poster Award</i> , Poster Session, Magnesium Technology Symposium, TMS 2011, San Diego, CA | 2011 |
| Dustin Ashford, Center for Powder Metallurgy Technology/ <i>Axel Madsen Award</i> | 2011 |
| Jonathan Nguyen, Graduate Student, <i>National Science Foundation Fellowship</i> , East Asia Summer Pacific Institute | 2010 |
| Ying Li, Yonghao Zhao, Wei Liu, Zhihui Zhang, Rustin Vogt, <i>Silver Prize</i> , | |

¹ October 1995, Vol. 6, No. 9; UCI, ranked 6th in the World as measured by high impact papers

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|---|-----------|
| Poster Session, UFG VI, TMS 2010, Seattle, WA | 2010 |
| Troy Topping, Ying Li, Zhihui Zhang, <i>Bronze Prize</i> , Poster Session, UFG VI, TMS 2010, Seattle, WA | 2010 |
| Jennifer Walley, <i>Sapphire Graduate Excellence in Materials Science Award</i> , Materials Science and Technology | 2007 |
| Greg Ng, Graduate Student, <i>National Physical Science Consortium Fellowship</i> | 2005 |
| Yong Seok Chae, Ph.D. candidate, <i>Best Student Paper</i> , Poster Session, 22 nd Annual Meeting, The American Society for Laser Medicine and Surgery | 2002 |
| Reyna Paniagua, Undergraduate Student, <i>UROP-PUF Fellow</i> at UCI, Research Project: "A Research into Novel Alloy Compositions for Aerospace Applications" | 1998-1999 |
| Maggy Lau, Ph.D. candidate, and Michael Kozcak, <i>Student Paper Award for Best Paper Presentation</i> , TMS Powder Materials Committee-Sponsored Symposia | 1997 |
| Linda Del Castillo, Ph.D. candidate, <i>NASA Fellowship</i> , NASA Langley | 1996-1999 |
| Robert J. Perez, Ph.D. candidate, Department of Defense, <i>National Science and Engineering Fellowship for Ph.D. Studies</i> | 1992-1995 |
| Scott Fable, <i>Fluor Daniel Undergraduate Fellowship</i> | 1994 |
| Don Baskin, <i>UCI Presidential Award for Excellence in Undergraduate Research</i> | 1994 |
| Manoj Gupta, Ph.D. candidate, <i>ASM Metallography Award</i> , Second Place | 1992 |
| Craig Fujikawa, Undergraduate, <i>article on Al-Li</i> , California Engineer award | 1992 |
| Don Baskin, Undergraduate, <i>American Society for Metals, Endowment Award</i> | 1991 |
| Don Baskin, Undergraduate, <i>UCI Presidential Undergraduate Fellowship Award</i> | 1991 |
| Kathy Schriener, Undergraduate, <i>UCI Presidential Undergraduate Fellowship Award</i> | 1991 |
| Manoj Gupta, Ph.D. candidate, Runner-up, Inductotherm Corp., CA | 1989 |
| Susan Brockschmidt, Undergraduate, <i>Fellowship from the Society of Military Engineers</i> | 1988 |

NAMED LECTURES

Named Lectures

| | |
|---|--------------------|
| <i>Grain Growth Phenomena: From the Nanoscale to the Microscale</i> China Distinguished Materials Scientists Forum University of Science and Technology Beijing, People Republic of China | November 2, 2017 |
| <i>The Seidman Family Lecture Series</i> in memory of Elie and Jeanne Cohen-Sabban, z"l, Marseille, France, and Charles and Jeanette Seidman, z"l, Materials Science and Engineering Dept., University of Tel-Aviv, Israel | November 2, 2016 |
| Plenary lecture, <i>The XXV International Materials Research Congress</i> , Cancun, Mexico | August 14-19, 2016 |
| <i>Stanford S. and Beverly P. Lecture</i> , Mechanical and Aerospace Dept. University of California, San Diego | October 30, 2015 |
| <i>Distinguished Speaker Series</i> , University of Miami College of Engineering, Miami, FL | April 27, 2015 |

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| <i>Inaugural SEMTE Distinguished Scholar Lecture,</i> Presented at Arizona State University, Tempe, AZ | October 10, 2014 |
| <i>Brumley D. Pritchett Lecture,</i> Presented at School of Engineering, Georgia Institute of Technology Atlanta, GA | November 5, 2013 |
| <i>ASM Edward DeMille Campbell Memorial Lecture,</i> Presented at <i>Materials Science and Technology 2013</i> Montreal, Quebec, Canada | October 27-31, 2013 |
| <i>Distinguished Lecture Series,</i> Presented at Voiland College of Engineering and Architecture, Washington State University, Pullman, WA | October 21, 2011 |
| <i>2010 Miegunyah Lecture,</i> Presented at the University of Melbourne, Parkville, Australia | August 11, 2010 |

MEMBERSHIPS IN BOARDS OF REVIEW AND ADVISORY ROLES

| UC Irvine Advisory Committees | Dates |
|--|--------------|
| UCI Chao Family Comprehensive Cancer Center Internal Advisory Board, <i>Chair</i> | 2018-Present |
| UCI Building Advisory Committee | 2015-Present |
| UC Cyber Risk Governance Advisory Board | 2015-Present |
| UCI Chao Family Comprehensive Cancer Center External Advisory Board | 2015-Present |
| UCI Chao Family Comprehensive Cancer Center Internal Advisory Board | 2015-Present |
| UCI Chancellor's Advisory Council | 2015-Present |
| UCI Governing Body Advisory Committee | 2015-Present |
| UC Davis Advisory Committees | Dates |
| ACCBS - Administrative Coordinating Council for Biological Sciences | 2002-2004 |
| ACCD - Administrative Coordinating Council of Deans | 2002-2015 |
| ACCE -Administrative Coordinating Council for the Environment | 2002-2004 |
| ACCOMPSE - Administrative Coordinating Council for Mathematical & Physical Sciences and Engineering | 2002-2004 |
| CBST - Center for Biophotonics Science & Technology Advisory Board | 2002-2004 |
| COD - Council of Deans | 2002-2015 |
| CODVC - Council of Deans and Vice Chancellors | 2002-2015 |
| CONNECT Board of Directors | 2002-2004 |
| DAC - Dean's Advisory Council | 2002-2015 |
| DEC - Dean's Executive Committee | 2002-2015 |
| Department Chairs Monthly Committee Meeting | 2002-2015 |
| Internal Grant Program Task Force | 2002-2004 |
| Search Committee - Dean, Division of Mathematical & Physical Sciences | 2002-2003 |
| Search Committee - Dean, Graduate School of Management | 2002-2003 |
| SLB - Strategic Leadership Board | 2002-2015 |
| UC Davis/Los Alamos National Laboratory Steering Committee | 2002-2004 |
| UC Davis McClellan Nuclear Radiation Center Research Advisory Committee | 2002-2004 |
| Undergraduate Deans Council | 2002-2015 |
| Univeristy Wide Council on Engineering Education | 2002-2015 |
| Year Round Operations Steering Committee | 2002-2004 |

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| Cancer Center - Internal Advisory Board | 2003-2004 |
| CNPRC - California National Primate Research Center Dean's Advisory Group | 2003-2004 |
| UC Davis OVCR Research Vision Study Group | 2003-2004 |
| Search Committee - Vice Chancellor/Dean, Health Sciences and School of Medicine | 2003-2004 |
| Confidential Administrative Unit Review Committee, Chair | 2005 |
| Joint Academic Senate Administration Off-Scale Salary Task Force | 2011-2012 |
| Ecosystem for Biophotonics Innovation Board of Directors | 2011-2015 |
| UC Davis - Sandia National Laboratories Roadmap Steering Committee | 2011- 2015 |
| Member, Advisory Committee for selection of the Acting Vice Chancellor of Student Affairs | 2012 |
| UC Davis ADVANCE Internal Advisory Committee | 2012-2015 |
| UC Davis - Zhejiang Research Center Steering Committee | 2012-2015 |
| Internal Audit Services Workgroup | 2013-2015 |
| University Outreach and Engagement Advisory Committee | 2013-2015 |
| UC Davis World Food Center - Intellectual Property Issues Task Force | 2013 |
| Confidential Dean Review Committee, Chair | 2013 |
| Course Materials and Services Fee Committee | 2013-2015 |
| Executive Steering Committee for Implementation of the Human Resources Strategic Review | 2013-2014 |
| Laboratory and Office Advisory Committee | 2014 |
| Core Research Facility and Laboratories for Chemistry-Based Disciplines, Project Advisory Committee | 2014 |
| National and International Advisory Committees | Dates |
| Review Board, National Science Foundation's <i>Manufacturing Initiative</i> | 1992 |
| National Research Council's Review Board on NSF Graduate Fellowships Program | 1993-1994 |
| Invited Scientist, Technical Exchange, <i>The Korea-U.S. Joint Symposium on Advanced Materials</i> | 1993 |
| Member, NASA's Headquarters Review Panel on Microgravity in Materials Science | 1995 |
| Member, NSF Panel on Materials Research Science and Engineering Centers Advisory Board, <i>NSF-Center for Advanced Materials & Smart Structures</i> , North Carolina State University | 1996 |
| Member, Department of Energy Review Panel on The Metal and Ceramic Sciences Program, November 16-17 | 1998 |
| Member, NSF Review Panel on Centers of Research Excellence in Science and Technology (CREST), June 10-11 | 1998 |
| Board of Advisors, <i>Nanotechnology Handbook</i> , Kluwer Academic Press | 2000 |
| Member, <i>ONR-Japan advisory group for Japanese R&D</i> , with A. Evans, B. Kear, D. Clarke, J. Smith and F. Petit | 2000 |
| Member, <i>U.S.-France Joint Nanotechnology Workshop</i> , October | 2000 |
| Member, International Scientific Committee, <i>Conference entitled: Composites for the New Millennium</i> , Bangalore, India | 2000 |
| Invited Speaker and Member, <i>Advisory Group for NSF's NEXT Nanotechnology Initiative</i> | 2001 |
| Member, <i>National Materials Advisory Board</i> | 2002-2004 |
| Nanomaterials Technology Task Force | 2003-2004 |
| Member, National Science Foundation Directorate for Engineering Advisory Committee | 2003-2006 |

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| Member, National Science Foundation, Committee of Visitors for CBET | 2003-2006 |
| Member, Scientific Committee, <i>Conference entitled: SDMA 2006</i> , Bremen, Germany | 2005 |
| Member, International Advisory Committee, <i>4th International Conference On Advanced Materials & Processing</i> , Hamilton, New Zealand | 2006 |
| Advisor, "The Nanoscience & Nanotechnology Cluster (NanoCluster)" Director, Office of Research, Professor Michael Khor, Nanyang Technological University, Singapore | 2007 |
| Member, International Advisory Committee, <i>9th International Conference On Nanostructured Materials</i> , Rio de Janeiro, Brazil | 2008-2010 |
| Member, International Advisory Committee, <i>6th International Conference On Advanced Materials Processing</i> , Yunnan, P.R. China | 2010 |
| Member, Department of Energy (DOE) Industrial Technologies Program (ITP) <i>Blue Ribbon Panel</i> , Seattle, WA | 2010 |
| Member, Department of Energy (DOE) Transformational Energy Materials Project - Phase II, <i>Blue Ribbon Panel</i> , Seattle, WA | 2010 |
| Member, International Advisory Committee, <i>10th International Conference On Nanostructured Materials</i> , Rome, Italy | 2010-2012 |
| Member, International Advisory Committee, <i>14th International Conference On Rapidly Quenched & Metastable Materials</i> , Salvador, Brazil | 2010-2011 |
| Member, <i>Advisory Board of the Aalto University School of Chemical Technology</i> , Espoo, Finland | 2011-2013 |
| Participant and Member, Steering Committee, <i>2012 TMS Materials, Manufacturing Leaders' Summit</i> , Orlando, FL | 2011-2012 |
| Member, PowderMet 2012 Technical Program Committee | 2011 |
| Honorary Fellow of the Australian Institute of High Energetic Materials, Gladstone QLD, Australia | 2011 |
| TMS Committee on Education Strategy for Undergraduate and Graduate Materials Engineering Education | 2011 |
| Member, Strategic Science Technology Engineering (ST&E) Advisory Panel, Lawrence Livermore National Laboratory | 2011-Present |
| Global Engineerin Deans Council | 2011-Present |
| Chair, Lawrence Livermore National Laboratory Engineering Directorate Review Committee | 2011-2012 |
| Co-chair, ASEE Global Colloquium and Member, Scientific Committee, <i>World Engineering Education Forum</i> , Buenos Aires, Argentina | 2011-2012 |
| Materials Genome Initiative Think Tank | 2012-Present |
| Member, International Advisory Committee, <i>International Conference on Atoms, Molecules and Photons (ICAMP)</i> | 2012 |
| Member, International Advisory Committee, <i>Romanian National Council for Research and Development</i> | 2012 |
| Vice-Chair, International Advisory Committee, <i>11th International Conference On Nanostructured Materials</i> , Rhodes, Greece | 2012-2014 |
| Member, National Science Foundation Directorate for Engineering Advisory Committee | 2012-2015 |
| Member, National Science Foundation, Committee of Visitors for CBET | 2012-2015 |
| Member, External Advisory Board of the Department of Materials Science and Engineering, North Carolina State University | 2013-Present |
| Member, Technical Program Committee, <i>PowderMet 2013</i> , Chicago, IL | 2013 |
| Member, International Advisory Board, <i>8th International Conference on Porous Metals and Metallic Foams, Metfoam 2013</i> | 2013 |

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| Member, Annual Students' Research Evaluation Meeting, Nara Institute of Science and Technology | 2013 |
| Member, International Advisory Committee, <i>15th International Conference on Rapidly Quenched & Metastable Materials</i> , Shanghai, China | 2014 |
| Member, International Advisory Board, <i>CIMTEC 2014 - Symposium CI</i> , Montecatini Terme, Tuscany, Italy | 2014 |
| Member, International Advisory Committee, <i>6th International Conference On Nanomaterials by Severe Plastic Deformation (NanoSPD6)</i> , Metz, France | 2014 |
| Member, Organizing Committee, <i>Ultrafine Grained Materials - Eighth International Symposium (UFG VIII)</i> , 2014 TMS Annual Meeting, San Diego, CA | 2014 |
| Chair, International Advisory Committee, <i>12th International Conference On Nanostructured Materials</i> , Moscow, Russia | 2014-2016 |
| Chair, Israeli Material Engineering Studies Evaluation Committee, Israel | 2014 |
| Member, External Visiting Committee, <i>School of Materials Science and Engineering Academic Program Review</i> , Georgia Tech | 2014 |
| Science Peer Reviewer, <i>New Zealand Ministry of Business, Innovation & Employment 2014 Science Investment Round</i> | 2014 |
| External Reviewer, <i>National Science Foundation, EPSCoR Research Infrastructure Improvement Program Track-1: (RII Track-1), Louisiana Consortium for Advanced Manufacturing (LaCAM) proposal</i> | 2014 |
| Member, External Advisory Board of the School of Materials Science and Engineering, Georgia Tech | 2014 |
| <i>American Association for the Advancement of Science</i> , Chair-Elect of the Section on Industrial Science and Technology | 2017-2019 |

Journals and Editorial Boards of Review

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|--|
| Reviewer, <i>Journal of Alloys and Compounds</i> |
| Editorial Board, <i>Journal of Materials Research and Technology</i> |
| Reviewer, <i>Current Opinion in Solid State & Materials Science</i> |
| Reviewer, <i>International Journal of Plasticity</i> |
| Reviewer, <i>Composites Science and Technology</i> |
| Reviewer, <i>Acta Biomaterialia</i> |
| Reviewer, <i>International Journal of Thermal Sciences</i> |
| Reviewer, <i>Scripta Materialia</i> |
| Reviewer, <i>Corrosion Science</i> |
| Reviewer, <i>Composites Part A</i> |
| Reviewer, <i>Advanced Powder Technology</i> |
| Reviewer, <i>Mechanics of Materials</i> |
| Reviewer, <i>Powder Technology</i> |
| Reviewer, <i>Intermetallics</i> |
| Reviewer, <i>Mechanics Research Communications</i> |
| Reviewer, <i>Optics and Lasers in Engineering</i> |
| Reviewer, <i>The 38th International Conference on Metallurgical Coatings and Thin Films</i> |
| Reviewer, <i>International Conference on Metallurgical Coatings and Thin Films</i> |
| Reviewer, <i>The 40th International Conference on Metallurgical Coatings and Thin Films</i> |
| Reviewer, <i>Chemical Engineering Science</i> |
| Reviewer, <i>Surface and Coatings Technology</i> |
| Reviewer, <i>Physics Letters A</i> |
| Reviewer (non-EAB), <i>Materials Characterization</i> |
| Reviewer, <i>Acta Materialia</i> |

