

CONTACT INFORMATION

Judith Ann Schneider, PhD, FASM, Professor
Department of Mechanical and Aerospace Engineering
University of Alabama in Huntsville
Huntsville, Al 35899
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EDUCATION

Ph. D. in Engineering, University of California, Davis 1996
Major: Materials Science and Engineering, Mechanical Behavior
Minor: Materials Science and Engineering, Materials Characterization
Dissertation Title:
Processing and Properties of Silicon Nitride Ceramics
Major Advisor: A.K. Mukherjee

M.S. in Engineering, University of California, Davis 1993
Major: Materials Science and Engineering, Mechanical Behavior
Thesis Title:
Mechanical Property Improvement Study for the JBK-75 Alloy in the Cast Form
Major Advisor: A.K. Mukherjee

B.S. in Mechanical Engineering, University of Nebraska, Lincoln 1977

HONORS AND AWARDS

Acta Board of Governors 2015
ASM International Fellow 2015
TMS Distinguished Service Award for SMD 2015
MSU State Pride Award 2010, 2011
Bagley College of Engineering:
Hearin Faculty Excellence Award 2010, 2011
SE-ASEE Regional Conference, Best Paper Award 2010
MSU Outstanding Researcher, College of Engineering 2005
NSF/ONR Workshop on UltraHigh Temperature Materials 2004
MSU Outstanding Research Paper, College of Engineering 2003
NETI Scholar 2003, 2012
NSF Engineering Education Scholar 2000
NSF/NATO Travel Fellowship 1998
Engineering Ceramics Division of the American Ceramic Society
Technical Presentation Award 1997
University of California, Davis 1996
Competitive Graduate Student Research Award
University of California, John Dorn Award 1995
Outstanding Ph.D. Student in Material Science Engineering

SYNERGISTIC ACTIVITIES

Organizer, TMS Symp., Additive Forming of Components,” 2016.
Co-Organizer, MS&T Symp., “Deformation and forming of joined materials,” 2015.
Co-organizer, MS&T Symp., “Joining Dissimilar Materials”, 2015.
Co-organizer, MS&T Symp., Joining of Advanced and Specialty Materials XIV, 2012.
Organizer, MS&T Symp., Joining of Advanced and Specialty Materials XIII, 2011.

Co-organizer, MS&T Symp., Laser Applications in Materials Processing, 2011.
 Co-organizer, MS&T Symp., Joining and Sustaining of Superalloys, 2011.
 Co-organizer, TMS Symp., General Abstracts: Structural Materials Division, 2011.
 Organizer, MS&T Symp., Joining of Advanced and Specialty Materials XII, 2010.
 Co-organizer, MS&T Symp., Laser Applications in Materials Processing , 2010.
 Co-organizer, MS&T Symp., Advanced Metallic Materials: Technological Exploitation of Mechanical Properties, `2010.
 Co-organizer, TMS Symp., General Abstracts: Structural Materials Division, 2010.
 Co-organizer, TMS Symp., Dislocations: 75 Years of Deformation Mechanisms, 2009.
 Co-organizer, TMS Symp., Nanocomposites, 2009.
 Co-organizer, MS&T Symp., Joining of Advanced and Specialty Materials XI, 2007.
 Organizer, MS&T Symp., Nanocomposites, 2006.
 Organizer, TMS Symp., Processing and Mechanical Response of Engr. Mat'ls, 2006.
 Co-organizer, TMS Symp., Mechanical Modeling of Thin Films & Small Structures, 2005.
 Organizer, ASTM E08 Student Symposium, November 2003.

TMS Representative, Board of Governors for Acta Materialia, Inc.	2015-2019
ASM, Programming Committee, Chair	2015-2017
ASM, Emerging Technologies Committee	2013-2016
ASM, Woman in Materials Engineering Committee	2015-2018
TMS, Programming Representative	2012-2014
TMS, Content Development & Dissemination Committee	2011-2017
TMS, SMD Programming Committee	2010-2012
Chair, ASM/AWS Critical Joining Technologies Committee	2009-2011
Chair, MSU Materials Working Group	2003- 2007 & 2010-2012
Chair TMS SMD Mechanical Behavior Committee	2006-2008

Reviewer for NSF, ORNL SHaRE proposals and following Journals.

Acta Materialia, Thin Films, American Society for Mechanical Engineers, Metallurgical and Materials Transactions, Journal of Materials Research, International Journal Advanced Manufacturing Technology, International Journal of Machine Tools and Manufacture, Journal Strain Analysis, Journal Manufacturing Process Technology, Journal of Tribology, Materials Science and Engineering A, and Journal Composite Materials.

Key Reader, Metallurgical and Materials Transactions A, 2010-present.

Board for Key Readers of Metallurgical and Materials Transactions,

Vice Chair, 2011-2013.

Chair, 2013-2015.

Guest Editor, Welding Journal, 2011-present.

Guest Co-Editor, JOM, Febr. & April Editions on Bulk Metallic Glasses, 2010.

Organizer/Guest Editor, JOM, Febr. Edition on Dislocations, 2009.