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| Reviewer, <i>International Journal of Hydrogen Engery</i> | |
| Reviewer, <i>Materials and Design</i> | |
| Reviewer, <i>Journal of Physics and Chemistry of Solids</i> | |
| Reviewer, <i>Computational Materials Science</i> | |
| Reviewer, <i>Ceramics International</i> | |
| Reviewer, <i>Materials Chemistry and Physics</i> | |
| Reviewer, <i>Materials Letters</i> | |
| Reviewer, <i>CARBON</i> | |
| Reviewer, <i>Chemical Engineering Journal</i> | |
| Reviewer, <i>Applied Surface Science</i> | |
| Reviewer, <i>Chemical Physics Letters</i> | |
| Advisor for the Composites Committee, <i>Journal of Metals</i> | 1993 |
| Board of Review, <i>Metallurgical and Materials Transactions</i> | 1994-Present |
| Board of Review, <i>Journal of Applied Composite Materials</i> | 1994-Present |
| Advisory Board, <i>Advanced Composites Newsletter</i> | 1994 |
| Board of Review, <i>International Journal of Non-Equilibrium Processing</i> | 1996 |
| Co-Editor, <i>Journal of Materials Synthesis and Processing</i> | 1996-2002 |
| Advisory Board, <i>Key Enginering Materials</i> , Trans Tech | 1996-Present |
| Principal Editor, <i>Materials Science & Engineering A an International Journal</i> | 1998-2012 |
| Editorial Board, <i>Journal of Materials Processing Technology</i> | 1999-Present |
| Editorial Board, <i>Electronic Journal, Ciencia Abierta</i> , U. of Chile | 1999-Present |
| Editorial Board, <i>Journal of Metastable and Nanostructured Materials</i> | 2000-2005 |
| International Editorial Board, <i>Reviews on Advanced Materials Science</i> | 2002-Present |
| Board of Review, <i>International Journal of Thermal Sciences</i> | 2006-2007 |
| Editorial Board, <i>Journal of Materials Research and Technology</i> | 2011 |
| Advisory Board, <i>Materials Research Letters</i> | 2012 |
| Chief Editor, <i>Materials Science & Engineering A an International Journal</i> | 2012-Present |
| Editorial Board, <i>Journal of Magnesium and Alloys</i> | 2013-Present |
| Reviewer, <i>Nature Communications</i> | 2014 |

National and International Award Committees

| | Dates |
|---|--------------|
| Member, <i>Bradley Stoughton Award Committee</i> , ASM International | 1994-1996 |
| Chair, <i>Bradley Stoughton Award Committee</i> , ASM International | 1996 |
| Member, <i>Henry Marion Howe Medal and Marcus A. Grossmann Young Author Award Selection Committee</i> , ASM International | 1998-2000 |
| Chair, <i>Henry Marion Howe Medal and Marcus A. Grossmann Young Author Award Selection Committee</i> , ASM International | 2001 |
| Best Paper Award Committee, <i>J. of Thermal Spray Technology</i> | 1999- 2002 |
| Member, <i>ASM Confidential Awards Committee</i> , ASM International | 2010-2013 |
| Member, <i>International Student Paper Contest Selection Committee</i> , ASM International | 2011-2014 |
| Official Nominator, Japan Prize, Japan Prize Foundation | 2013-2014 |
| Reviewer, <i>Howard Hughes Medical Institute Professors Competition</i> | 2014 |
| Membe, <i>Edward DeMille Campbell Selection Committee</i> | 2014-2017 |
| Member, <i>NAE Engineering for You (E4U) Video Contest</i> | 2014 |
| Member, <i>Acta Materialia Materials and Society Award Selection Committee</i> | 2014-2017 |

PUBLICATIONS

Journal Papers

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- P227. B. Zheng, N. Yang, J. Yee, K. Gaiser, W.Y. Lu, L. Clemon, Y. Zhou, J.M. Schoenung and E.J. Lavernia, "Review on Laser Powder Injection Additive Manufacturing of Novel Alloys and Composites", *Proceedings of the SPIE*, 9738-18, 2016.
- P228. Kaka Ma, Thale Smith, Enrique J. Lavernia and J.M. Schoenung, "Environmental Sustainability of Laser Metal Deposition: the Role of Feedstock Powder and Feedstock Utilization Factor", *International Conference on Sustainable Materials Processing and Manufacturing, SMPM2017*, 23-25 January 2017, Procedia Manufacturing, Vol. 7, pp. 198-204, Kruger National Park, 2017.
- P229. T. S. Srivatsan, Yaojun Lin, Fei Chen, K. Manigandan and Enrique J. Lavernia, "Synthesis and Microstructural Development of Particulate Reinforced Metal-Matrix Composites Using the Technique of Spray Atomization and Deposition", *International Conference on Metal Matrix Composites: Innovations, Advances and Application, Metal Matrix Composites: Innovations, Advances and Applications, The Minerals, Metals and Materials Society*, Warrendale, PA, 2017.

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- D1. E.J. Lavernia and Y. Wu, *Spray Atomization and Deposition*, published by John Wiley and Sons Ltd., 1996, ISBN 0-471-95477-2.

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- C1. E.J. Lavernia, J.A. Ayers, T.S. Srivatsan, chapter in book entitled *Rapid Solidification of Structural Materials*, T.S. Srivatsan and T.S. Sudarshan, eds., published by Technomic Publishing Co., 1993.¹
- C2. H. Jones, N. Grant and E.J. Lavernia, Chapter 2 entitled, "Synthesis and Processing", in book entitled *Elements of Rapid Solidification*, Springer Verlag, 1998.
- C3. H. Jones and E.J. Lavernia, Chapter 5 entitled, "Mechanical Properties and Behavior", in book entitled *Elements of Rapid Solidification*, Springer Verlag, 1998.
- C4. B. Li and E.J. Lavernia, chapter entitled "Spray Forming as a Non-Equilibrium Processing Technique", in book entitled *Non-Equilibrium Processing of Materials*, C. Suryanarayana, ed., Pergamon Materials Series, Vol. 2, pp. 153-193, 1998.
- C5. E.J. Lavernia, M.L. Lau and H.G. Jiang, chapter entitled, "Thermal Spray Processing of Nanocrystalline Materials", in book entitled *Nanostructured Materials*, Kluwer Academic Publishers, 1998.

¹ See Journal Papers Entry J39 for a modified version appearing as a comprehensive paper

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- C6. H.G. Jiang, M.L. Lau, V.L. Tellkamp and E.J. Lavernia, chapter entitled “Synthesis of Nanostructured Coatings by High-Velocity Oxygen-Fuel Thermal Spraying”, in book entitled *Handbook of Nanostructured Materials and Nanotechnology*, H.S. Nalwa, ed., Vol. 1, Ch. 3, pp.159-213, 2000.
- C7. B. Li and E.J. Lavernia, chapter entitled, “Spray Forming of MMCs”, in book entitled *Comprehensive Composite Materials, Volume 3 - Metal Matrix Composites*, Elsevier Science Ltd., 2000.
- C8. D. Cheng, G. Trapaga, J.W. McKelliget and E.J. Lavernia, “Mathematical Modeling of HVOF Spraying: An Overview”, *ASME Book Chapter, 2000 ASME Meeting*, Orlando, FL, Key Engineering Materials, Vol. 197, pp. 1-26, 2001.
- C9. E.J. Lavernia and J.-P. Delplanque, chapter entitled “Spray Casting: Applications”, in book entitled *Encyclopedia of Materials: Science and Technology*, K. H. Jürgen Buschow, R.W. Cahn, M.C. Flemings, B. Ilschner, E.J. Kramer and S. Mahajan, eds., pp. 8771-8776, 2001.
- C10. M.L. Lau and E.J. Lavernia, chapter entitled “Thermal Spray Processing of Nano Scale Materials”, in book entitled *Nanostructured Materials*, pp. 51-72, C. Koch, ed., 2002.
- C11. D. Witkin, A. Piers Newbery, B.Q. Han and E.J. Lavernia, chapter entitled “Nanostructured Alloys: Cryomilling Synthesis and Behavior”, in book entitled *Dekker Encyclopedia of Nanoscience and Nanotechnology*, 2005.
- C12. A.P. Newbery, C. Suryanarayana, J.A Christodoulou, B.Q. Han and E.J. Lavernia, chapter entitled “Mechanical Alloying and Severe Plastic Deformation”, in book entitled *CRC Handbook*, 2006.
- C13. B.Q. Han, J. Ye, A.P. Newbery, Y.T. Zhu, J.M. Schoenung and E.J. Lavernia, chapter entitled “Bulk Nanostructured Metals from Ball Milling and Consolidation”, in book entitled *Bulk Nanostructured Materials - BNM*, Michael J. Zehetbauer & Yuntian T. Zhu, eds., pp. 273-291, 2006.
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- C21. Todd Monson, Alexander D Dupuy, Baolong Zheng, Yizhang Zhou, Jean-Pierre Delplanque, Enrique Lavernia, and Julie M Schoenung, chapter entitled “Consolidation and Behavior of FeCoV Soft Magnetic Materials via Spark Plasma Sintering”, in book entitled *Spark Plasma Sintering of Materials - Advances in Processing and Applications*, Springer, 2018.

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- I2. E.J. Lavernia, J. Jacob and Y.C. Han, “Economic Modeling of Rapid Solidification Processes”, *Quantitative Modeling of Materials, Processing and Markets*, M.I.T. Symposium, Cambridge, MA, October 23, 1986.
- I3. E.J. Lavernia and N.J. Grant, “Recent Developments in the Spray Deposition of Alloys Using the Liquid Dynamic Compaction Technique”, *Proceedings of the Sixth International Conference on Rapidly Quenched Metals*, Montreal, Canada, August 3-7, 1987.
- I4. E. Gutierrez and E.J. Lavernia, “A Mathematical Model of the Liquid Dynamic Compaction Process”, *M.I.T. Symposium on Atomization Processing*, Cambridge, MA, August 20-21, 1987.
- I5. E.J. Lavernia, J. Baram and N.J. Grant, “Developments in Gas Atomization and Spray Deposition”, *Metal Powder Report*, pp. 688-695, October 1987.
- I6. E.J. Lavernia, “Spray Deposition Processing of Aluminum Lithium Alloys”, *Proceedings of the Fourth Israel International Materials Engineering Conference-I.M.E.C. IV*, Beer-Sheva, Israel, 7-8, pp. 79-86, December 1988.
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- I8. E.J. Lavernia, “Manufacturing of Particulate Reinforced MMCs using Spray Processes”, *Proceedings of the Symposium on Metal Matrix Composites*, The Society of Manufacturing Engineers, Anaheim, CA, November 14, 1990.

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- I21. M.L. Lau, H.G. Jiang and E.J. Lavernia, "Synthesis and Characterization of Nanocrystalline 316-Stainless Steel Coatings by High Velocity Oxy-Fuel Spraying", *Proceedings of 15th International Thermal Spray Conference*, C. Coddett, ed., Vol. 1, pp. 379-384, Nice, France, May 25-29, 1998.
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 - I24. Q. Xu and E.J. Lavernia, "Fundamentals of the Spray Forming Process", Plenary Lecture, *Proceedings of the First International Conference on Atomization and Spray Deposition*, pp. 17-36, Bremen, Germany, June 26-28, 2000.
 - I25. E.J. Lavernia, Y. Wu, Q. Xu and T.S. Srivatsan, "Synthesis and Microstructural Evolution of Particulate-Reinforced Metal Matrix Composites by the Technique of Spray Atomization and Deposition", *International Conference, Workshop and Exhibition on Advances in Composites-2000, Composites for the Next Millennium and published in the proceedings*, E.S. Dwarakadasa, ed., Bangalore, India, August 24-26, 2000.
 - I26. L. Ajdelsztajn, J. He, G.E. Kim, V. Provenzano, E.J. Lavernia and J.M. Schoenung, "Nanocrystalline MCrAlY Bond Coat for Thermal Barrier Coating Applications", *Symposium proceedings: Surface Engineering in Materials Science II, 2003 TMS Annual Meeting*, S. Seal, N.B. Dahotre, J. Moore, A. Agarwal and S. Suryanarayana, eds., San Diego, CA, March 2-6, 2003.
 - I27. Y. Lin, Y. Zhou, and E.J. Lavernia, "Spray Forming: An Energy Saving and Process Efficient Technique", *TMS 2003, 132 Annual Meeting and Exhibition*, San Diego, CA, March 2-6, 2003.
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 - I29. K.H. Chung, D.H. Shin and E.J. Lavernia, "The Effects of Equal Channel Angular Pressing on Microstructure and Tensile Properties of Spray Deposited Al-Cu-Mg Alloy", *Symposium on Processing of Structural Nanomaterials - III at the 2003 Materials Science and Technology*, Chicago, IL, November 9-12, 2003.
 - I30. D.B. Witkin and E.J. Lavernia, "Processing-Controlled Mechanical and Microstructures of Bulk Cryomilled Aluminum-Magnesium Alloys", *Symposium on Processing of Structural Nanomaterials - V at the 2003 Materials Science and Technology 2003*, Chicago, IL, November 9-12, 2003.
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- I32. Z. Lee, D.B. Witkin, E.J. Lavernia and S.R. Nutt, "Bimodal Structured Bulk Nanocrystalline Al-7.5Mg", *Symposium Proceedings Volume 791, MRS Fall 2003 Meeting*, Boston, MA, December 1-5, 2003.
- I33. E.J. Lavernia, "Cryomilled Nanostructured Alloys", *AVT-122 Specialist Meeting on Nanomaterial Technology for Military Vehicle Structural Applications*, Granada, Spain, October 3-4, 2005.
- I34. A.P. Newbery, S.R. Nutt and E.J. Lavernia, "Multi-Scale Al 5083 for Military Vehicles with Improved Performance", *JOM*, Vol. 58, pp. 56-61, April 2006.¹
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- I36. L. Ajdelsztajn, A. Zuniga, B. Jodoin, and E.J. Lavernia, "Cold Spray Processing of a Nanocrystalline Al-Cu-Mg-Fe-Ni Alloy with Sc", *Journal of Thermal Spray Technology*, Vol. 15, No. 2, pp. 184-190, June 2006.³
- I37. E.J. Lavernia, B.Q. Han and J.M. Schoenung, "Cryomilled Nanostructured Materials: Processing and Properties", *2007 TMS Presentation*, Orlando, FL; *Materials Science and Engineering A*, Vol. 493, No. 1-2, pp. 207-214, October 2008.⁴

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- B1. E.J. Lavernia: Review of the Book *Toughened Composites*, N.L. Johnson, ed., *Materials and Manufacturing Processes*, Vol. 4, No. 3, pp. 461-462, 1989.
- B2. E.J. Lavernia: Review of the Book *Superplasticity in Aerospace*, H.C. Heikkenen and T.R. McNelley, eds., *Materials and Manufacturing Processes*, Vol. 4, No. 4, pp. 619-620, 1989.
- B3. E.J. Lavernia and J. Wolfenstine: Review of the Book *Superplasticity and Superplastic Forming*, C.H. Hamilton and N.E. Paton, eds., *Materials and Manufacturing Processes*, Vol. 5, No. 1, pp. 233-234, 1989.
- B4. E.J. Lavernia: Review of the Book *Cast Reinforced Metal Composites*, S.G. Fishman and A.K. Dhingra, eds., *Materials and Manufacturing Processes*, 1990.
- B5. E.J. Lavernia: Review of the Book *Structural Composites: Design and Processing Technologies*, *Materials and Processing Report*, Vol. 5, No. 11, p. 12, 1991.
- B6. E.J. Lavernia: Review of the Book *Science of Advanced Materials*, *Materials and Processing Report*, Vol. 6, No. 2, p. 9, May 1991.
- B7. E.J. Lavernia: Review of the Book *Structural Applications of Mechanical Alloying*, *Materials and Processing Report*, Vol. 6, No. 6, p. 9, pp. 12-13, September 1991.

¹ See Journal Papers entry J386

² See Journal Papers entry J387

³ See Journal Papers entry J388

⁴ See Journal Papers entry J400

- B8. M. Gupta and E.J. Lavernia: Review of the Book *Advanced Structural Materials*, Materials Technology, Vol. 8, No. 7/8, p. 9, pp. 166-167, July/August 1993.
- B9. E.J. Lavernia: Review of the Book *X-ray Diffraction-A Practical Approach*, by C. Suryanarayana and M. Grant Norton, *Materials Science and Engineering A*, 1999.