Guest Editor, MSEA Journal, Special Edition, 2007.

Organizer/Guest Editor, JOM, March Edition on Nanocomposites, 2007.

ACADEMIC EXPERIENCE

University of Alabama in Huntsville, Mechanical and Aerospace Engineering Department

Professor

2015-present

Adjunct Professor

2015

Mississippi State University, Mechanical Engineering Department	
Coleman and Whiteside Professor	2013-2015
Interim Associate Department Head	2013-2014
Professor	2011-2013
Associate Professor	2005-2011
Assistant Professor	1999-2005
California State University, Sacramento	
Part Time Faculty	Fall '95, '96
University of California, Davis	
Associate Instructor	Spring '96
Teaching Assistant	Winter '95

RESEARCH EXPERIENCE

Bundesanstalt for Metal for Materialforschung and Pruefung (BAM), Berlin, GE
 Guest Scientist 2011

NASA-Marshall Space Flight Center, Huntsville, AL

NASA Summer Faculty Program (Additive Manufacturing)	2014
Dynetics, Inc. ESTS subcontractor (Welding Consultant)	2013
Jacobs ESTS subcontractor (Welding Consultant)	2010
Intergovernmental Personal Agreement (IPA)	2008-2009
ASEE/NASA Summer Faculty Research Opportunities	2005, 2006, 2007
ASEE/NASA Summer Faculty Program_	2002, 2003, 2004, 2015

Research on materials and processing specific to advanced manufacturing processes. Process include: friction stir welding, a solid state joining technique, and additive manufacturing. Efforts include both modeling and experimental support to develop process specifications.

Powder Metal Laboratory, 1999-2000
 Max-Planck-Institute für Metallforschung, Stuttgart, Germany
 Research Scientist

Investigation of creep resistant SiC ceramics for high temperature applications. Grain morphology, phase composition, and grain boundaries were examined to increase understanding of creep mechanisms in liquid phase sintered ceramics.

Sandia National Laboratories (SNL), Livermore, CA 1996-1999
 Postdoctoral Associate

Research on sub-microindentation techniques to understand effects of film growth and processing on reliability, hardness, fracture toughness, and adhesion of thin films. Responsible for operation of the XRD laboratory and analysis.

University of California, Davis and SNL 1993-1996
 Research Associate

Correlation of the microstructural evolution in silicon nitride ceramics with the demonstration of enhanced plasticity.

Aerojet, University of California, Davis, and SNL 1992-1993
 Research Associate

Heat treatment study for a cast version of a precipitation strengthened stainless steel alloy (JBK-75 Alloy).

INDUSTRIAL EXPERIENCE

Aerojet Propulsion Division - Sacramento, CA

Lead Design / Project Engineer

1987-1993

Responsible for technical coordination of all planning, budgeting, scheduling, engineering design, fabrication, verification and reporting activities for a \$7 million/four year NASA Contract for National Launch System /Advanced Launch System. Previous NASA contracts included: the identification and evaluation of key low cost technologies required for the production of advanced liquid propellant rocket engines.

Nimbus, Inc. - Sacramento, CA

Project / Development Engineer

1982-1987

Responsible for system modeling, detailed design, fabrication, assembly, in vivo and in vitro testing of mechanical hearts and reporting activities for a \$3.2 million/four year NIH program.

Aerojet Liquid Rocket Co.-Sacramento, CA

Test/Development Engineer

1977-1982

Developed test methodology for: surface effect ship components, geothermal energy utilization, automation of flow measurements and storable propellant mixing.

GRADUATE STUDENTS

PhD Program

MSU Committee Chairman/Major Advisor (3 PhD complete, 5 PhD current):

- Joseph Querin, "Deconvoluting the link between weld tool geometry and process parameters," PhD Degree, December 2010. Employer: Boeing, Huntsville, AL.
- Hayley Brown, "Selection of polymeric composites for cryogenic applications," PhD Degree, May 2012. Employer: Caterpillar, Peoria, IL.
- Haley Rubisoff Doude, "Investigation of the dynamics of FSWing and its influence on minimizing defects by optimizing process parameters and tool design," NASA GSRP Fellowship, PhD May 2014. Employer: MSU CAVS.
- Josef Cobb, "Thermal Stir Welding," PhD Program, planned May 2016.
- Jatan Wince, "Modeling of Friction Stir Welding," PhD Program (Distance), planned May 2017.
- Jamel Alexander, PhD Program, "Miniaturization of sensing devices for smart materials," planned August 2016.

UAH Committee Chairman/Major Advisor (2 PhD complete, 0 PhD current):

- Zach Myers, PhD Program, "Increasing interlaminar shear strength (ILSS) in out-of-autoclave (OoA) composites," planned August 2017.
- Tom Stockman, PhD Program "Thermal modeling of free form additive manufacturing structures," planned August 2017.