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- E1. E.J. Lavernia, H. Henein and I. Anderson, *Synthesis and Analysis in Materials Processing: Advances in Characterization and Diagnostics of Ceramic and Metal and Ceramic Materials*, The Metallurgical Society, Warrendale, PA, 1990; 95 pages.
- E2. E.J. Lavernia and M. Gungor, *Microstructural Design by Solidification Processing*, The Metallurgical Society, Warrendale, PA, 1990; 251 pages.
- E3. M. Gungor, E.J. Lavernia and S.G. Fishman, *Advanced Metal Matrix Composites for Elevated Temperature Applications*, American Society for Metals, Metals Park, Ohio, 1991; 219 pages.
- E4. J. Moore, E.J. Lavernia and S. Froes, *International Conference on the Synthesis of Engineered Structural Materials*, American Society for Metals, Metals Park, Ohio, 1993; 150 pages.
- E5. T.S. Srivatsan and E.J. Lavernia, *Processing, Fabrication and Manufacturing of Metal Matrix Composites*, American Society of Mechanical Engineers, New York, NY, 1993; 265 pages.
- E6. E. Chen, A. Crowson, E.J. Lavernia, W. Ebihara and P. Kumar *Tantalum*, TMS, Anaheim, CA, 1996; 348 pages.
- E7. S.P. Marsh, J.A. Dantzig, R. Trivedi, W. Hofmeister, M.G. Chu, E.J. Lavernia and J.-H. Chun, *Solidification 1998*, Solidification Committee of the Materials Design and Manufacturing Division of TMS, Indianapolis, IN, 1997, and San Antonio, TX, 1998; 532 pages.
- E8. L. Greer, M.L. Atzmon, L. Battezzati, M. Umemoto and E.J. Lavernia, *International Journal of Non-Equilibrium Processing*, Vol. 10, No. 2, 1997.
- E9. M. Koiwa, G. Kostorz and C.C. Koch, *Materials Science & Engineering A*, Vol. 244, No. 1, March 31, 1998; L.L. Shaw, E.J. Lavernia, S. Krishnamurthy and W.S. Chen, eds.
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- E11. J.R. Groza, J.F. Shackelford, E.J. Lavernia and M.T. Powers, *Materials Processing Handbook*, CRC Press, Taylor & Francis Group, 2007.

Invited Lectures and Seminars in over 17 countries

- L1. "The Potential of Liquid Dynamic Compaction for Composite Fabrication", lecture presented at the Materials Processing Center Workshop on Processing, Structure, Properties and Performance of Metal Matrix Composites, M.I.T., MA, May 8, 1985.
- L2. "The Effect of Processing Parameters on Atomization", lecture presented at the Rapid Solidification Symposium offered during the Independent Activities Period, M.I.T., MA, January 9, 1986.

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- L3. "Liquid Dynamic Compaction of High Strength Aluminum Alloys", lecture presented at Pechiney Research and Development Center, Voreppe, France, April 15, 1986.
 - L4. "Liquid Dynamic Compaction: A Rapid Solidification Technique", lecture presented at Vacuumschmelze, GMBH, Hanau, West Germany, April 21, 1986.
 - L5. "The Effects of Processing Parameters on the Mechanical Behavior of Al and Fe Based Alloys Processed by LDC", lecture presented at Centro Sperimentale Metallurgico, Rome, Italy, September 9, 1986.
 - L6. "A Mathematical Model of the Heat Flow Behavior During Liquid Dynamic Compaction of Aluminum Alloys", lecture presented at the Ben Gurion University of the Negev, Beer-Sheeva, Israel, February 3, 1987.
 - L7. "Structure and Properties of High Strength Aluminum Alloys Produced by the Liquid Dynamic Compaction Technique", lecture presented at the Technion Institute, Haifa, Israel, February 5, 1987.
 - L8. "Liquid Dynamic Compaction: A Novel Materials Technology", lecture presented at the Swedish Institute for Metals Research, Stockholm, Sweden, November 18, 1987.
 - L9. "Liquid Dynamic Compaction", lecture presented at Helsinki University of Technology, Otaenimi, Finland, November 20, 1987.
 - L10. "Advanced Materials by Spray Atomization and Deposition", lecture presented at Outokumpu OY, Pori, Finland, November 23, 1987.
 - L11. "Atomization and Spray Deposition of Metals", lecture presented at the Materials Science and Technology Division of the Naval Research Laboratory, Washington D.C., June 22, 1988.
 - L12. "The Use of Spray Atomization Technology for the Production of Metal Matrix Composites", lecture presented at the Advanced Composite Materials Corporation, Greer, SC, July 21, 1988.
 - L13. "Microstructural Evolution during Spray Atomization and Deposition", lecture presented at Ritsumeikan University, Kyoto, Japan, November 1, 1988.
 - L14. "Advanced Processing of Materials", seminar on High Density Powder Metallurgy, Materials Processes and Applications, Metal Powder Industries Federation, March 17-19, 1989.
 - L15. "Solidification Behavior of Al-Li -SiCp Materials using Co-Deposition of Multi -Phase Materials", lecture presented at the symposium on "Metal Spray Deposition - Theory, Applications and Manufacturing Technology, David Taylor Research Center, Annapolis, MD, March 16, 1990.
 - L16. "Composite Manufacturing Research", lecture presented at the Western Metal & Tool Exposition & Conference, WESTEC 1990, Los Angeles, CA, March 28, 1990.
 - L17. "Interfacial Behavior during Processing of Metal Matrix Composites", lecture presented at the International Conference on Fifty Years of Evolution of Metallurgy, Calcutta, India, April 9, 1990; also presented at the Indian Institute of Science, Bangalore, April 7, 1990.

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- L18. "Solidification Mechanisms during Spray Atomization and Co-Deposition", lecture presented at the Department of Applied Mechanics and Engineering Science, University of California, San Diego, February 4, 1991.
 - L19. "The Effects of Processing Conditions on the Distribution of Ceramic Reinforcements during Spray Atomization and Co-Deposition", lecture presented at the Department of Materials Science and Engineering, Case Western Reserve University, Cleveland, OH, January 31, 1991.
 - L20. "Non-Equilibrium Processing of Advanced Structural Materials", lecture presented at the 27th National Heat Transfer Conference & Exposition, Minneapolis, MN, July 28-31, 1991.
 - L21. "Reactive Spray Processing of Metal Matrix Composites", lecture presented at the Aluminum Company of America Technical Center, Pittsburgh, PA, October 25, 1991.
 - L22. "Microstructural Mechanisms in Deposition Processes", lecture presented at the AFOSR/ONR Workshop on Innovative Processing of Intermetallic Materials and Metal Matrix Composites, Cornell University, Aurora, N.Y., May 18-20, 1992.
 - L23. "Rapid Solidification by the Twin-Fluid Atomization Technique", invited lecture presented at the II International Conference on Materials Science and sponsored by the National Academy of Materials Scientists, Cancun, Mexico, September 20-25, 1992.
 - L24. "Numerical Modeling of Reactive Spray Processing of Metal Matrix Composites", lecture presented at the Aluminum Company of America Technical Center, Pittsburgh, PA, November 21, 1992.
 - L25. "Interactions between Droplets and Ceramic Particulates", lecture presented at the Fall TMS Meeting, Chicago, IL, 1993.
 - L26. "The Science and Technology of Discrete Droplet Processing", lecture presented at Seoul National University, First International Materials Science Symposium, organized by the National Science Foundation and the Korean Science Foundation Seoul, Korea, December 7-9, 1993.
 - L27. "Fundamentals of Microstructure during Spray Deposition of Composite Materials", lecture presented at Pohang Science and Technology University, Pohang, Korea, December 10, 1993.
 - L28. "Metal-Ceramic Interactions during Discrete Droplet Processing", lecture presented at the Symposium on Plasma Spraying, TMS Annual Meeting, Denver, CO, February 24, 1993.
 - L29. "Microstructure Evolution during Spray Processing of Metal Matrix Composites", lecture presented at NASA Langley Metallic Materials Division, Langley, VA, March 18, 1993.
 - L30. "Numerical Modeling of Reactive Spray Processing", lecture presented at the Reynolds Company, Richmond, VA, March 19, 1993.
 - L31. "Reactive Spray Processing for Dispersion Strengthened Materials", lecture presented at the Department of Applied Mechanics and Engineering Science, University of California, San Diego, April 23, 1993.

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- L32. “Numerical Modeling of Reactive Spray Processing of Structural Composites”, lecture presented at the Department of Materials Science and Engineering, University of California, Los Angeles, April 30, 1993.
 - L33. “Numerical Modeling of Reactive Spray Processing of Structural Composites”, lecture presented at the Department of Materials Science and Engineering of the Ohio State University, May 28, 1993.
 - L34. “Modeling of Spray Processing of Structural Composites”, lecture presented at the Department of Mechanical Engineering, Nihon University, Chiba, Japan, July 8, 1993.
 - L35. “Recent Developments in the Spray Processing of Structural Materials”, lecture presented at the Science and Technology Research Center, Kobe Corp., Kobe, Japan, July 9, 1993.
 - L36. “Spray Deposited Materials: Microstructure, Properties and Applications”, lecture presented at the Beijing Institute of Aeronautical Materials, Beijing, China, July 19, 1993.
 - L37. “Fundamental Transport Phenomena during Spray Atomization and Deposition”, lecture presented at the Beijing Institute of Aeronautical Materials, Beijing, China, July 19, 1993.
 - L38. “Fundamentals of Ceramic-Droplet Interactions during Spray Atomization and Deposition”, lecture presented at the Beijing Institute of Aeronautical Materials, Beijing, China, July 20, 1993.
 - L39. “In-Situ Metal Matrix Composites by Spray Atomization”, lecture presented at the Beijing Institute of Aeronautical Materials, Beijing, China, July 20, 1993.
 - L40. “Spray Atomization and Deposition Processing of Metal Matrix Composites”, lecture presented at the Beijing Institute of Aeronautical Materials, Beijing, China, July 21, 1993.
 - L41. “Damping Mechanisms in Metal Matrix Composites”, lecture presented at the Beijing Institute of Aeronautical Materials, Beijing, China, July 21, 1993.
 - L42. “Rapidly Solidified Aluminum Alloys by Spray Atomization and Deposition”, lecture presented at the Institute of Metals Research, Academia Sinica, Shenyang, China, July 23, 1993.
 - L43. “Spray Deposition of Metal Matrix Composites” and “Rapidly Solidified Aluminum Alloys by Spray Atomization and Deposition”, lectures presented at the Institute of Metals Research, Academia Sinica, Shenyang, China, July 23, 1993.
 - L44. “Damping Mechanisms in Metal Matrix Composites”, lecture presented at the Department of Mechanical Engineering and Applied Mechanics, University of Michigan, October 22, 1993.
 - L45. “Numerical Simulation of Microporosity Evolution during Droplet Impingement”, lecture presented at the Sandia National Laboratories, Albuquerque, NM, January 21, 1994.
 - L46. “Spray Atomization and Deposition of Elevated Temperature Materials”, lecture presented at the Ford Research Center, Dearborn, MI, July 15, 1994.
 - L47. “Spray Atomization and Deposition: An Overview”, invited lecture presented at the Alcoa Technical Center, Alcoa Center, PA, July 16, 1994.

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- L48. "Spray Atomization and Deposition Processing of MMCs", invited lecture presented at the III International Conference on Materials Science, sponsored by the National Academy of Materials Scientists (Mexico), Cancun, Mexico, September 26-29, 1994.
- L49. "Damping Mechanisms in Spray Deposited MMCs", invited lecture presented at the 31st Annual Meeting of the Society of Engineering Science, Texas A&M University, Texas, October 10, 1994.
- L50. "Interaction Mechanisms in Metal Matrix Composites", lecture presented at the Chinese MRS meeting, Beijing, China, November 14, 1994.
- L51. "Fundamentals of Spray Atomization and Deposition", lecture presented at the Shanghai Iron and Steel Research Institute, Shanghai, China, November 16, 1994.
- L52. "Discontinuously Reinforced Metal and Intermetallic Matrix Composites", lecture presented at the Golden Gate Materials Technology Conference, San Francisco, CA, February 1-3, 1995.
- L53. "Mechanisms of Interaction between Atomized Droplets and Ceramic Particulates", lecture presented at the Department of Mechanical Engineering and Department of Materials Science and Engineering, Carnegie Mellon University, May 19, 1995.
- L54. "Superplastic Behavior of Spray Atomized Aluminum Alloys", lecture presented at NASA Langley Research Center, Hampton, VA, June 15, 1995.
- L55. "Processing of Composite Materials using Spray Methods", lecture presented at ASM International San Fernando Chapter, San Jose, CA, January 10, 1996.
- L56. "Transport Phenomena in Processing of Composite Materials using Spray Methods", lecture presented at Stanford University, Palo Alto, CA, February 21, 1996.
- L57. "Influence of Particle Co-Injection on Droplet Behavior during Nucleation", lecture presented at University of Southern California, Los Angeles, CA, October 25, 1996.
- L58. "Droplet Ceramic Interactions during Processing of MMCs", lecture presented at University of California, Davis, CA, November 18, 1996.
- L59. "Thermal Spraying of Nanocrystals", lecture presented in the Department of Materials Science and Engineering, University of Washington, Seattle, WA, April 22, 1997.
- L60. "Transport Phenomena during Droplet Processes", lecture presented in the Department of Materials Science and Engineering, Cambridge University, England, June 9, 1997.
- L61. "Transport Phenomena in Droplet Based Manufacturing Processes", lecture presented at Composite Materials: Issues in Processing and Mechanics, Mexcalero, NM, October 5-8, 1997.
- L62. "Transport Phenomena in Droplet Based Manufacturing Processes", conference proceedings, MRS 1997 Fall Meeting, Boston, MA, December 1-5, 1997.
- L63. "Fundamentals of Droplet Processes", lecture presented at the Beijing University of Science and Technology, Beijing, China, April 24, 1998.

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- L64. "Synthesis of Nanostructured Engineering Coatings by High Velocity Oxygen Fuel (HVOF) Thermal Spraying", lecture presented at 216th ACS National Meeting & Exposition, Boston, MA, August 23-28, 1998.
- L65. "Manufacture of Metal Matrix Composite Materials using Droplet Based Processes", lecture presented at ASM International, Orange Coast Chapter Meeting, Boeing, Huntington Beach, CA, September 15, 1998.
- L66. "Synthesis of Nanostructured Engineering Coatings by High Velocity Oxygen Fuel (HVOF) Thermal Spraying", lecture presented at ASM International Materials Solutions Conference, Rosemont, IL, October 12-15, 1998.
- L67. "Fundamentals of HVOF Thermal Spraying of Ultra-Hard Nanocrystalline Coatings", lecture presented at The 43rd Annual Conference on Magnetism & Magnetic Materials, Miami, FL, November 9-12, 1998.
- L68. "Fundamentals of Droplet Based Processes", lecture presented at California Institute of Technology, Pasadena, CA, November 19, 1998.
- L69. "Atomization Fundamentals", lecture presented at New Horizons in Materials Science Conference, Tlaxcala, Mexico, January 27-30, 1999.
- L70. "Thermal Behavior of Nanostructured Materials", lecture presented at US Naval Postgraduate School, Monterey, CA, March 12, 1999.
- L71. "HVOF Thermal Spraying of Nanocomposite Coatings", lecture presented at Nanocomposite Materials: Design and Applications, Anchorage, AK, March 28-April 2, 1999.
- L72. "Nanostructured Coatings", lecture presented at ASM International Roundtable Discussion on Nanostructured Materials, Northridge, CA, May 21, 1999.
- L73. "Thermal Spraying of Nanocrystalline Materials", lecture presented at 44th Sagamore Conference on Nanostructured Materials, sponsored by US-Army Research Office, Easton, MD, August 23-26, 1999.
- L74. "Pattern Optimization during Spray Forming", lecture presented at Ford Motor Co., Detroit, MI, September 7, 1999.
- L75. "Spray Forming of Metal Matrix Composites", lecture presented at Particulate-Reinforced Metal Matrix Composites for Aerospace Applications Workshop, sponsored by Air Force Research Laboratory, Dayton, OH, September 8-10, 1999.
- L76. "Thermal Spraying of Nanocrystals", lecture presented at the Materials Science and Engineering and Mechanical Engineering Departments, University of Southern California, CA, October 22, 1999.
- L77. "Thermal Spraying of Nanostructured Systems", lecture presented at the Materials Science and Engineering and Mechanical Engineering Departments, University of Santa Maria, Center for Naval Studies, Valparaiso, Chile, December 3, 1999.

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- L78. "Properties and Synthesis of Nanostructured Systems", lecture presented at the Materials Science and Engineering and Mechanical Engineering Departments, National University of Chile, Santiago, Chile, December 6, 1999.
- L79. "Spray Forming of Metal Matrix Composites for Automotive Applications", lecture presented at the Annual Meeting of Automotive Engineering Society, Newport Beach, CA, February 25, 2000.
- L80. "Properties and Synthesis of Nanostructured Systems", lecture presented at the Symposium entitled: *Ultra Fine-Grained Materials*, TMS Annual Meeting, Nashville, TN, March 2000.
- L81. "Synthesis of Nanocomposites Coatings", lecture presented at the Symposium entitled: *Surface Engineering in Materials Science*, TMS Annual Meeting, Nashville, TN, March 2000.
- L82. "Fundamentals of the Spray Forming Process", Plenary Lecture, in Conference Proceedings of the *First International Conference on Atomization and Spray Deposition*, pp. 17-36, Bremen, Germany, June 26-28, 2000.
- L83. "Thermal Spraying of Nanocrystalline Materials: Fundamental Issues", lecture presented at Iketani Foundation International Meeting on Frontiers in Materials, Ritsumeika, Japan, June 30, 2000.
- L84. "Synthesis and Microstructural Evolution of Particulate-Reinforced Metal Matrix Composites by the Technique of Spray Atomization and Deposition", lecture presented at the International Conference, Workshop and Exhibition on Advances in Composites-2000, Composites for the Next Millennium, and published in the proceedings, Prof. E.S. Dwarakadasa, ed., Bangalore, India, August 24-26, 2000.
- L85. "Nanostructured Materials: Coatings and Bulk Materials", lecture presented at NASA Langley, Norfolk, VA, October 6, 2000.
- L86. "Synthesis and Behavior of Nanostructured Coatings", lecture presented at the Materials Science and Engineering Department, University of Michigan, MI, October 17, 2000.
- L87. "Science and Application of Nanostructured Coatings", lecture presented at the NanoMaterials Workshop, CNRS-NSF, France-USA-Canada, Montreal, Canada, October 24, 2000.
- L88. "Mathematical Modeling of HVOF Spraying of Nanostructured Materials: An Overview", lecture presented at 2000 ASME meeting, Orlando, Florida, November 7, 2000.
- L89. "Fundamental Concepts and Potential Applications of Spray Forming", lecture presented at the Japan Institute of Light Metals, Special Issue on Science and Technology of Light Materials in the 21st Century, Vol. 50, No. 10, pp. 479-485, 2000.
- L90. "Thermal Spraying of Nanocrystalline Systems: Fundamental Issues", lecture presented at the Materials Science and Engineering Department, Northwestern University, IL, February 20, 2001.
- L91. "The Future of Nanotechnology: A Vision Statement", Plenary Speaker for the NEXT Initiative, National Science Foundation, February 21, 2001.
- L92. "Mathematical Modeling and Behavior of Nanostructured Materials: An Overview", lecture presented at the Materials Science and Engineering Department, Hangyan University, Seoul, South Korea, April 25, 2001.

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- L93. “Nanocrystalline Systems: Fundamental Issues”, lecture presented at the Annual Meeting, Korean Materials Society, Pusan, South Korea, April 26, 2001.
- L94. “Solid State Alloying of Nanostructured Fe-Zn Binary System”, lecture presented at the 2002 TMS Annual Meeting, Seattle, WA, February 17-22, 2002.
- L95. “Microstructure, Thermal Stability and Mechanical Behavior of Cryomilled Al Alloys”, lecture presented at the 2002 TMS Annual Meeting, Seattle, WA, February 17-22, 2002.
- L96. “Nanotechnology: Coatings and Bulk Materials”, lecture presented at COPPE-Metallurgical and Materials Engineering department, Universidad Federal do Rio de Janeiro, Brazil, March 9, 2002.
- L97. “Fundamentals on the Processing and Properties of Nanocrystalline Materials”, lecture presented at the NSF Nano Workshop, Brasov, Romania, September 20- October 3, 2002.
- L98. “Nanocrystalline MCrAlY Bond Coat for Thermal Barrier Coating Applications”, lecture presented at the Symposium Proceedings: Surface Engineering in Materials Science II, S. Seal, N.B. Dahotre, J. Moore, A. Agarwal and S. Suryanarayana, eds., 2003 TMS Annual Meeting, San Diego, CA March 2-6, 2003.
- L99. “Spray Forming: An Energy Saving and Process Efficient Technique”, lecture presented at the TMS 2003, 132 Annual Meeting and Exhibition, San Diego, CA, March 2-6, 2003.
- L100. “High-Temperature Mechanical Performance of a Cryomilled Al-Mg-Sc Alloy”, lecture presented at the Conference of Hot Deformation of Aluminum Alloys, Z. Jin, A. Beaudoin, T.A. Bieler and B. Radhakrishnan, eds., TMS 2003, 132 Annual Meeting and Exhibition, San Diego, CA, March 2-6, 2003.
- L101. “Microstructural and Deformation Mechanisms in Nanostructured Metals”, lecture presented at the TMS/ASM Student Chapter and Metallurgical and Materials Engineering, University of Nevada, Reno, NV, May 2, 2003.
- L102. “Status of Nanometer Powder Production Technologies”, lecture presented at the 2003 International Conference on Powder Metallurgy & Particulate Materials, Las Vegas, NV, June 8-12, 2003.
- L103. “Synthesis of Non-Equilibrium Nanostructures”, lecture presented at the Universidad Nacional Autonoma de Mexico, Institute for Materials Research, October 23, 2003.
- L104. “The Effects of Equal Channel Angular Pressing on Microstructure and Tensile Properties of Spray Deposited Al-Cu-Mg Alloy”, lecture presented at the Symposium on Processing of Structural Nanomaterials, 2003 Materials Science and Technology, Chicago, IL, November 9-12, 2003.
- L105. “Processing-Controlled Mechanical and Microstructures of Bulk Cryomilled Aluminum-Magnesium Alloys”, lecture presented at the Symposium on Processing of Structural Nanomaterials, 2003 Materials Science and Technology, Chicago, IL, November 9-12, 2003.
- L106. “Engineering Education in the United States”, lecture presented at the Universidad Nacional de Chile, January 22, 2004.

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- L107. "Spray Rolling: Fundamental Principles and Applications", lecture presented at the Universidad Nacional de Chile, January 23, 2004.
- L108. "Cryomilled Aluminum Alloys: Ductility Mechanisms", lecture presented at the Korean Institute for Advanced technology (KITECH), Seoul, Korea, May 17, 2004.
- L109. "Cryomilled Aluminum Alloys: Ductility Mechanisms", lecture presented at the Daejong Chemical Company, Seoul, Korea, May 18, 2004.
- L110. "Deformation and Performance of Nanostructured Al", Distinguished Speaker Series, University of California, Riverside, CA, May 26, 2004.
- L111. "Synthesis and Behavior of Nanostructured Alloys" lecture presented at the Materials Innovations and Applications for National and Global Economy Symposium at the 2004 ASM Materials Solutions Conference & Exposition Meeting, Columbus, OH, October 18, 2004.
- L112. "Incremental Nanotechnology: Opportunities for DOD", lecture presented at the 2005 Nano Materials for Defense Applications Symposium, Kona, HI, January 21, 2005.
- L113. "Deformation Analysis of Nanostructured Aluminum Alloys with Bimodal Structures", lecture presented at the Plasticity 2005 Conference, Kauai, HI, January 2005.
- L114. "Incremental Nanotechnology: Opportunities for DOD", lecture presented at the 2005 Nano Materials for Defense Applications Symposium, Kona, HI, February 21-25, 2005.
- L115. "Incremental Nanotechnology: Increasing the Scale of Nano-Materials", lecture presented at the XIV International Materials Research Society Meeting, Cancun, Mexico, August 22-24, 2005.
- L116. "Mechanical Performance of Cryomilled Nanostructured Al Alloys", lecture presented at the XIV International Materials Research Society Meeting, Cancun, Mexico, August 22-24, 2005.
- L117. "Nanostructured Coatings: Research Opportunities", lecture presented at the National Science Foundation - Consejo Nacional de Ciencias y Tecnologia (Conacyt), Mexico City, Mexico, October 19, 2005.
- L118. "Nanostructured Materials, from the Microscale to the Nanoscale", lecture presented at the VIII International Nanostructured Materials conference, Bangalore, India, August 20-25, 2006.
- L119. "Mechanical Behavior of Nanostructured Al Alloys", lecture presented at Sandia National Laboratories, Sandia, CA, November 8, 2006.
- L120. "Nanostructured Materials", lecture presented at Wuhan University of Science and Technology, Wuhan, China, November 20, 2006.
- L121. "From the Nanoscale to the Microscale", lecture presented at Waikato University, ICAMP-IV, December 11, 2006.
- L122. "Incremental Nanotechnology for Structural Materials", lecture presented at Savannah River National Laboratories, South Carolina, February 14, 2007.

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- L123. “Mechanical Properties and Microstructure Evolutions of ECAPed Ultrafine Grained Al during Low Temperature Annealing”, lecture presented at the 2008 TMS Annual Meeting, New Orleans, LA, 2008.
- L124. “Strategies for Improving Ductility in Nanostructured Metals”, lecture presented at the 2008 TMS Annual Meeting, New Orleans, LA, 2008.
- L125. “Strategies for Improving Ductility in Nanostructured Ni and Ti”, lecture presented at the 5th International Conference on Advanced Materials and Processes, Harbin, China, September 3, 2008.
- L126. “Multimodal Microstructures: A Novel Strategy for Nanostructured Ni and Ti”, lecture presented at the Nanomaterials Symposium, 2009 TMS Annual Meeting, San Francisco, CA, February 16, 2009.
- L127. “Nanostructured Materials: From the Nanoscale to the Microscale”, lecture presented at School of Materials, Arizona State University, AZ, March 13, 2009.
- L128. “Nanostructured Metals: Deformation Behavior with Multiple Length Scales”, lecture presented at joint seminar series, Mechanical and Aerospace Engineering and Chemical Engineering and Materials Science Departments, University of California, Irvine, CA, March 10, 2010.
- L129. “Deformation Mechanisms in Multiscale Nanostructured Materials”, lecture presented at Ultrafine Grained Materials - Sixth International Symposium, 2010 TMS Annual Meeting, Seattle, WA, February 16, 2010.
- L130. “Multiscale Materials: Recent Results with Ti and Cu”, lecture presented at 47th Sagamore Army Materials Research Conference, St. Michaels, MD, June 15, 2010.
- L131. “Mechanical Properties and Deformation in Multi-Scale Nanostructured Materials”, lecture presented at the X International Conference on Nanostructured Materials, Rome, Italy, September 13-17, 2010.
- L132. “Effect of Grain Boundary Misorientation on Electrochemical Corrosion of Bulk UFG Al5083 in a Neutral Chloride Solution”, lecture presented at the MRS Symposium T: Nanostructured Materials in Harsh Environments, 2010 MRS Fall Meeting, Boston, MA, November 29- December 3, 2010.
- L133. “From the Microscale to the Nanoscale: Deformation of Nanocrystalline NiFe under Dynamic and Cyclic Loading”, lecture presented at the Symposium in Honor of Professor Reza Abbaschian: Processing, Crystal Growth and Phase Equilibrium of Advanced Materials, Materials Science and Technology 2010, Houston, TX, October 17-20, 2010.
- L134. “Boron Carbide Reinforced Ultrafine-Grained Aluminum Composites”, lecture presented at the symposium entitled High Strain Rate Behaviors of Composites and Heterogeneous Materials: Experiments, Modeling, and Simulation: Trimodal Composites, Materials Science and Technology 2010, Houston, TX, October 17-20, 2010.
- L135. “Nanostructured Metals: Deformation from the Nanoscale to the Microscale”, lecture presented at Los Alamos National Laboratories, Albuquerque, NM, November 12, 2010.

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- L136. “Ductility and Strategies for Improving Ductility of Bulk Nanostructured Materials”, lecture presented at the Symposium 2011 Functional and Structural Nanomaterials: Fabrication, Properties, Applications and Implications, TMS 2011, San Diego, CA, February 26-March 3, 2011.
- L137. “Nanostructured Materials: from the Nanoscale to the Microscale”, lecture presented at 20th Technical Meeting Mechanical Behaviour of Nanomaterials, Metallic Glasses and Architecturally Designed Materials, DYMAT, Paris, France, September 7, 2011.
- L138. “Nanostructured Metals: Synergy between Multiple Scales”, lecture presented at the symposium Integrative Materials Design: Performance and Sustainability, TMS 2012, Orlando, FL, March 11-15, 2012.
- L139. “Nanostructured Metals: Synthesis and Behavior from the Nanoscale to the Microscale”, lecture presented at the symposium Randall M. German Honorary Symposium on Sintering and Powder-Based Materials, TMS 2012, Orlando, FL, March 11-15, 2012.
- L140. “Nanostructured Materials: Grain Growth Behavior during Cosolidation”, lecture presented at the MDI Summer Research Group Workshop, Advanced Manufacturing, Los Alamos National Laboratory, Los Alamos, NM, July 25-26, 2012.
- L141. “The Role of Technology in Engineering Education: Challenges, Opportunities, and Personal Perspectives”, lecture presented at the Society of Hispanic Professional Engineers Conference, Fort Worth, TX, November 14-16, 2012.
- L142. “Ethnic Diversity in Materials Science & Engineering”, Dean’s Panel lecture, National Science Foundation Workshop on Ethnic Diversity in Materials Science and Engineering, Washington, D.C., December 9-10, 2012.
- L143. “Nanostructured Materials: From the Nanoscale to the Microscale”, lecture presented at Wuhan University of Technology, Wuhan, China, January 8-11, 2013.
- L144. “Knowledge, Network and Nations: The Role of Science Information”, lecture presented at Wuhan University of Technology, Wuhan, China, January 8-11, 2013.
- L145. “Deformation Mechanisms at Multiple Length Scales”, lecture presented at Chongqing University, Chongqing, China, January 7, 2013.
- L146. “Incremental Nanotechnology for Structural materials”, lecture presented at Materials Science and Technology 2013, Montreal, Quebec, Canada, October 27-31, 2013.
- L147. “Nanostructured Materials: From the Nanoscale to the Microscale”, lecture presented at Nara Institute of Science and Technology (NAIST) International Symposium, Awaji-city, Hyogo, Japan, November 12-14, 2013
- L148. “Grain Growth in Nanocrystalline and Ultra-Fine Grained Materials”, Plenary lecture, 5th International Symposium on Advanced Ceramics (ISAC-5) and 3rd International Symposium on Advanced Synthesis and Processing Technology for Materials (ASPT2013), Wuhan, China, December 9-12, 2013.
- L149. “Influence of length scales on deformation and strengthening in metals”, lecture presented at Nanomaterials Center, University of Central Florida, Orlando, FL, January 29, 2014.

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- L150. “Grain Growth in Nanocrystalline and Ultra-Fine Grained materials”, lecture presented at Hearst Memorial Mining Building, UC Berkeley, CA, April 3, 2014.
- L151. “Grain Growth in Nanocrystalline and Ultra-Fine Grained materials”, lecture presented during research visit, Wuhan, China, April 16, 2014.
- L152. “Deformation mechanisms in Mg”, lecture presented at E.J. Lavernia 1000-Talent Professor Ceremony, Whhan University of Technology, Whhan, China, August 20, 2014.
- L153. “Grain Growth in Nanocrystalline and Ultra-Fine Grained Materials”, lecture presented at the 15th International Conference on Rapidly Wuenched and Metastable Materials (RQ15), Shanghai, China, August 24-28, 2014.
- L154. “Perspectives on Materials Education at UC Davis,” lecture presented at Shanghai Jiao Tong University Materials Leader Forum No. 1: Frontiers of Materials Education, Shanghai, China, August 29, 2014.
- L155. “Mechanisms of Microstructure Evolution in Nanocrystalline and Ultrafinegrained Materials,” lecture presented at ISPMA13, 13th International Symposium on Physics of Materials, Prague, Czech Republic, August 31-September 4, 2014.
- L156. “Coupling of Dislocations and Precipitates: Impact on the Mechanical Behavior of Al 7xxx Alloys,” lecture presented at the Society of Engineering Science (SES) 51st Annual Technical Meeting, Purdue University, West Lafayette, Indiana, October 1-3, 2014.
- L157. “Influence of Length Scale on Mechanical Properties of Multilayered Nanocrystalline Ni-Fe at Elevated Temperatures,” lecture presented at the International Workshop on Advanced Sythesis and Processing Technology for Films and Coatings, Wuhan University of Technology, Wuhan, China, May 23, 2015.
- L158. “Mechanisms in Multi-Scale Metals and Composites,” lecture presented at South China University of Technology, Guangzhou, China, May 27, 2015.
- L159. “Design and Mechanical Behavior of Single-Phase Nanocrystalline $\text{Co}_{25}\text{Fe}_{25}\text{Ni}_{25}\text{Al}_{7.5}\text{Cu}_{17.5}$ High-Entropy Alloy with Ultra-High Strength,” lecture presented at Wuhan University of Technology, Wuhan, China, December 3, 2015.
- L160. “Nanostructured Metals and Composites: From the Nanoscale to the Microscale”, Plenary lecture, The XXV International Materials Research Congress, Cancun, Mexico, August 14-19, 2016.
- L161. “Single-Phase and Multi-Phase Nanocrystalline High-Entropy Alloys,” lecture presented at Northeastern Politechnic University, Xian, China, September 26th, 2016.
- L162. “Grain Growth Behavior, from the Microscale to the Nanoscale,” lecture presented at 5th Chian-France Symposium on Advanced Materials, Wuhan University of Technology, Wuhan, China, September 27th, 2016.
- L163. “High Entropy Alloy Research, state-of-the-field,” lecture presented at 3rd Pan American Congress, TMS Meeting, san Diego, CA, February 26, 2017.