MSU PhD Committee Member (14 PhD complete, 2 PhD current):

- Gabriel Potirniche, PhD, Mechanical Engineering, 2003.
- Rani Sullivan, PhD, Aerospace Engineering, 2003.
- Holly Martin, PhD, Chemical Engineering, 2006.
- Yoshiki Yamada, PhD, Aerospace Engineering, 2009.
- Mathew Rowe, PhD, Chemical Engineering, 2010.
- Devkant Ghandi, PhD, Chemical Engineering, 2011.
- Sheena Reeves, PhD, Chemical Engineering, 2011.
- Jaesang "James" Yu, PhD, Aerospace Engineering, 2011.

- Ben Ma, PhD, Electrical and Computer Science Engineering, 2012.
- Jutima Simsiriwong, PhD, Aerospace Engineering, 2014.
- Yongwu Lu, PhD, ABE Department, 2014.
- Jonathan Rudd, PhD, Mechanical Engineering, 2014.
- Zhenghong Bao, PhD, Forest Products, 2015.
- Bonnie Yang, PhD, Forest Products, 2015.
- Timothy Dowell PhD, Chemistry, planned 2017.
- Griffin Sullivan PhD Distance, Civil & Environmental Engineering, planned 2020.

Other PhD Committee Member (2 PhD complete, 0 PhD current):

- Ihab Ragai , McGill University - PhD, Mechanical Engineering, 2006.
- Hossein Najafabadi, Univ. Alberta PhD, Materials Engineering Department, 2013.

UAH PhD Committee Member (0 PhD complete, 0 PhD current):

MS Program

MSU MS Committee Chairman/Major Advisor (26 MS complete):

- Jaton Nakia Wince, “Modeling chip formation in orthogonal metal cutting using finite element analysis,” MS Thesis in College of Engineering, August 2000. Employer: Eglin Air Force Base.
- C. Delfina Joseph, “Experimental measurement and finite element simulation of springback in stamping aluminum alloy sheets for auto-body panel application,” MS Thesis in College of Engineering, August 2003. Employer: Decoma-Decostar Industries, Atlanta, GA.
- C. Aaron Daniel, Non-Thesis Option, Fatigue Testing of Aluminum Alloys, MS Thesis in College of Engineering, May 2004. Employer: Bell Helicopter, TX.
- James Gordon Ragsdale, “Development of an experimental apparatus and method for characterizing the leakage of helium gas through composites due to cryogenic operation,” MS Thesis in College of Engineering, August 2004. Employer: Anteon Corporation, Gaution, MS.
- Mark Breen, “Heat transfer during baking in a conventional residential oven,” MS Thesis in College of Engineering, December 2004. Employer: Lockheed Martin, Slidell, LA.
- Joseph Querin, “Microstructural characterization of AA6022-T43 aluminum alloy sheet during monotonic loading,” MS Thesis in College of Engineering, August 2005.
- Justin Jackson, “Fracture toughness of polymer resins at cryogenic temperatures,” MS Thesis in College of Engineering, December 2005. Employer: NASA-MSFC, Huntsville, AL.
- Dustin McKnight, “Determination of threshold behavior of aluminum alloys,” MS Thesis in College of Engineering, December 2005. Employer: Bodycote Testing Group, San Antonio, TX.
- Johnny Sanders, “Quantifying the metal flow conditions during friction stir welding,” MS Thesis in College of Engineering, May 2006. Employer: Northrop Grumman, Pascagoola, MS.
- Andrew Howard, "Design and fabrication of a miniature tensile testing machine," MS Thesis in College of Engineering, May 2007. Employer: Steel Dynamics Inc., Columbus, MS.
- Brian Hamburg, “Micro-Structural Response of DP 600 to High Strain Rate Deformation,” MS Thesis in College of Engineering, December 2007. Employer: Triton, Gulf Port MS.

- Mark Dyess, “Interfacial strength between fiber and resin as affected by environment,” MS Thesis in College of Engineering, May 2008. Employer: Griffon Aerospace, Huntsville AL.
- W. Chad Hastings, “Single fiber strength as affected by environment,” MS Thesis in College of Engineering, May 2008. Employer: NASA-MSFC, Huntsville AL.
- Haley Rubisoff, “Microstructural Characterization of Friction Stir Welded Ti-6Al-4V,” MS Thesis in College of Engineering, August 2009.
- A. Matt Davis, "Interaction of the Friction Stir Welding tool and Work-piece as Influenced by Process Parameters in Friction Stir Welding.” MS Thesis in College of Engineering, May 2010. Employer: Eaton Aerospace Valves, Jackson MS.
- Lei Dong, “Modeling the FSW Process using Metal Cutting Theory,” MSME Program, December 2010. Employer: Milwaukee Electric Tool Corporation, Greenwood, MS.
- Jun Wang, “Improved fracture toughness of epoxy resins at cryogenic temperatures,” MSME Program, August 2011. Employer: Severstal, Columbus, MS.
- Mike Brendel, “Long-Range Oscillations in Material Flow Patterns during the Friction Stir Welding of Aluminum,” MSME Program, May 2012. Employer: Blue Origin, Seattle, WA.
- Deidra Clark, MSME Program, “Impact Toughness of DP600,” May 2013 (Lockheed Martin TOC, Stennis Space Center, MS).
- David Williston, MSME Program, " Comparison of joining processes for Haynes 230 nickel based super alloy," August 2013. Employer: Baker Hughes Incorp., Houston, TX.
- Taylor Murphy, MS Program, "High strain rate behavior of aluminum alloys," August 2014. Employer: Halliburton, Lafayette, LA.
- Walter Contreras, Jr., Non-Thesis Option, Bobbin welding of 6061, MS Thesis in College of Engineering, December 2014.
- Zach Myers, MS Program, "Increasing interlaminar shear strength (ILSS) in out-of-autoclave (OoA) composites," May 2015.
- Tom Stockman, "Thermal modeling of free form additive manufacturing structures," August 2015.
- Sylvester Stafford, "Metal cutting analogy for friction stir welding", Dec. 2015.
- Bryan Patton, "Engineering Entrepreneurialism", May, 2016.

UAH MS Committee Chairman/Major Advisor (0 MS complete, 6 current):

- Chandra Shekar Rao Vara, “Mechanisms of residual stresses in bi-metallic additive manufacturing builds,” planned May 2016.
- Chris Hill, “Free form additive manufacturing of bi-metallic builds,” planned May 2017.
- Sam Cordner, “Fatigue mechanisms in additive manufactured Inconel 718,” planned May 2017.
- Cory Medina, “Interfacial strength in bi-metallic additive manufactured components,” planned May 2017.
- Will Tilson, “TBD”, planned May 2017.
- Grace Belancik, “Plasma activated sintering of W-Re alloys for friction stir welding of Ni based superalloys,” planned May 2017.

MS Committee Member (10 MS complete, 1 MS current):

- Dillard, MSU-MS, Aerospace Engineering, 2003.
- Allan Hammock, MSU - MS, Mechanical Engineering, 2006.
- Crissy Costin-Hogan, MSU – MS, Chemistry, 2008.

- Patrick Fratesi, MSU - MS, Mechanical Engineering, 2012.
- Brennan Anderson, MSU – MS, Civil Engineering, 2013.
- Jose Morfa, MSU-MS, Mechanical Engineering, 2013.
- B. Tim Brown, MS in Engineering, December 2012. Employer: Ingalls Shipyards, Pascagoula, MS.
- Joshua Dier, MS in Engineering, August 2013. Employer: Ingalls Shipyards, Pascagoula, MS.
- Adam Whitaker, non-thesis option, August 2014.
- Matt McGough, MSU-MS, Mechanical Engineering, non-thesis, December 2014.
- Xin Shan, MSU- MS, Agricultural & Biological Engineering Department, planned 2015.

UNDERGRADUATE RESEARCH ASSISTANTS

MSU (55 UG complete, 0 UG current)

- Gerald Emerson and Wesley James, "Material selection for residential ovens," 2002.
- Justin Gilman and Remy Kenny, "Threshold Fatigue Properties of Aluminum Alloys," 2002.
- Johnny Sanders, "Microstructure of Friction Stir Welds," 2003.
- Marvin Hayes, "Characterization of ring patterns in Friction Stir Welds," 2004.
- Jeb Taylor, "Design, analysis, and fabrication of a 4 pt. bend test fixture," 2002.
- Grant Harlow, "Investigation of springback in aluminum sheet metal," 2002-2003.
- Jay Welborn, "Investigation of mechanical properties of friction stir welds," 2002.
- Brent Buckner, "Design, analysis and fabrication of a fiber tow test fixture," 2004-2005.
- Justin Jackson, Aubrey Gill, Daniel Komm, and Kirk Hoffman, "Automation of a tensile tester," 2003.
- Dustin Sartin, Sean Taylor, Derek Strong, Jeremy Smitherman, "Design and fabrication of a heat flux measuring device," 2004.
- Seth Bagwell, Stephanie Barnes, Chad Hastings, Ryan Wade, "Mechanical properties of carbon fiber reinforced polymers," 2004.
- Ben Dyer, "Volume fraction of carbon fiber reinforced polymers," 2004.
- Jeff Ellis, "Tensile testing of polymer resins at cryogenic temperatures," 2004-2005
- HeeJim Cho, Steve Tolleson, Lindsay Assumption, Arney Tawde, "Emissivity measurements of metal sheets," 2005.
- Alex Howard, Matt Jones, Joel Pastorek, Freddy Cork, "Emissivity measurements of metal sheets," 2005.
- Marvin Haynes, "Validation of a force measuring table for the friction stir welding process," 2004-2005.
- Scott Linder "Tensile testing of polymer resins at cryogenic temperatures," 2005.
- Blake Reese, "Tensile testing of polymer resins at cryogenic temperatures," 2005-2006.
- Mark Dyess, "Tensile testing of irradiated single fibers at cryogenic temperatures," 2006.
- Kell Bruner, "Testing and Characterization of composites," 2006.
- Matt Merrill, "Metallographic specimen preparation," 2006-2007.
- Seth Cannon, "Dynamic impact testing of materials," 2006-2008.
- Jonathon Rudd, "Investigation of FSW process parameters," 2007.
- Adam Mayatt, "Investigation of polymer properties at cryogenic conditions," 2007-2008.
- Daniel Magee, "Cryogenic material evaluation," 2007-2008.
- Darryl Murray, "OIM characterization of friction stir welds," 2008.