- L164. "Recent Progress in High Entropy Alloy Research," lecture presented at Wuhan University of Technology, Wuhan, China, April 11, 2017.
- L165. "Laser Powder Injection Additive Manufacturing," lecture presented at Beijing Institute of Aeronautical Materials, BIAM, Beijing, China, April 13, 2017.
- L166. "Fine-grained Sputtering Target Materials via Rapid Solidification and Powder Metallurgy", lecture presented at the the International Workshop on Advanced Synthesis and Processing Technology for Films and Coatings at Wuhan University of Technology, Wuhan, China, January 16, 2018.
- L167. "Synthesis of nanostructured ferroic materials for energy conversion", lecture presented at the Materials Science & Technology 2018 Meeting, Columbus, OH, October 14-18, 2018.

Lectures, Seminars and Posters

- O1. J.M. Schoenung, E.J. Lavernia and Y. Xiong, "Investigation of Tungsten Carbide and Titanium Carbide based Cermets and Relevant Manufacturing Cost Analysis", presentation at the 2008 NSF Engineering Research and Innovation Conference, Knoxville, TN, 2008.
- O2. T.D. Topping, B. Ahn, Y. Zhao, S.R. Nutt and E.J. Lavernia, "Characterization of a Large Plate Consolidated from Cryomilled Al 5083 Powder", poster presented at TMS 2009, San Francisco, CA, February 15-19, 2009.
- O3. O. Ertorer, T.D. Topping, Y. Li and E.J. Lavernia, "Cryomilled Commercially Pure Titanium with High Strength and Ductility", poster presented at TMS 2009, San Francisco, CA, February 15-19, 2009.
- O4. F. Chen, Y. Li, W. Liu, Q. Shen, L. Zhang, Q. Jiang, E.J. Lavernia and J.M. Schoenung, "Synthesis of Single-Crystalline Silicon Nitride Nanowires with Controlled Diameters by Nitriding Cryomilled Nanocrystalline Silicon Powder", poster presented at TMS 2009, San Francisco, CA, February 15-19, 2009.
- O5. T.D. Topping, P. Newbery, B. Ahn, S.R. Nutt and E.J. Lavernia, "The Effect of HIP Temperature on a Cryomilled Al Alloy", poster presented at TMS 2009, San Francisco, CA, February 15-19, 2009.
- O6. W. Liu, Y. Zhao, Y. Li, Q. Jiang and E.J. Lavernia, "Hydrogen Storage on Li-Dispersed Carbon Nanotubes", presentation at TMS 2009, San Francisco, CA, February 15-19, 2009.
- O7. Z. Zhang, T.D. Topping, Y. Li, Y. Zhou and E.J. Lavernia, "Fabrication of Cu-Zr-Al Bulk Metallic Glasses via Spark Plasma Sintering Process", presentation at TMS 2009, San Francisco, CA, February 15-19, 2009.
- O8. B. Zheng, Z. Zhang, T. Topping, Y. Zhou, C. Tsao and E.J. Lavernia, "Synthesis and Behavior of Mg-Based Bulk Glasses via Spark Plasma Sintering (SPS)", presentation at TMS 2009, San Francisco, CA, February 15-19, 2009.
- O9. Y. Zhao, E.J. Lavernia and Y.T. Zhu, "Strategies for Improving the Ductility of Nanostructure/Ultrafine-Grained Metals without Sacrificing Strength", presentation at TMS 2009, San Francisco, CA, February 15-19, 2009.

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- O10. Y. Zhao, T.D. Topping, Y. Li, R.Z. Valiev, Y. Zhu and E.J. Lavernia, "Mechanical Properties of Ultrafine-Grained Cu with Bimodal Grain Size Distribution", presentation at TMS 2009, San Francisco, CA, February 15-19, 2009.
- O11. Y. Zhao, T.D. Topping, Y. Li, J.F. Bingert, A.M. Dangelewicz, P. Sun, Y. Zhu, Y. Zhou and E.J. Lavernia, "Ultrahigh Tensile Ductility and High Strength in Nickel via Cryo-Milling and Quasi-Isostatic Forging", presentation at TMS 2009, San Francisco, CA, February 15-19, 2009.
- O12. T.D. Topping, C. San Marchi, Y. Li, Z. Zhang, R. Vogt, O. Ertorer, J.M. Schoenung, R.A. Karnesky, N. Yang and E.J. Lavernia, "The Effect of Milling Media and Time on Cryomilled 99.95% Pure Al", presentation at TMS 2009, San Francisco, CA, February 15-19, 2009.
- O13. J.E. Smugeresky, B. Zheng, Y. Xiong, J. Nguyen, Y. Zhou, E.J. Lavernia and J.M. Schoenung, "Overview of Materials Processing with LENS®, invited talk at TMS 2009, San Francisco, CA, February 15-19, 2009.
- O14. Y. Xiong, W.H. Hofmeister, Z. Cheng, J.E. Smugeresky, J.-P. Delplanque, B. Zheng, J. Nguyen, E.J. Lavernia, and J.M. Schoenung, "Thermal Behavior of WC-Co Cermets during the LENS® Process", presentation at TMS 2009, San Francisco, CA, February 15-19, 2009.
- O15. Z. Lee, V. Radmilovic, B. Ahn, E.J. Lavernia and S.R. Nutt, "Tensile Deformation and Fracture Mechanism of Bimodal Al-Mg Alloy", presentation at TMS 2009, San Francisco, CA, February 15-19, 2009.
- O16. Y. Li, Y. Zhao, J.M. Schoenung and E.J. Lavernia, "Strengthening Mechanisms in Tri-Modal 5083 Al Based Composite", presentation at TMS 2009, San Francisco, CA, February 15-19, 2009.
- O17. L. Hashemi, R. Vogt, Z. Zhang, E.J. Lavernia and J.M. Schoenung, "An Investigation into the Thermal Stability of an Aluminum Based Nanocomposite", presentation at TMS 2009, San Francisco, CA, February 15-19, 2009.
- O18. J. Nguyen, B. Zheng, T. Topping, Y. Zhou, S. Gilley, J. Good and E.J. Lavernia, "The Effect of Powder Production Process on Microstructure and Mechanical Properties of Electron Beam Deposited Ti6Al4V", presentation at TMS 2009, San Francisco, CA, February 15-19, 2009.
- O19. Y. Zhao, T. Ungar, Y. Li, R.Z. Valiev, Y.T. Zhu, Y. Zhou and E.J. Lavernia, "Recovery of Ultra-Fine Grained Materials by Severe Plastic Deformation", presentation at TMS 2009, San Francisco, CA, February 15-19, 2009.
- O20. R.A. Karnesky, N.Y.C. Yang, C. San Marchi and E.J. Lavernia, "Solute Segregation and Thermal Stability of Ultra-Fine-Grained Al-Mg", presentation at TMS 2009, San Francisco, CA, February 15-19, 2009.
- O21. B. Ahn, A.P. Newbery, E.J. Lavernia and S.R. Nutt, "Isostatic Pressing of a Nanocrystalline Al Alloy Powder", presentation at TMS 2009, San Francisco, CA, February 15-19, 2009.
- O22. R. Vogt, Z. Zhang, T.D. Topping and E.J. Lavernia, "Ultrafine-Grained Aluminum Alloy and Boron Carbide Composite Extrusions", presentation at TMS 2009, San Francisco, CA, February 15-19, 2009.

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- O23. N. Yang, M. Morita, P. Sharma, A. Morales, Z. Zhang, Y. Zhou and E.J. Lavernia, "Influence of Starting Materials and Spark Plasma Sintering (SPS) Parameters on the Microstructure and Transport Properties of Bi₂Te₃", lecture presented at the International Conference of Thermoelectric, ICT, Germany, July 29, 2009.
- O24. Y. Zhao, O. Osman, T. Topping, Y. Li, Y.T. Zhu, J.F. Bingert, A.M. Dangelewicz, S. Cheng, P.K. Liaw, Y. Guo, Q. Wei and E.J. Lavernia, "Ductility and Strategies for Improving Ductility of Bulk Nanostructured Materials: Ni, Ti, Cu & NiFe Results", lecture presented at Plasticity 2010, St. Kitts, USA, January 3-8, 2010.
- O25. T.D. Topping, Y. Li, Z. Zhang and E.J. Lavernia, "Strain Hardening Behavior of Ultra-Fine Grained 5083 Aluminum Alloy", poster presentation at TMS 2010, Seattle, WA, February 13-18, 2010.
- O26. Y. Li, Y. Zhao, W. Liu, Z. Zhang, R.G. Vogt, E.J. Lavernia and J.M. Schoenung, "Deformation Twinning in Boron Carbide Particles", poster presentation at TMS 2010, Seattle, WA, February 13-18, 2010.
- O27. O. Ertorer, Y. Li, Y. Zhao, R.Z. Valiev, E.J. Lavernia, "Nanostructured Commercially Pure Titanium Prepared via Cryomilling and High Pressure Torsion (HPT)", poster presentation at TMS 2010, Seattle, WA, February 13-18, 2010.
- O28. Z. Zhang, Y. Li, Y. Zhou and E.J. Lavernia, "Synthesis of Amorphous Al-Co-Ce Alloys via Atomization and Mechanical Milling", presentation at TMS 2010, Seattle, WA, February 13-18, 2010.
- O29. O. Ertorer, T.D. Topping, Y. Li, Y. Zhao, W. Moss and E.J. Lavernia, "Methods for Improving Ductility in Nanostructured Titanium Prepared via Powder Metallurgical Routes", presentation at TMS 2010, Seattle, WA, February 13-18, 2010.
- O30. R. Vogt, Z. Zhang, T.D. Topping, E.J. Lavernia and J.M. Schoenung, "Strain Rate Sensitivity of Ultrafine Grained Boron Carbide Reinforced Aluminum Metal Matrix Composites", presentation at TMS 2010, Seattle, WA, February 13-18, 2010.
- O31. Y. Zhao, J.F. Bingert, Y. Li, P. Sun, X. Liao, Y. Zhu and E.J. Lavernia, "Influence of Grain Boundary Sliding on the Ductility of Ultrafine-Grained Al", presentation at TMS 2010, Seattle, WA, February 13-18, 2010.
- O32. Z. Zhang, T.D. Topping, Y. Li, Y. Zhou and E.J. Lavernia, "Synthesis of Cu₅₀Zr₅₀Bulk Metallic Glasses Composites by Spark Plasma Sintering", presentation at TMS 2010, Seattle, WA, February 13-18, 2010.
- O33. B. Zheng, T.D. Topping, Y. Zhou, C.Y.A. Tsao and E.J. Lavernia, "On Interfacial Bonding in Mg-Cu-Gd Metallic Glass during Spark Plasma Sintering Processing", presentation at TMS 2010, Seattle, WA, February 13-18, 2010.
- O34. Y. Li, Z. Zhang, R.G. Vogt, W. Liu, E.J. Lavernia and J.M. Schoenung, "HRTEM and EELS Study on Aluminum Nitride in Nanostructured Al 5083/B4C Metal Matrix Composites", presentation at TMS 2010, Seattle, WA, February 13-18, 2010.

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- O35. Y. Zhao, T.D. Topping, Y. Guo, Q. Wei, Y. Zhu, T.G. Langdon and E.J. Lavernia, "Influence of Specimen Dimensions and Strain Measurement Methods on the Apparent Ductility of Bulk Nanostructured Materials", presentation at TMS 2010, Seattle, WA, February 13-18, 2010.
- O36. Z. Zhang, X. Wu, Y. Li, T.D. Topping, Y. Zhou, W. Xu, K. Xia and E.J. Lavernia, "Deformation Induced Grain Growth in Nanostructured Al-Mg Alloy", presentation at TMS 2010, Seattle, WA, February 13-18, 2010.
- O37. B. Ahn, Y. Zhang, R. Vogt, Z. Zhang, J.M. Schoenung, E.J. Lavernia and S.R. Nutt, "Microstructural Evolution during Cryomilling of B4C Reinforced Al Nanocomposite", presentation at TMS 2010, Seattle, WA, February 13-18, 2010.
- O38. J. Nguyen, B. Zheng, Y. Xiong, W.H. Hofmeister, J.E. Smugeresky, Y. Zhou and E.J. Lavernia, "Thermal History and Mechanical Behavior of PH13-8Mo Fabricated via LENS®", presentation at TMS 2010, Seattle, WA, February 13-18, 2010.
- O39. L. Hashemi-Sadraei, R. Vogt, Z. Zhang, Y. Li, S.E. Mousavi, E.J. Lavernia and J.M. Schoenung, "Grain Growth Kinetics for an Aluminum Based Nanocomposite", presentation at TMS 2010, Seattle, WA, February 13-18, 2010.
- O40. Y. Wang, X. Liao, Y. Zhao, E.J. Lavernia and R.Z. Valiev, "Grain Size Effect on the Deformation Mechanisms and Mechanical Properties of Gum Metals", presentation at TMS 2010, Seattle, WA, February 13-18, 2010.
- O41. H. Wen, Y. Zhao, O. Ertorer, T.D. Topping, R. Valiev and E.J. Lavernia, "Synthesis of Bulk Nanostructured Cu via Spark Plasma Sintering and High Pressure Torsion of Cryomilled Powder", presentation at TMS 2010, Seattle, WA, February 13-18, 2010.
- O42. Y. Zhao, Y. Zhu and E.J. Lavernia, "Ductility of Bulk Nanostructured Materials", presentation at TMS 2010, Seattle, WA, February 13-18, 2010.
- O43. B. Zheng, R.K. Dumas, A. Biswas, Y. Zhou, K. Liu, D. Baker and E.J. Lavernia, "Structural Properties of Nanostructured Fe-Co-V Prepared by Mechanical Alloying and Spark Plasma Sintering", presentation at TMS 2010, Seattle, WA, February 13-18, 2010.
- O44. N. Yang, R. Nishimoto, M. Clift, J. Chames and A. Gardea, L. Hughes with Sandia National Laboratories; Z. Zhang, Y. Zhou and E.J. Lavernia with University of California, Davis, "Thermoelectric Properties of Nanostructured (Bi, Sb)₂Te₃ Alloys", poster presented at Materials for Energy 2010, Karlsruhe, Germany, July 4-8, 2010.
- O45. T.D. Topping, E.J. Lavernia, M. Kuruvilla and T.S. Srivatsan, "The Cyclic Fatigue, Damage Initiation, Propagation and Fracture Behavior of Cryomilled Aluminum Alloy 5083: Influence of Secondary Processing", in *Fatigue Analysis: Role of Material, Microstructure and Environment*, presentation at Materials Science and Technology 2010, Houston, Texas, October 17-21, 2010.
- O46. Y.T. Zhu, Y. Zhao, E.J. Lavernia, "Strategies for Improving the Ductility of Nanostructure/Ultrafine-Grained Metals without Sacrificing Strength", in *Mechanical Behaviour of Advanced Materials*, presentation at Materials Science and Technology 2010, Houston, Texas, October 17-21, 2010.