- Jason Camp, “Evaluation of Ti 6/4 friction stir welds,” 2009.
- Sylvester Stafford, “Mechanical Testing/characterization”, 2009-2013.
- Taylor Murphy, “Mechanical Testing/characterization”, 2009-2012.
- Orlandis Smith, “Mechanical Testing/characterization”, 2010-2011.
- Walter A. Contreras Jr., “Mechanical Testing/characterization”, 2012.
- Bryan Patton, “Mechanical Testing/characterization”, 2011-2013.
- Clay Varner, “Mechanical Testing/characterization”, 2013-2014.
- Jarrett Hawkins, "Mechanical Testing/characterization", 2014.
- Taylor Waters, “Mechanical Testing/characterization”, 2011-2015.
- Cody Toms, “Mechanical Testing/characterization,” 2014-2015.
- Chandler Thurlow, “Mechanical Testing/characterization,” 2015.
- Ryan Anderson, “Impact of environment on plastics,” 2014.
- Seth Roye, “Impact of environment on plastics,” 2015.

UAH (1 UG complete, 2 UG current)

- Chris Hill, “Ultrasonic assisted friction stir welding,” 2015.
- Matt Ursprung, metallurgical specimen preparation and mechanical testing, 2015-present.
- Luke Ray, metallurgical specimen preparation and mechanical testing, 2016-present.

EXTRAMURAL SUPPORT

Principal Investigator

MSU Research Grants (36 awards, \$4.0 M):

- Steel Dynamics Inc., “Microstructural documentation of DSI provided specimens,” PI: 100%, POP: 2/15/15-8/15/15, \$37,912.
- NSF-I/UCRC “Planning Grant: I/UCRC for Advanced Composites in Transportation Vehicles,” co-PI: 10%, POP: 04/01/14 - 03/31/15, \$15,423.
- Tronox, “Investigating the life and failure modes of PVC,” PI:100%, POP: 9/15/14-5/15/15, \$25,941.
- Severstal-Columbus, “Microstructural documentation of Severstal provided specimens,” PI: 100%, POP: 8/15/14-10/15/14, \$16,249.
- NASA-MSFC Cooperative Agreement for Dual Use Technology Development, “Improving the interlaminar shear strength of out-of-autoclave composites,” NNM14AA06A, PI: 100%, \$54,374 (cost share \$27,187), POP: 7/1/14 – 8/10/15.
- NASA-MSFC Cooperative Agreement for Dual Use Technology Development, “Printing outside the box – additive manufacturing processes for fabrication of large aerospace structures,” NNM14AA04A, PI: 100%, \$54,374 (cost share \$27,187), POP: 7/1/14 – 8/10/15.
- Southern Innovations & Technology, "Development of new and innovative base metal for SIT", PI: 100%, \$30,480, POP 3/1/14 – 1/15/15.
- MS Space Grant Consortium-Research Infrastructure, "Printing outside the box – Additive Manufacturing Processes for Fabrication of Large Aerospace Structures," \$50,000 (50% cost share), \$50,000, PI: 100%, POP: 3/15/2014 – 8/1/16.
- Keystone Synergistic Enterprises, Inc., "Extension of Physics Based Laser MDDM Process Mapping," \$50,000, PI 100%, POP: 9/1/13 - 8/31/14.
- STTR Phase II with Keystone Synergistic Enterprises, Inc., “Closed loop control of the TSW process to enable rapid process/part quantification,” \$225,000, PI-100%, POP: 7/22/13 to 7/21/15.
- Raspet Internal Grant, "Improving the interlaminar shear strength of out-of-autoclave composites," \$25,000, PI-100%, POP: 3/1/13 - 2/28/14.

EPSCoR/NASA/MS Space Grant Consortium-research infrastructure, "Effect of core shell rubber tougheners on the quasi-static properties of fiber reinforced polymeric structures," \$50,000 (50% cost share), PI: 100%, POP: 4/1/12-5/31/13.

STTR Phase I with Keystone Synergistic Enterprises, Inc., "Closed loop control of the TSW process to enable rapid process/part quantification," \$20,000, PI-100%, POP: 5/15/12-5/14/13. Grant No. Grant No. NNX12CG36P.

Severstal MS, "Response of DP600 products to dynamic impact loads," \$60,930, PI: 100%, POP: 3/15/2011-8/14/2012.

EPSCoR/NASA/MS Space Grant Consortium-research infrastructure, "Evaluation of out-of-autoclave polymeric resins for high pressure, cryogenic pressure vessel applications," \$50,000 (50% cost share), PI: 100%, POP: 1/01/2011 to 4/30/2012.

EPSCoR/NASA/MS Space Grant Consortium, Quality Control of FSWs by Data Monitoring and Analysis Techniques", \$162,498 (50% cost share), PI: 100%, POP: 1/15/2011 - 6/31/2013.

STTR Phase II with Keystone Synergistic Enterprises, Inc., "Solid state joining of high, strength and high temperature alloys for aerospace applications," \$180,000, PI-100% POP: 8/2010-8/2013. Grant No. NNX10CB70C.

Federal Initiative, "Advancing Disruptive Manufacturing Research," \$625,000, POP: 10/01/2009 - 03/31/2011.

AFOSR, "Identifying grain refinement mechanisms accommodating high strain rate deformation of Ti 6Al-4V," Grant # FA9550-07-1-0282, \$52,261, PI: 100%, POP 07/01/2010 - 06/30/2011.

NASA GSRP, "Investigation of the dynamics of friction stir welding and its relation to defect formation to facilitate optimization of process parameters and tool design," Grant# NNX10AT55H, \$270,000, PI: 100%, POP: 8/15/10-8/23/14.

EPSCoR/NASA/MS Space Grant Consortium, "Optimizing friction stir welding process parameters to eliminate defect formation", \$50,000 (50% cost share), PI: 100%, POP: 1/1/2010-12/31/2010.

Jacobs ESTS, subcontract, "Weld Process Theoretician and Analyst," \$70,000, PI: 100%, POP: 1/4/2010-6/18/2010.

Jacobs ESTS, consultant, "Weld Process Theoretician and Analyst," \$8,558, PI: 100%, POP: 12/16/2009 -12/31/2009.

Lockheed Martin, "Modeling the FSW process for high melting temperature materials using metal cutting analogy," \$44,323, PI: 100%, POP: 12/14/2009-12/31/2010.

STTR Phase I with Keystone Synergistic Enterprises, Inc., "Solid state joining of high strength and high temperature alloys for aerospace applications," \$40,600, PI-100% POP: 2/15/2009-3/31/2010.

NASA-MSFC IPA, "Weld Process Theoretician and Analyst," PI-100%, \$228,045, POP: 2/19/2008-10/13/2009.

EPSCoR/NASA/MS Space Grant Consortium, "Optimizing Friction Stir Weld Tools for Joining of Higher Temperature Melting Materials," PI-100%, \$50,000 (50% cost share), POP: 01/01/2009 - 04/30/2010.

EPSCoR/NASA/MS Space Grant Consortium, "Evaluation of the cryogenic fracture toughness of polymeric composites for pressure vessel applications," PI-100%, \$50,000 (50% cost share), POP: 2/1/2008-4/30/2009.

AFOSR, "The use of modeling based, physical simulation to reveal the relationship between process parameters and microstructural evolution in thermal stir processed (TSP) Ti-6Al-4V," \$206,958, PI-100%, POP: 4/1/2007-12/31/2009.

ASEE/NASA, "Quantifying the FSW process parameters by correlation of microstructures obtained in corresponding model experiments," \$25,000, PI-100%, POP: 1/1/2006-12/31/2006.

EPSCoR/NASA/MS Space Grant Consortium, "Evaluating Mechanical Properties of the FSW Nugget," PI-100%, \$40,000, POP: 10/1/2006-7/31/2007.

STTR Phase II, "Cryo/radiation material system evaluation," \$200,000, PI-100%, POP: 4/1/2006-3/31/2008.
STTR Phase I, "Cryo/radiation material system evaluation," \$39,759, PI-100% POP: 4/8/2005-1/14/2006.
UNO/NCAM-LP, "Investigation of material properties and fabrication techniques for aerospace grade, cryogenic fuel storage tanks," Grant #58404-511, \$637,834, PI-75%, POP: 7/1/2002-3/31/2007.
NASA-MSFC Cooperative Agreement, "Incorporation of microstructure and texture into modeling of the friction stir weld (FSW) process," \$105,979, PI-100%, POP: 4/24/2004-12/31/2005).
Viking Range, "Oven Bottom Materials," \$96,749, PI-100%, POP: 7/1/2002-8/15/2004.

UAH Research Grants (3 awards, \$217K):

NASA-MSFC Cooperative Agreement for Dual Use Technology Development, "Advancing the ultrasonic stir weld (USW) process," PI: 100%, \$62,714 (cost share portion \$31,357), POP: 5/1/16 – 4/28/17.
Aetos Systems, "Additive/subtractive manufacturing of combustion devices," \$85,847, PI-100%, POP: 8/4/2015-5/31/2016.
SBIR Phase I with Keystone Synergistic Enterprises, Inc., "Advanced solid state joining processes for high melting temperature, superalloys," \$19,059, PI-100%, POP: 5/15/15 to 12/14/15.
STTR Phase I with Keystone Synergistic Enterprises, Inc., "Advancing Metal Direct Digital Manufacturing (MDDM) Processes for Reduced Cost Fabrication of Cooled Rocket Engines," \$49,500, PI-100%, POP: 5/15/15 to 5/14/16.