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- O47. K. Ma, E.J. Lavernia and J.M. Schoenung, "A Density Functional Theory Study on Boundaries and Interfaces in Ultrafine-grained Aluminum Composites", in Trimodal Composites, presentation at Materials Science and Technology 2010, Houston, Texas, October 17-21, 2010.
- O48. Z. Zhang, Y. Li, J.M. Schoenung and E.J. Lavernia, "Microstructural and Mechanical Evaluation of Ultrafine-grained Aluminum Composites", in Trimodal Composites, presentation at Materials Science and Technology 2010, Houston, Texas, October 17-21, 2010.
- O49. J. Smugeresky, J. Nguyen, B. Zheng, Y. Xiong, W.H. Hofmeister, J.M. Schoenung and E.J. Lavernia, "Laser Deposition Processing for Engineering and Custom Alloy Applications: Metals to Cermets", in Session III, presentation at Materials Science and Technology 2010, Houston, Texas, October 17-21, 2010.
- O50. Y. Zhang, B. Ahn, R. Vogt, Z. Zhang, J.M. Schoenung, E.J. Lavernia and S. Nutt, "Effects of Boron Carbide Additions on Kinetics of Grain Refinement in Cryomilled Al Powders", poster presentation at TMS 2011, San Diego, California, February 26-March 3, 2011.
- O51. T.D. Topping, C. Smith, Y. Li, Z. Zhang, B.S. Majumdar, K. Cho, M. van den Bergh, J.M. Schoenung and E.J. Lavernia, "Mechanical Behavior of Cryomilled Al-B₄C Ultrafine-Grained Metal Matrix Composite Extrusions Attributed to Stress Assisted Grain Growth and Particulate Reinforcement", poster presentation at TMS 2011, San Diego, California, February 26-March 3, 2011.
- O52. J. Nguyen, S. Lee, Z. Zhang, Y. Li, T.D. Topping, Y. Zhou, A. Inoue and E.J. Lavernia, "Microstructure and Mechanical Behavior of Wet-Processed Cu-Zr-Based BMG Composites", poster presentation at TMS 2011, San Diego, California, February 26-March 3, 2011.
- O53. B. Zheng, O. Ertorer, Y. Li, T.D. Topping, Y. Zhou, C.Y.A. Tsao, E.J. Lavernia, "Nano-Structured Mg-Al-Zn Alloy via Cryomilling and Spark Plasma Sintering", poster presentation at TMS 2011, San Diego, California, February 26-March 3, 2011.
- O54. H. Wen, Y. Zhao, Z. Zhang, Y. Li, O. Ertorer and E.J. Lavernia, "Synthesis and Microstructure of Bulk Nanostructured Cu by Spark Plasma Sintering of Cryomilled Powders", poster presentation at TMS 2011, San Diego, California, February 26-March 3, 2011.
- O55. L. Hashemi-Sadraei, S.E. Mousavi, R. Vogt, Y. Li, Z. Zhang, E.J. Lavernia and J.M. Schoenung, "On the Methods for Grain Size Analysis and Grain Growth Kinetic Studies for a Thermally Stable Al 5083 Nanocomposite", presentation at TMS 2011, San Diego, California, February 26-March 3, 2011.
- O56. O. Ertorer, T.D. Topping, Y. Li, W. Moss and E.J. Lavernia, "Cryomilled Commercially Pure Ti Consolidated via Spark Plasma Sintering", presentation at TMS 2011, San Diego, California, February 26-March 3, 2011.
- O57. Z. Zhang, Y. Li, T.D. Topping, R. Vogt, Y. Zhou, J.M. Schoenung and E.J. Lavernia, "Synthesis and Mechanical Behavior of Ultrafine-Grained Al-B₄C Composites", presentation at TMS 2011, San Diego, California, February 26-March 3, 2011.
- O58. Y. Zhao, T.D. Topping, X. Liao, Y. Zhu and E.J. Lavernia, "Mechanical Properties of Bulk Nanostructured 7075 Al Alloy Prepared by Severe Plastic Deformation", presentation at TMS 2011, San Diego, California, February 26-March 3, 2011.

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- O59. R.A. Karnesky, N.Y.C. Yang, C. San Marchi, T.D. Topping, Z. Zhang, Y. Li and E.J. Lavernia, "Solid Solutions in Ultra-Fine-Grained Al-Mg Alloys", presentation at TMS 2011, San Diego, California, February 26-March 3, 2011.
- O60. B. Zheng, Y. Zhou, C.Y.A. Tsao, R.Z. Valiev and E.J. Lavernia, "On Interfacial Bonding in Mg-Cu-Gd Metallic Glass via High Pressure Torsion (HPT)", presentation at TMS 2011, San Diego, California, February 26-March 3, 2011.
- O61. S. Cheng, Y. Zhao, X.-L. Wang, S. Lee, L. Li, J. Almer, P. Liaw and E.J. Lavernia, "Fatigue Deformation of Nanocrystalline NiFe Alloy", presentation at TMS 2011, San Diego, California, February 26-March 3, 2011.
- O62. Y. Zhao, S. Cheng, Y. Guo, Y. Li, Q. Wei, X.-L. Wang, Y. Ren, P. Liaw and E.J. Lavernia, "High Plasticity and Substantial Deformation in Nanocrystalline NiFe Alloys under Dynamic Loading", presentation at TMS 2011, San Diego, California, February 26-March 3, 2011.
- O63. Y. Li, Z. Zhang, R.G. Vogt, E.J. Lavernia and J.M. Schoenung, "Microstructure Characterization of Grain Boundaries in Al 5083/B4C Ultrafine Grained Composites", presentation at TMS 2011, San Diego, California, February 26-March 3, 2011.
- O64. Y. Xiong, D. Liu, Y. Li, B. Zheng, T.D. Topping, Y. Zhou, D. Kapoor, C. Haines, J. Paras, D. Martin, J.M. Schoenung and E.J. Lavernia, "Microstructure Evolution of Cryomilled Nanostructured Light Weight Al 5083 During SPS", presentation at TMS 2011, San Diego, California, February 26-March 3, 2011.
- O65. Z. Zhang, X. Wu, Y. Li, T.D. Topping, W. Xu, Y. Zhou, K. Xia and E.J. Lavernia, "Fabrication of Ultrafine-Grained Al-Mg Alloy via ECAP Consolidation of Nanostructured Powder", presentation at TMS 2011, San Diego, California, February 26-March 3, 2011.
- O66. D. Liu, Y. Xiong, T.D. Topping, Y. Zhou, C. Haines, J. Paras, D. Kapoor, D. Martin, J.M. Schoenung and E.J. Lavernia, "Effects of Spark Plasma Sintering (SPS) on Cryomilled Nanostructured Al 5083 Alloy", presentation at TMS 2011, San Diego, California, February 26-March 3, 2011.
- O67. Y. Zhao, Q. Zhan, T.D. Topping, Y. Li and E.J. Lavernia, "Deformation-Induced Ductility in Cryomilled Nanostructured Nickel", presentation at TMS 2011, San Diego, California, February 26-March 3, 2011.
- O68. Y.H. Zhao, Y. Li, T.D. Topping, Y.T. Zhu, R.Z. Valiev and E.J. Lavernia, "Advanced Mechanical Properties and Deformation Mechanisms of Bulk Nanostructured Materials", presentation at NanoSPD5, Nanjing, China, March 21-25, 2011.
- O69. Y. Zhao, T.D. Topping, J.F. Bingert, Y. Li, P.L. Sun and E.J. Lavernia, "Mechanical Properties and Microstructure Evolutions of Ultrafine-Grained Al during Recovery via Annealing", presentation at Materials Science and Technology 2011, Columbus, Ohio, October 16-20, 2011.
- O70. Y. Zhao, Y.T. Zhu and E.J. Lavernia, "Ductility and Strategies for Improving Ductility of Bulk Nanostructured Materials", presentation at Materials Science and Technology 2011, Columbus, Ohio, October 16-20, 2011.

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- O71. H. Wen, Y. Zhao, T.D. Topping, D. Ashford, R.B. Figueiredo, C. Xu, T.G. Langdon and E.J. Lavernia, "199 Influence of Pressing Temperature on Microstructure Evolution and Mechanical Behavior of Ultrafine-Grained Cu Processed by Equal-Channel Angular Pressing", presentation at Materials Science and Technology 2011, Columbus, Ohio, October 16-20, 2011.
- O72. Y. Zhao, S. Cheng, Y.Z. Guo, Y.M. Wang, Y. Li, Q.M. Wei, X.-L. Wang, P.K. Liaw and E.J. Lavernia, "Grain Boundary Mediated Deformation in Nanocrystalline NiFe Alloys under Dynamic and Cyclic Loading", presentation at Materials Science and Technology 2011, Columbus, Ohio, October 16-20, 2011.
- O73. Y. Zhao, S. Cheng, Y.M. Wang, Y. Li, X.-L. Wang, P.K. Liaw and E.J. Lavernia, "Fatigue Properties and Deformation Mechanisms of Nanocrystalline NiFe Alloy under Cyclic Loading", presentation at Materials Science and Technology 2011, Columbus, Ohio, October 16-20, 2011.
- O74. H. Wen, Y. Zhao, Z. Zhang, O. Ertorer, S. Dong and E.J. Lavernia, "Synthesis and Microstructure of Bulk Nanostructured Cu by Spark Plasma Sintering of Cryomilled Powders", presentation at Materials Science and Technology 2011, Columbus, Ohio, October 16-20, 2011.
- O75. Y. Zhao, Q. Zhan, T.D. Topping, Y. Li and E.J. Lavernia, "Deformation-Induced Ductility in Cryomilled Nanostructured Nickel with Porosity and Grain Boundary Segregation", presentation at Materials Science and Technology 2011, Columbus, Ohio, October 16-20, 2011.
- O76. Y. Zhao, P.V. Liddicoat, X.Z. Liao, Y.T. Zhu, R.Z. Valiev and E.J. Lavernia, "Optimizing Mechanical Properties of Bulk Nanostructured 7075 Al Alloy", presentation at Materials Science and Technology 2011, Columbus, Ohio, October 16-20, 2011.
- O77. Y. Zhao, Y. Li, X. Liao, T.D. Topping, R.Z. Valiev, Y. Zhu and E.J. Lavernia, "Mechanical Properties of Bulk Nanostructured 7075 Al Alloy Prepared by Severe Plastic Deformation", presentation at Materials Science and Technology 2011, Columbus, Ohio, October 16-20, 2011.
- O78. Y. Zhao, S. Cheng, Y.Z. Guo, Q.M. Wei, X.-L. Wang, Y. Ren, P.K. Liaw and E.J. Lavernia, "High Plasticity and Substantial Deformation in Nanocrystalline NiFe Alloys under Dynamic Loading", presentation at Materials Science and Technology 2011, Columbus, Ohio, October 16-20, 2011.
- O79. Y. Zhao, Y. Li, T.D. Topping, Y.T. Zhu, R.Z. Valiev and E.J. Lavernia, "Mechanical Properties and Deformation in Multi-Scale Nanostructured Cu and Ti", presentation at Materials Science and Technology 2011, Columbus, Ohio, October 16-20, 2011.
- O80. Y. Xiong, D. Liu, Y. Li, C. Haines, J. Paras, D. Martin, D. Kapoor and E.J. Lavernia, "Thermal Stability of Cryomilled Al Alloy during Spark Plasma Sintering", presentation at Materials Science and Technology 2011, Columbus, Ohio, October 16-20, 2011.
- O81. Z. Zhang, Y. Zhou and E.J. Lavernia, "Synthesis of Nanostructured (Bi, Sb)₂Te₃ Alloys by Spark Plasma Sintering", presentation at Materials Science and Technology 2011, Columbus, Ohio, October 16-20, 2011.
- O82. P.K. Liaw, S. Cheng, S.Y. Lee, L. Li, Y.H. Zhao, J. Almer, X.-L. Wang and E.J. Lavernia, "Fatigue Deformation of a Nanocrystalline NiFe Alloy", presentation at Materials Science and Technology 2011, Columbus, Ohio, October 16-20, 2011.

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- O83. D. Liu, Y. Xiong, Y. Li, T.D. Topping, C. Haines, J. Paras, D. Martin, D. Kapoor, J.M. Schoenung and E.J. Lavernia, "Effect of High Pressure on the Microstructure and Mechanical Properties of Nanostructured Aluminum Alloy Consolidated by Spark Plasma Sintering", presentation at Materials Science and Technology 2011, Columbus, Ohio, October 16-20, 2011.
- O84. I. Roy, P. Ganguly, C. Wilkinson, A. Anderko, R. Lewis, E.J. Lavernia, Y.T. Zhu and F.A. Mohamed, "Harnessing Bulk Nano-Materials for High Pressure High Temperature (HPHT) Hostile Downhole Environments", presentation at Materials Science and Technology 2011, Columbus, Ohio, October 16-20, 2011.
- O85. J.M. Schoenung, T.D. Topping and E.J. Lavernia, "Boron Carbide Reinforced Ultrafine-Grained Aluminum Composites", presentation at Thermec' 2011, Quebec City, Quebec, Canada, August 1-5, 2011.
- O86. B. Zheng, T.D. Topping, Y. Xiong, Y. Zhou, S.N. Mathaudhu and E.J. Lavernia, "K-30: Microstructure and Mechanical Properties of Nanocrystalline Pure Mg via Cryomilling, Spark Plasma Sintering and Extrusion", poster presentation at TMS 2012, Orlando, FL, March 11-15, 2012.
- O87. B. Zheng, Y. Li, Y. Zhou, S.N. Mathaudhu and E.J. Lavernia, "Twinning Phenomena in Cryomilled Pure Mg and Mg-Al-Zn Alloy Nanocrystalline Powders", presentation at TMS 2012, Orlando, FL, March 11-15, 2012.
- O88. Y. Wang, X. Liao, Y. Zhao, E.J. Lavernia, S.P. Ringer, Z. Horita, T.G. Langdon and Y. Zhu, "Effect of Stacking Faults and Twin Boundaries on Grain Refinement Induced by High-Pressure Torsion", presentation at TMS 2012, Orlando, FL, March 11-15, 2012.
- O89. H. Wen, T.D. Topping and E.J. Lavernia, "T-30: Synthesis, Microstructure and Mechanical Behavior of Bulk Nanostructured Cu-30%Zn Alloy by Spark Plasma Sintering of Cryomilled Powders", poster presentation at TMS 2012, Orlando, FL, March 11-15, 2012.
- O90. Y. Zhao, X.Z. Liao, T.D. Topping, Y. Li, Y.T. Zhu, R.Z. Valiev and E.J. Lavernia, "Mechanical Properties of Bulk Nanostructured 7075 Al Alloy Prepared by Severe Plastic Deformation", presentation at TMS 2012, Orlando, FL, March 11-15, 2012.
- O91. S.N. Mathaudhu, B. Zheng, K. Youssef, M. Pozuelo, L. Kecskes, Y. Zhou, W. Kao, S. Kim, B. Li, X. Wu, C. Koch, J.-M. Yang, E.J. Lavernia and Y.T. Zhu, "Deformation Twinning in Nanocrystalline Mg-Alloys", presentation at TMS 2012, Orlando, FL, March 11-15, 2012.
- O92. H. Wen, T.D. Topping, E.J. Lavernia, R.K. Islamgaliev and R.Z. Valiev, "High-Pressure Torsion-Induced Grain Refinement/Growth in Coarse-Grained/Nanocrystalline Cu Powders", presentation at TMS 2012, Orlando, FL, March 11-15, 2012.
- O93. Y. Sun, A. Sachdev and E.J. Lavernia, "Effect of Nano-Structural Modification on the Mechanical Behavior of Lamellar Gamma TiAl Alloy", presentation at TMS 2012, Orlando, FL, March 11-15, 2012.
- O94. Y. Zhao, Y. Li, T.D. Topping, Y.T. Zhu, R.Z. Valiev and E.J. Lavernia, "Mechanical Properties and Deformation in Multi-Scale Nanostructured Cu and Ti", presentation at TMS 2012, Orlando, FL, March 11-15, 2012.