MSU Equipment Grants (13 awards, \$1.8M):

ORNL, CNMS Program, "Texture of Friction Stir Welded CuNB Nanolamellar Composites," PI: 100%, POP: 2/1/15-1/31/16.
ORNL, CNMS Program, "Microstructure of shear bands in Ti-6Al-4V machine chips," PI: 100%, POP: 6/30/14-7/31/16.
ORNL, SHaRE Program, "Validating a Metal Cutting Analogy for the Friction Stir Welding Process in Aluminum alloys," PI: 100%, POP: 7/16/2013-9/30/2014.
NSF-MRI, "Acquisition of a multi-user, analytical transmission electron microscope (TEM) for multi-disciplinary research and training," \$659,981, PI: 80%, 9/1/11-8/31/15.
ORNL, SHaRE Program, "Validating a Metal Cutting Analogy for the Friction Stir Welding Process," PI: 100%, POP: 5/24/2011-5/25/2013.
ORNL, SHaRE Program, "Transmission Electron Microscopy (TEM) Study of Shear Bands in Metal Cut Chips of Ti-6Al-4V," PI: 100%, POP: 5/23/2009-5/22/2011.
NIST Center for Neutron Research (NCNR), "Investigation of size and volume fraction of precipitates in AA 2195 T81 subjected to high strain rate processing," 1 day beam time on SANS-7, PI: 100%, 6/15/2009.
NSF-MRI, "Acquisition of a Multi User, High Resolution, Research Grade X-ray Diffractometer," \$403,185, PI-80%, POP: 9/1/2006-8/31/2009.
MSU BCoE & ME Department, "Instrumented Drop Tower for Education and Research," \$73,000, PI-100%, POP:5/5/2006-8/28/2006.
ORNL, SHaRE Program, "Adhesion of Chitosan Films," PI: 100%, POP: 1/1/2005-10/31/2006.
NSF-IMR, "Acquisition of a Multi User Analytical FE-SEM for Education and Research," \$571,280, PI-80%, POP: 9/1/2002-8/31/2005.
MSU ME Department, "Instrumented Load Frame," \$38,000, PI-100%, POP: 2/19/2003-8/15/2003.
ORNL, SHaRE Program, "Microstructural influences on the development and growth of small fatigue cracks in the near threshold regime," PI: 100%, POP: 11/1/2002-10/31/2003.

TEACHING EXPERIENCE

MSU:

- Materials for ME Design (revised)
- Experimental Methods in Materials Research (revised)
- Experimental Techniques 2 (revised)
- Solid Mechanics Laboratory (developed)
- Experimental Measurements and Techniques (developed)
- Mechanical Metallurgy (developed)
- Materials Selection for Engineering
- Bio-Materials
- Transmission Electron Microscopy Laboratory (revised).
- Mechanical Systems Design (revised)

UAH:

- Mechanics of Materials

AFFILIATIONS

- Materials, Minerals, & Metallurgy Society (TMS).
- American Metals Society (ASM).
- American Society of Engineering Educators (ASEE).

PUBLICATIONS:

Book Chapters (2 total):

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Interface Character in Bulk Cu-Nb Multilayer Nanocomposites," TMS Annual Meeting, 2015, Orlando Fl., March 15-19, 2015.

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Murphy, T.L., Schneider, J.A., Hamann, H., Loewe, P., Portella, P., Lippold, J., "Characteristics of High Strain Rate Behavior in AA 2219-T87 and AA 2195-T87," TMS Annual Conference, San Diego, CA, February 16-20, 2014.

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Schneider, J.A., "Characterizing polymeric composites," Composites-In-Transportation Symposium, March 14-15, 2013, Mississippi State University.

Schneider, J.A., Clark, D.D., "Response of DP600 products to dynamic impact loads," MS&T Conference Presentation, October 7-11, 2012, Pittsburgh, PA.

Williston, D.H., Schneider, J.A., Walker, Bryant, " Metallography of Haynes 230 Nickel Based Alloy Weld Joints," MS&T Conference Presentation, October 7-11, 2012, Pittsburgh, PA.

Schneider, J.A., "Characteristics of robust high strength FSWs ," Dynetics (Invited Talk), Huntsville, Al, September 21, 2012

Schneider, J.A., Myers, O.J., "Composites overview at MSU," NASA-MSFC, (Invited Talk), Huntsville, Al, April 20, 2012.

Schneider, J.A., " Approaches to verifying a material independent, kinematic model for optimizing FSWing," Bernard Ames Seminar Series, Department of Metallurgical & Materials Engineering, (Invited Talk), University of Alabama, Tuscaloosa, March 8, 2012.

Schneider, J.A., "COPV material selection for high pressure cryogenic fuel storage," *Theta Tau Professional Engineering Fraternity Presentation* (Invited Talk), MSU, January 24, 2012.

Schneider, J.A., "Friction Stir Welding Activities at Mississippi State University," MTI (Invited Talk), South Bend, IN, January 4, 2012.

Schneider, J.A., "A kinematic approach to modeling friction stir welding for process optimization," German Aerospace Center, Institute of Materials Research, Koeln, Germany (Invited Talk), August 2, 2011.

Schneider, J.A., "Quantifying hot working conditions to optimize the friction stir welding process," Bundesanstalt für Materialforschung und -prüfung (BAM) Seminar, (Invited Talk) June 29, 2011.