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- O95. Y. Zhao, T.D. Topping, J.F. Bingert and E.J. Lavernia, "Optimizing Ductility and Strength of Ultrafine Grained Nickel via Cryo-Milling and Ceracon Forging", presentation at TMS 2012, Orlando, FL, March 11-15, 2012.
- O96. T.D. Topping, Z. Zhang, Y. Li and E.J. Lavernia, "Quantifying Strengthening Mechanisms in Cryomilled Al Alloys and Their Composites", presentation at TMS 2012, Orlando, FL, March 11-15, 2012.
- O97. K. Ma, T.D. Topping and E.J. Lavernia, "Microstructure Evolution and Mechanical Behavior of Ultrafine Grain Structured Al 7075 Developed by Cryomilling", presentation at TMS 2012, Orlando, FL, March 11-15, 2012.
- O98. H. Yang, T.D. Topping, Z. Zhang, E.J. Lavernia and J.M. Schoenung, "Reinforcement Phase Size Effects on a Cryomilled Al - B₄C Nanocomposite", presentation at TMS 2012, Orlando, FL, March 11-15, 2012.
- O99. I. Roy, J. Lu, Y.T. Zhu, C. Longfield, R. Bhavsar, E.J. Lavernia and F.A. Mohamed, "Environmental Cracking Susceptibility of a Surface Nanocrystallized Stainless Steel in Contrast to its Coarse Grained Counterpart", presentation at TMS 2012, Orlando, FL, March 11-15, 2012.
- O100. J. Nguyen, T.D. Topping, H. Kato, Y. Zhou and E.J. Lavernia, "Evaluation of Microstructure and Mechanical Behavior of Cu Based Bulk Metallic Glass-Carbon Nanotube Composites", presentation at TMS 2012, Orlando, FL, March 11-15, 2012.
- O101. Y. Zhao, S. Cheng, Y.Z. Guo, Y.M. Wang, Y. Li, Q.M. Wei, X.-L. Wang, P.K. Liaw and E.J. Lavernia, "Grain Boundary Mediated Deformation Mechanisms of Nanocrystalline NiFe Alloy under Cyclic and Dynamic Loading", presentation at TMS 2012, Orlando, FL, March 11-15, 2012.
- O102. I. Roy, J. Meng, E.J. Lavernia and F.A. Mohamed, "Electrochemical Corrosion of Bulk Cryomilled UFG Al5083 in Contrast to its Coarse Grained Counterpart in Aerated 3.5wt% NaCl Solution", presentation at TMS 2012, Orlando, FL, March 11-15, 2012.
- O103. Y. Lin, Y. Li and E.J. Lavernia, "Stress-Induced Grain Growth in Ultra-Fine Grained 5083 Al during Hot Extrusion", presentation at TMS 2012, Orlando, FL, March 11-15, 2012.
- O104. N. Yang, P. Sharma, R. Nishimoto, Z. Zhang, J. Yee, M. Fraga and E.J. Lavernia, "Influence of metallurgical factors on thermoelectric transport properties of Bi₂Te₃-based alloys", presentation at the 2nd International Conference on Materials for Energy, EnMatII, Karlsruhe, Germany, May 12-16, 2013.
- O105. E.J. Lavernia, "Incremental Nanotechnology for Structural Materials", presentation at Materials Science and Technology 2013, Montreal, Quebec Canada, October 27-31, 2013.
- O106. A. Rodela, G. Kim, V. Champagne, T.D. Topping, E.J. Lavernia and E. Barrera, "Cold Spray Processing of Bulk Nanostructured Aluminum Alloys: Characterization, Evaluation, and Optimization", presentation at Materials Science and Technology 2013, Montreal, Quebec Canada, October 27-31, 2013.
- O107. J. Haley, J. Yee, N. Yang, J.M. Schoenung, E.J. Lavernia, "Energy Deposition (L-DED)", TMS 2018 Annual Meeting & Exhibition, Phoenix, AZ, March 11-15, 2018

- O108. Y. Lin, Y. Li, T. Hu, F. Chen, E.J. Lavernia, “Ultra-fine Grained Al Alloys and Composites Processed via Powder Metallurgy Route”, TMS 2018 Annual Meeting & Exhibition, Phoenix, AZ, March 11-15, 2018.
- O109. C. Wu, K. Ma, D. Zhang, G. Luo, F. Chen, Q. Shen, L. Zhang, E.J. Lavernia, “Precipitation Phenomena in Al-Zn-Mg Alloy Matrix Composites Reinforced with B4C Particles”, TMS 2018 Annual Meeting & Exhibition, Phoenix, AZ, March 11-15, 2018.
- O110. T.M. Srivatsan, Y. Lin, F. Chen, E.J. Lavernia, “Synthesis and Microstructural Development of Particulate Reinforced Metal-matrix Composites Using the Technique of Spray Atomization and Deposition”, TMS 2018 Annual Meeting & Exhibition, Phoenix, AZ, March 11-15, 2018.
- O111. X. Wang, L. Jiang, D. Zhang, C. Cooper, R. Wang, A. Hernandez, T.J. Rupert, S. Mahajan, I. Beyerlein, E.J. Lavernia, J.M. Schoenung, “Strengthening and Toughening Effects of Twin Mesh Structures in Polycrystalline”, TMS 2018 Annual Meeting & Exhibition, Phoenix, AZ, March 11-15, 2018.
- O112. S. Middleton, E.J. Lavernia, “Effects of Grain Orientation during Spark Plasma Sintering Beta Phase Ti-Al-Nb Alloys, TMS 2018 Annual Meeting & Exhibition, Phoenix, AZ, March 11-15, 2018.
- O113. B. Zheng, N. Yang, J. Yee, J. Haley, T. Smith, Y. Zhou, E.J. Lavernia, J.M. Schoenung, “Effects of Laser Beam Intensity Profile on the Evolution of Microstructure and Defects in 316L SS Components Fabricated via Laser Engineered Net Shaping”, TMS 2018 Annual Meeting & Exhibition, Phoenix, AZ, March 11-15, 2018.
- O114. Y. Lin, Z. Yan, F. Chen, E.J. Lavernia, “Microstructure and Mechanical Properties of a Nanostructured High Entropy Alloy Processed via Severe Plastic Deformation”, TMS 2018 Annual Meeting & Exhibition, Phoenix, AZ, March 11-15, 2018.
- O115. Z. Fu, B.E. MacDonald, Z. Jiang, W. Chen, J. Ivanisenko, Y. Zhou, H. Hahn, E.J. Lavernia, “Composite Fabricated through In Situ Reinforcement Formation”, TMS 2018 Annual Meeting & Exhibition, Phoenix, AZ, March 11-15, 2018.
- O116. B.E. MacDonald, Z. Fu, Z. Li, W. Chen, Y. Zhou, D. Raabe, H. Hahn, E.J. Lavernia, “Mechanical Behavior and Thermal Stability of a Dual-phase Complex High Entropy Alloy”, TMS 2018 Annual Meeting & Exhibition, Phoenix, AZ, March 11-15, 2018.

GRADUATE STUDENTS AND STAFF

Ph.D. Students

Manoj Gupta

Yulung Jeng

Jinmin Zhang

Xin Liang

Yue Wu

Xiaolu Zeng

Dan Lawrynowicz

Weidong Cai

Robert Perez

Degree completion date

9/1992 currently a faculty member at National University of Singapore

2/1994 currently a researcher in industry in Taiwan

8/1994 currently a senior researcher at GM, MI

6/1994 currently a senior researcher at Conexant in Irvine, CA

9/1994 currently a senior researcher at Freescale

9/1995 currently a senior researcher at Motorola Inc., AZ

2/1996 currently a senior researcher at Baxter Howmedica, NY

11/1996 currently a researcher at Photronics, Inc., TX

2/1997 currently at Boeing Corp., CA

| | |
|---------------------------|---|
| Bing Li | 3/1998 currently at Weber Metals, Inc. |
| Yizhang Zhou | 8/1999 currently a Senior Scientist at UCI |
| Maggie Lau | 1/2000 currently a researcher at Techstar Inc., CA |
| Victoria Tellkamp | 6/2000 currently Retired - Associate Prof. at California State Polytechnic University, Pomona, CA |
| Qingzhou Xu | 9/2000 currently an Assistant Professor at Morehead State University |
| Linda Del Castillo | 9/2000 currently a scientist at JPL Labs, Pasadena, CA |
| Leonardo Ajdelsztajn | 3/2002 currently a researcher at General Electric Laboratories, Schenectady, NY |
| Rodolfo Rodriguez | 1/2003 currently at Edwards Lifesciences Corp., Irvine, CA |
| Yaojun Lin | 8/2003 currently a professor at Wuhan University of Technology in China |
| David Witkin | 2/2005 currently an Engineer at The Aerospace Corporation., El Segundo, CA |
| Yongseok Chae | 8/2005 currently a Researcher at Beckman laser Institute at UCI |
| Zhihui Zhang | 3/2006 currently a Research Scientist at Baker Hughes, Inc. |
| Alejandro Zuniga | 5/2006 currently a faculty member at The Catholic University of Chile, Santiago, Chile |
| Baolong Zheng | 5/2006 currently an Project Scientist at UCI |
| Wei Liu ¹ | 6/2009 currently a professor at Nanjing University of Science and Technology, Nanjing, China |
| Núria Cinca ² | 12/2008 currently an R&D Engineer at Sandvik Hyperion |
| Osman Ertorer | 12/2010 currently at Oryx Advanced Materials, Inc., Fremont, CA |
| Troy Topping | 3/2012 currently an Assistant Professor of Materials Science and Engineering at California State University, Sacramento, CA |
| Haiming Wen | 8/2012 currently a scientist at Idaho National Laboratory |
| Jonathan Nguyen | 8/2012 currently at UTC Space Systems, Chula Vista, CA |
| Yan Yang ³ | 4/2013 currently at Chongqing University, Chongqing, China |
| Zhiming Li ⁴ | 9/2014 currently at Max Planck Institute for Iron Research GmbH, Germany |
| Josh Yee | 8/2015 currently a member of the Technical Staff, Sandia National Lab |
| Chen Dai | 11/2015 currently employed by VJ Technologies |
| Zhiqiang Fu ⁵ | 12/2015 currently a post-doctoral researcher at UC Irvine |
| Dalong Zhang | 03/2016 currently a post-doctoral researcher at Oak Ridge National Laboratory |
| Martin Fraga | 12/2017 currently an engineer at a Software startup in New York |
| Cunlong Wang ⁶ | 10/2015 |
| Chuangong Wu ⁷ | 09/2015 Wuhan University of Science and Technology |

Current Graduate Students Supervised

¹ Joint supervision with Prof. Qing Jiang, Jilin University, Changchun, China.

² Joint supervision with Prof. J. M. Guillemany, University of Barcelona, Barcelona, Spain.

³ Joint supervision with Prof. Xiaodong Peng, Chongqing University, Chongqing, China.

⁴ Joint supervision with Prof. Aidan Shan, Shanghai Jia Tong University, Shanghai, China.

⁵ Joint supervision with Prof. Weiping Chen, South China University of Technology, Guangzhou, China.

⁶ Joint supervision with Prof. Guohua Wu, Shanghai Jiao Tong University, Shanghai, China.

⁷ Joint supervision with Prof. Qiang Shen, Wuhan University of Technology, Wuhan, China.

| Name | Start Date |
|---------------------------|-------------------|
| James Haley, Ph.D. | 8/2013 |
| Benjamin MacDonald, Ph.D. | 3/2016 |
| Kehang Yu, Ph.D. | 4/2018 |

Master of Science Degree Students

| Name | Degree Completion Date |
|--------------------------------|--|
| Jean Marinkovich | 01/1990 |
| Tapas Chanda (with F. Mohamed) | 02/1991 |
| Xiaolu Zeng | 06/1992 |
| Soupin Yan (with F. Mohamed) | 06/1992 |
| Peter Lengsfeld | 07/1992 |
| Robert Perez | 07/1993 |
| Marianne Wu | 06/1994 |
| Sa Su | 07/1994 |
| Dan Lawrynowicz | 09/1994 |
| Paula Crawford | 07/1995 |
| Adel Sharif | 07/1995 |
| Qian Zhang | 08/1995 |
| Maggie Lau | 12/1996 |
| Linda Del Castillo | 11/1997 |
| Yaojun Lin | 06/1998 |
| Michael Ice | 02/2000 |
| Sean Armster | 09/2000 |
| Rodolpho Rodriguez | 06/2001 |
| Kit Foo | 03/2003 |
| Jon Dannenberg | 08/2002 |
| Derek Drenke | 08/2002 |
| Emil Karapetian | 09/2002 |
| Aaron Singer-Englar | 05/2006 |
| Jeremy Thornton | 05/2006 |
| Alex Chun Lap Yeung | 06/2007 |
| Gregory Ng | 06/2007 |
| Jennifer Walley | 03/2008 |
| Leyla Hashemi | 03/2010 currently an R&D Engineer at Keysight Technologies |
| Dustin Ashford | 12/2012 |
| Tammy Harrell | 03/2014 |
| Kristopher Wehage | 03/2014 |
| Yitian (Nate) Wang | 12/2014 |
| James Haley | 03/2016 currently a Ph.D. Student at UC Irvine |
| Stoney Middleton | 06/2018 currently a Materials Engineer at Naval Air System Command, San Diego CA |

Postdoctoral Scholars Supervised

| Name | Start Date | Co-Advisor |
|---------------------|-------------------|-------------------|
| Dr. H. Liu | 08/1992 | Prof. Rangel |
| Dr. J.P. Delplanque | 08/1994 | Prof. Rangel |
| Dr. Yue Wu | 09/1994 | |
| Dr. Seungwoo Ho | 09/1994 | |
| Dr. Honggang Jiang | 02/1996 | |
| Dr. Shenglong Dai | 09/1996 | |

| | | |
|--------------------------|---------|----------------------|
| Dr. Weidong Cai | 11/1996 | |
| Dr. Benlih Huang | 09/1997 | |
| Dr. Vikas Gupta | 10/1997 | |
| Dr. Haiming Hu | 03/1998 | |
| Dr. Jianhong He | 03/1998 | |
| Dr. Degang Cheng | 03/1999 | |
| Dr. Shihuai Zhou | 05/1999 | Prof. Shi |
| Dr. Wei Feng | 06/1999 | Prof. Bobrow |
| Dr. Yizhang Zhou | 08/1999 | |
| Dr. Lars Svaasand | 11/1999 | Prof. S. Nelson, BLI |
| Dr. Guillermo Aguilar | 09/1999 | |
| Dr. Fei Zhou | 11/1999 | |
| Dr. K. Chung | 11/1999 | |
| Dr. J. Lee | 11/1999 | |
| Dr. Sergio Diaz | 09/2000 | |
| Dr. Riqing Ye | 06/2001 | |
| Dr. Bing Q. Han | 07/2001 | Prof. Mohamed |
| Dr. Leonardo Ajdelsztajn | 03/2002 | |
| Dr. Youngsoo Park | 11/2002 | |
| Dr. Guojiang Fan | 04/2003 | |
| Dr. Yaojun Lin | 08/2003 | |
| Dr. Paula Rojas | 03/2004 | |
| Dr. Fusheng Sun | 06/2004 | |
| Dr. Piers Newbery | 11/2004 | |
| Dr. Zhihui Zhang | 03/2006 | |
| Dr. Baolong Zheng | 05/2006 | |
| Dr. Sha Zhu | 11/2006 | |
| Dr. Tapas Laha | 04/2007 | |
| Dr. Yonghao Zhao | 05/2007 | |
| Dr. Ying Li | 05/2007 | |
| Dr. Yaojun Lin | 12/2008 | |
| Dr. Osman Ertorer | 01/2011 | |
| Dr. Yu Sun | 06/2011 | |
| Dr. Yuhong Xiong | 09/2011 | |
| Dr. Tao Hu | 10/2011 | |
| Dr. Lin Huang | 12/2011 | |
| Dr. Kaka Ma | 01/2012 | |
| Dr. Hamed Bahmanpour | 01/2012 | Prof. Mukherjee |
| Dr. Troy Topping | 03/2012 | |
| Dr. Wen Haiming | 09/2012 | |
| Dr. Lilia Kurmanaeva | 02/2013 | |
| Dr. Jochen M. Fiebig | 11/2013 | Prof. Mukherjee |
| Dr. Dalong Zhang | | |
| Dr. Zhiqiang Fu | 09/2014 | |

Visiting Scholars and Sabbatical Visitors

Dr. J. Juarez-Islas, Scientist, Institute of Physics, Universidad Nacional Autonoma de Mexico, spent a period of one month in my laboratories working on a joint project involving the synthesis and characterization of composite materials.

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- Professor Leonel Nunez, Professor of Mechanical Engineering and Materials Science, National University of Chile, South America, spent a period of several weeks in my laboratories devising a cooperative program and discussing research programs.
- Professor D. Shin, Professor of Materials Science and Engineering, spent one sabbatical year in my laboratory on leave from Hang Yang University, Seoul, South Korea.
- Professor W. Yoon, Professor of Materials Science and Engineering, spent one sabbatical year in my laboratory on leave from Korea University, Seoul, South Korea.
- Professor Xiaodong Peng, Professor of Materials Science and Engineering, spent one sabbatical year in my laboratory on leave from Chongking University, China.
- Professor W. Lai, Professor of Aeronautics and Astronautics, spent one sabbatical year in my laboratory on leave from National Cheng Kung University, Taiwan.
- Professor Z.H. Lee, Professor of Materials Science and Engineering, spent one sabbatical year in my laboratory on leave from Korea Advanced Institute of Science and Technology, Taejon, Korea.
- Professor W. Lai, Professor of Aeronautics and Astronautics, spent one sabbatical year in my laboratory on leave from National Cheng Kung University, Taiwan.
- Professor Z.H. Lee, Professor of Materials Science and Engineering, spent one sabbatical year in my laboratory on leave from Korea Advanced Institute of Science and Technology, Taejon, Korea. (1997-1998)
- Visiting Scholar, Leonardo Sepulveda, Department of Mechanical Engineering and Materials Science, National University of Chile, South America, spent six months in my laboratory. (1998)
- Michaela Krauss, Master's Degree Candidate, Department of Chemical Engineering, spent three months in my laboratory on leave from the University of Bremen, Germany. (1998)
- Anatoliy Kharlov spent two months in my laboratory as part of his sabbatical leave from the Institute of Electrophysics, Ural Branch Russian Academy of Sciences, Ekaterinburg, Russia. (1998)
- Marc Fohlmeister, Ph.D. Candidate, Production Engineering, spent three months in my laboratory on leave from the University of Bremen, Germany. (1999)
- Professor Byung-Sun Chun, Dean, School of Engineering, spent six sabbatical months in my laboratory on leave from Chungnam National University, Taejon, Korea. (1999)
- Professor J.S. Zhang, Professor of Materials Science, spent seven sabbatical months in my laboratory on leave from University of Science and Technology, Beijing, China. (1999-2000)
- Dr. Dong-Ming Liu, Lecturer, School of Materials Science and Engineering, spent two years in my laboratory on leave from South Campus, Shandong University, China. (2009-2011)
- Yan Yang, Ph.D. Candidate, College of Materials Science and Engineering, spent one year in my laboratory on leave from Chongqing University, Chongqing, China. (2011-2012)

Dr. Xingang Wang, Associate Professor, School of Materials Science and Engineering, spent one year in my laboratory on leave from Chang'an University, Xi'an, Shaanxi, China. (2012-2013)

Dr. Mingxing Guo, Assistant Professor, College of Environment Science and Engineering, Dalian Maritime University, China (2017-Present)

Dr. Guoliang Hou, Associate Professor, State Key Laboratory of Solid Lubrication, Lanzhou Institute of Chemical Physics, Chinese Academy of Sciences, Lanzhou, PRC, China (2018-Present)

PROFESSIONAL SERVICE

Summary of activities in the areas of professional service as detailed below: currently active in and serving in administrative positions in various professional societies; active as a reviewer for various journals; active as a reviewer for proposals for various government agencies; and active as a consultant for various private and government organizations.

Conferences

| Activity | Dates |
|---|------------|
| 1. Session Chairman, "Minisymposium on Topics in Materials Processing", Review of Progress in Quantitative Non-Destructive Evaluation, La Jolla, CA. | 1988 |
| 2. Organizer and Session Chairman, "Synthesis and Analysis in Materials Processing: Advances in Characterization and Diagnostics of Ceramic and Metal Particulate Processing", Annual TMS Meeting, Las Vegas, NV. | 1989 |
| 3. Session Chairman, "Symposium on Fundamental Relationships between Microstructure & Mechanical Properties of Metal Matrix Composites", Fall TMS meeting, Indianapolis, IN. | 1989 |
| 4. Session Chairman, "Mechanical Properties, Seventh International Conference on Rapidly Quenched Materials", Stockholm, Sweden. | 1990 |
| 5. Session Chairman, "High Temperature Low Density, Powder Metallurgy Alloys II", Fall TMS Meeting, Detroit, MI. | 1990 |
| 6. Organizer and Session Chairman (with I. Anderson and W Johnson), "Fundamentals of Spray Processing", Fall TMS Meeting, Detroit, MI. | 1990 |
| 7. Organizer and Session Chairman (with M. Gungor and S. Fishman), "High Temperature Metal Matrix Composites", Fall TMS Meeting, Cincinnati, OH. | 1991 |
| 8. Secretary, TMS Committee, "Synthesis and Analysis in Materials Processing". | 1989-1990 |
| 9. Chair, TMS Committee, "Synthesis and Analysis in Materials Processing". | 1990-1991 |
| 10. Member, Scientific Advisory Committee, Ceracon Inc., Sacramento, CA. | 1990- 1991 |
| 11. President, Education, ASM Executive Committee, Orange County Chapter, CA. | 1991-1992 |
| 12. Secretary, ASM Executive Committee, Orange County Chapter, CA. | 1992-1995 |
| 13. Session Chairman (with K. Upadhya), "Developments in Metal and Ceramic Matrix Composites", TMS Annual Meeting, March 2-5, San Diego, CA. | 1992 |
| 14. Organizer and Session Chairman (with M.N. Gungor), "Microstructural Design by Solidification Processing", 1992 Fall TMS Meeting, November 1-5, Chicago, IL. | 1992 |
| 15. Organizer and Session Chairman (with K. Hajmrle), "Advances in Powder Metallurgy Processing", 3rd International SAMPE Metals Conference, October 20-22, Toronto, Canada. | 1992 |
| 16. Organizer and Session Chairman (with J. Moore and S. Froes), "First International Conference on the Advanced Synthesis of Engineering | |

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- Structural Materials”, ASM International, August 30-September 2, San Francisco, CA. 1992
17. Organizer and Session Chairman (with T.S. Srivatsan), “Processing, Fabrication and Manufacturing of Composite Materials”, ASM Winter Annual Meeting, Anaheim, CA. 1992
 18. Chair, TMS Committee, “Synthesis and Analysis in Materials Processing”. 1991-1992
 19. Session Chair, “TMS Annual Meeting”, February 22-26, Denver, CO. 1993
 20. Session Chair, “TMS Annual Meeting”, October, Pittsburgh, PA. 1993
 21. Chairman, Technical Committee, “Metal and Ceramic Sprays, ILASS-Americas”, International Liquid Atomization and Spray Systems. 1993
 22. Session Chair, “National Thermal Spray Meeting”, June 7-11, Anaheim, CA. 1993
 23. Session Chair, ASM Conference, “Powder Metallurgy in Aerospace, Defense & Demanding Applications”, February 7-11, San Diego, CA. 1993
 24. Organizer (with Dr. K. Upadhya), “Processing, Fabrication and Applications of Advanced Composites”, ASM, August 9-11, Long Beach, CA. 1993
 25. Session Chair, “TMS Annual Meeting”, Feb. 27-March 3, San Francisco, CA. 1994
 26. Member, International Scientific Committee & Reviewer, “High Performance Composites”, October 2-6, Rosemont, IL. 1994
 27. Organizer, “Metal and Ceramic Sprays”, ILASS-Americas Conference, International Liquid Atomization and Spray Systems, May 31-June 1. 1994
 28. Member, Technical Program Committee, “International Powder Metallurgy Conference”, PM2-TEC, May 14-17, Seattle, WA. 1994
 29. Member, Technical Program Committee, “4th International Conference Powder Metallurgy in Defense and Demanding Applications”, May 8-10, Anaheim, CA. 1995
 30. Session Chair, “1995 Annual TMS Conference”, February 12-16, Las Vegas, NV. 1995
 31. Member, Technical Program Committee and Session Chair, “International Conference on Powder Metallurgy and Particulate Materials”, May 14-17, Seattle, WA. 1995
 32. Member, Technical Program Committee and Session Chair, International Conference on Ta, “1996 TMS Annual Meeting”, Feb. 2-8, Anaheim, CA. 1996
 33. Organizer and Session Chair, “International Symposium on Spray Forming”, 1997 TMS Annual Meeting, February 10-14, Orlando, FL. 1997
 34. Chairman, Engineering Science Foundation Conference, “Thermal Spraying of Nanocrystalline Materials”, August 8-10, Davos, Switzerland. 1997
 35. Member, Technical Program Committee, “5th International Conference on Powder Metallurgy and Particulate Materials”, April 7-9, West Palm Beach, FL. 1997
 36. Member, The Journal of Thermal Spray Technology, Best Paper Award Committee. 1998
 37. Session Chair, “Processing of Nanostructured Coatings and Devices, Symposium on Nanostructures and Composites”, August 23-27, Boston, MA. 1998
 38. Session Chair, “Synthesis and Processing”, International Symposium on Metastable, Mechanically Alloyed and Nanocrystalline Materials, December 7-12, Wollongong, Australia. 1998
 39. Session Chair, “Modeling and Simulations, Nanocomposite Materials: Design and Applications”, March 28-April 3, Anchorage, AK. 1999
 40. Symposium Organizer, “Science and Engineering of Solidification”, The

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- | | |
|--|------|
| Fifth IUMRS International Conference on Advanced Materials, IUMRS ICAM '99, June 13-18, Beijing, China. | 1999 |
| 41. Conference Co-Chair, "Thermal Spray Processing of Nanoscale Materials II", August 15-20, Quebec City, Canada | 1999 |
| 42. Scientific Committee, "Spray Deposition and Melt Atomization", International Conference, June 26-28, Bremen, Germany. | 2000 |
| 43. Scientific Committee, "Advances in Composites", August, Bangalore, India. | 2000 |
| 44. Conference Co-Chair, "THERMEC 2000", December 8-15, Las Vegas, NV. | 2000 |
| 45. Conference Co-Organizer, "International Conference on Mechanically Alloyed and Nanostructured Materials", University of Michigan, Ann Arbor, MI. | 2001 |
| 46. Chairman, Engineering Science Foundation Conference, "Synthesis and Processing of Nanostructured Coatings for Protection against Degradation", Davos, Switzerland. | 2001 |
| 47. Conference Co-Chair and Organizer, "Nano 2002", Orlando, FL. | 2002 |
| 48. Scientific Committee, "Chilean Symposium on Materials CONAMET SAM", University of Chile, Santiago, Chile. | 2002 |
| 49. Conference Co-Organizer, "2003 MRS Fall Meeting", Boston, MA. | 2003 |
| 50. Conference Organizer, "2006 Powder Metallurgy World Congress & Exhibition", September 24-28, BEXCO, Busan, Korea. | 2006 |
| 51. Symposium Organizer, "Thin Films and Surface Engineering", the 7th Pacific Rim International Conference on Advanced Materials and Processing (PRICM-7), August 1-5, Cairns, Australia. | 2010 |
| 52. Session Chair, "Nanocomposites Materials and Multiscale Materials", Nano 2010, 10th International Conference on Nanostructured Materials, September 13-17, Rome, Italy. | 2010 |
| 53. Committee Member, "14th International Conference on Rapidly Quenched and Metastable Materials", August 28-September 2, Salvador, Brazil. | 2011 |

Reviewing Activities

Book Proposal Reviewer for the following publishers:

CRC Press, Florida

Allyn & Bacon, Massachusetts

Cambridge University Press, Massachusetts

Proposal Reviewer for the following agencies:

U.S. Army Research Office

University Technology Transfer Inc.

National Science Foundation

Idaho State Board of Education

U.S.-Israel Binational Fund (NSF)

Israel Science Foundation (ISF)

U.S. Department of Energy

U.S. Research and Development Foundation for the Independent States of the Former Soviet Union

Fonds zur Forderung der Wissenschaftlichen Forschung (Austria)

Qatar National Research Fund (QNRF), Qatar Foundation

Reviewer for the following journals:

International Journal of Powder Metallurgy

Journal of Advanced Materials and Manufacturing Processes

Journal of Atomization and Sprays
 Scripta Metallurgica et Materialia
 Acta Metallurgica et Materialia
 Metallurgical and Materials Transactions
 NanoStructured Materials
 Journal of Materials Synthesis and Processing
 International Journal of Heat and Mass Transfer
 Journal of the American Society of Mechanical Engineers
 Journal of Materials Science
 Journal of Materials Research
 Journal of the American Ceramic Society
 P/M Science & Technology Briefs
 Thin Solid Films
 Experimental Thermal and Fluid Science
 Powder Technology
 Journal of Materials Processing Technology
 Computational Materials Science
 Journal of Thermal Spray Technology
 Mechanics of Materials
 Journal of Alloy and Compounds
 Philosophical Magazine Letters
 Zeitschrift fuer Metallkunde

Reviewer of Ph.D. Dissertations for the following Universities

| | |
|---|------|
| Helsinki University of Technology, Helsinki, Finland | 1998 |
| Indian Institute of Science, Bangalore, India | 1998 |
| Banaras Hindu University, Varanasi, India | 2000 |
| National University of Singapore, Singapore | 2001 |
| Sir M. Visvesvaraya Institute of Technology, Karnataka, India | 2007 |
| National University of Singapore, Singapore | 2009 |
| Indian Institute of Technology Rootkee, Rootkee, India | 2009 |
| Indian Institute of Technology Kanpur, Nankari Kanpur, India | 2011 |
| University of California, Davis | 2015 |

Memberships in Professional Organizations

The Scientific Research Society – Sigma Xi
 Tau Beta Pi, CA Lambda Chapter
 Materials Research Society (MRS)
 The Minerals, Metals and Materials Society (TMS)
 American Association for the Advancement of Science (AAAS)
 American Society for Engineering Education (ASEE)
 The Professional Society for Powder Metallurgy (APMI)
 The Materials Information Society International (ASM)
 American Society of Mechanical Engineers (ASME)
 Global Engineering Deans Council (GEDC)
 Society for Advancement of Hispanics/Chicanos and Native Americans in Science (SACNAS)

PATENTS AND APPLICATIONS PENDING

1. R.C. O'Handley, N.J. Grant, Y. Hara, E.J. Lavernia, T. Harada and T. Ando, "Bulk Rapidly Solidified Magnetic Materials," United States Patent Number 5,225,004, July 6, 1993.

2. E.J. Lavernia, "Method for Thermal Spraying of Nanocrystalline Coatings and Materials for the Same," United States Patent 5,939,146, August 17, 1999.
3. E.J. Lavernia, "Spray Formed Multifunctional Materials," United States Patent 5,980,604, November 9, 1999.
4. E.S.C. Chin and E.J. Lavernia, "Aluminum-Lithium Alloy," United States Patent 6,702,982, March 9, 2004.
5. G.E. Kim, J.M. Schoenung, V. Provenzano, E.J. Lavernia and L. Ajdelsztajn, "Functional Coatings for the Reduction of Oxygen Permeation and Stress and Method of Forming the Same," United States Patent 7,361,386, April 22, 2008.
6. J.C. Farmer, F.M.G. Wong, J.J. Haslam, N. Yang, E.J. Lavernia, C.A. Blue, O.A. Graeve, R. Bayles, J.H. Perepezko, L. Kaufman, J.M. Schoenung and L. Ajdelsztajn, "Corrosion Resistant Amorphous Metals and Methods of Forming Corrosion Resistant Amorphous Metals," United States Patent 7,618,500, November 17, 2009.
7. J.C. Farmer, F.M.G. Wong, J.J. Haslam, X. Ji, S.D. Day, C.A. Blue, J.D.K. Rivard, L.F. Aprigliano, L.K. Kohler, R. Bayles, E.J. Lemieux, N. Yang, J.H. Perepezko, L. Kaufman, A. Heuer and E.J. Lavernia, "Compositions of Corrosion-Resistant Fe-Based Amorphous Metals Suitable for Producing Thermal Spray Coatings," United States Patent 8,480,864, July 9, 2013.
8. J.C. Farmer, F.M.G. Wong, J.J. Haslam, X. Ji, S.D. Day, C.A. Blue, J.D.K. Rivard, L.F. Aprigliano, L.K. Kohler, R. Bayles, E.J. Lemieux, N. Yang, J.H. Perepezko, L. Kaufman, A. Heuer and E.J. Lavernia, "Compositions of Corrosion-Resistant Fe-Based Amorphous Metals Suitable for Producing Thermal Spray Coatings," United States Patent 8,524,053, September 3, 2013.
9. J.C. Farmer, F.M.G. Wong, J.J. Haslam, N. Yang, E.J. Lavernia, C.A. Blue, O.A. Graeve, R. Bayles, J.H. Perepezko, L. Kaufman, J.M. Schoenung and L. Ajdelsztajn, "Corrosion Resistant Amorphous Metals and Methods of Forming Corrosion Resistant Amorphous Metals," United States Patent 8,778,459, July 15, 2014.
10. E.J. Lavernia, J.M. Schoenung, Y. Zhou, Z. Zhang, Y. Li, T.D. Topping, R. Vogt, D. Kapoor, J. Paras and C. Haines, "Non-faceted nanoparticle reinforced metal matrix composite and method of manufacturing the same", United States Patent 9,211,586, December 15, 2015.
11. T. Monson, E.J. Lavernia, B. Zheng and Y. Zhou, "Method to Synthesize Bulk Iron Nitride," United States Patent 9,963,344 B2, May 8, 2018.