Schneider, J.A., "Verifying and validating a kinematic modeling approach to optimizing FSWing process parameters and tooling," Alcoa Technical Center, March 17, 2011, Pittsburg, PA (Invited Talk)

Querin, J.A., Schneider, J.A., "Developing an Alternative Heat Indexing Equation for FSW," *FSW&P VI*, TMS Annual Meeting, Febr. 27-March 3, 2011, San Diego, CA.

Doude, H.A.R., Schneider, J.A., Nunes, Jr., A.C., "Approaches to in-situ data monitoring of FSW quality," *FSW&P VI*, TMS Annual Meeting, Febr. 27-March 3, 2011, San Diego, CA.

Schneider, J.A., Querin, J.A., "Advancing Disruptive Manufacturing by Advancing Materials and Processing in Engineering Design," *Theta Tau Professional Engineering Fraternity Presentation* (Invited Talk), MSU, November 11, 2010.

Schneider, J.A., "Friction Stir Weld Tool Form and Welding Parameters Influence on Weld Structure and Properties," *91st FABTECH International and AWS Welding Show Professional Program*, Atlanta, GA, November 3, 2010.

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Schneider, J.A., "Friction Stir Welding, Modeling and Monitoring," Manufacturing Technology, Inc., South Bend, IN, (Invited Talk), September 9, 2010.

Schneider, J.A., "Advancing Disruptive Manufacturing by Advancing Materials and Processing in Engineering Design," UAH- Propulsion research Center, Huntsville, AL, (Invited Talk) August 10, 2010.

Schneider, J.A., Venable, R., "Advancing Disruptive Manufacturing Research Project," NASA-Marshall Space Flight Center, Huntsville, AL, (Invited Talk) July 30, 2010.

Schneider, J.A., "Verifying a kinematic modeling approach to optimizing friction stir welding," Bundesanstalt für Materialforschung und -prüfung (BAM) Seminar, (Invited Talk) June 1, 2010

Schneider, J.A., "Using a metal cutting analogy to model the friction stir welding process," Institut fuer Werkstoffe, Technische Universität Braunschweig, Seminar, (Invited Talk) May 17, 2010

Schneider, J.A., "AGG in AA2195, comparison of C-FSW to SR-FSW," Technical Interchange Meeting with NASA MSFC, NASA-LaRC, and Lockheed Martin, Huntsville, AL (Invited Talk), March 29, 2010.

Dong, L, Schneider, J.A., "Microstructural characterization of Ti-6Al-4V metal chips by focused ion beam and transmission electron microscopy," 2010 TMS Annual Mtg. Seattle, WA.

Schneider, J.A., "High strain rate behavior of Ti-6Al-4-V", AFOSR Program Review, Arlington VA, (Invited Talk) February 1-5, 2010.

Schneider, J.A., Nunes, A.C., Jr., "Welding on the Moon," LEDWG Meeting, Huntsville, Al, (Invited Talk) December 10, 2009.

Schneider, J.A., "FSW Marker and Offset Study," NASA Marshall Space Flight Center, Welding Engineers in Materials Processing Laboratory, (Invited Talk), December 10, 2009.

Schneider, J.A., "Living in a material world," Physics Seminar, Mercer University, Macon, GA, (Invited Talk), November 9, 2009.

Schneider, J.A., "Verifying and validating proposed models for FSW process optimization," Presentation to local chapters of AWS, and ASME, Mississippi State University, (Invited Talk) October 2009.

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Schneider, J.A., "Inside Friction Stir Welding," NASA Marshall Space Flight Center, NDE Department, (Invited Talk), September 14. 2009.

Schneider, J.A., "Determining Grain Refinement Mechanisms in Friction Stir Welding," Oak Ridge National Laboratory, (Invited Talk), May 20, 2009.

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Querin, J.A. Schneider, J.A., "Pin Tool Geometry Effects in Friction Stir Welding," *TMS Annual Mtg*, San Francisco, CA., 2009.

Schneider, J.A., "Ares I DUST FSW Tool Tracer Studies," Orion / Ares I Upper Stage

Technical Interchange Meeting On Metallic Materials Characterization, (Invited Talk), Michoud Facility, New Orleans, LA., December 10, 2008.

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Schneider, J.A., Bjorkman, G., Nunes, Jr., A.C., "Tracing the Flow Pattern in Friction Stir Welds," Friction Stir Welded ET 139 Technical Interchange Meeting, NASA-Marshall Space Flight Center, AL., (Invited Talk), May 2008.

Schneider, J.A., "Overview of Materials Science at Mississippi State University," Presentation to SeverCorr, Columbus, MS, (Invited Talk) March 2007.

Schneider, J.A., "Deconvoluting the friction stir weld process for optimizing welds," Washington State University, Mechanical and Materials Science Engineering Seminar, (Invited Talk), November 2007.

Schneider, J.A., "Exploring the Structure of Friction Stir Welds," NASA Marshall Space Flight Center, FSW Seminar Series, (Invited Talk), July 2007.

Schneider, J.A., "Development of Cryogenic Composite Over-Wrapped Pressure Vessels," *2007 National Space & Missile Materials Symposium*, Keystone, CO., (Invited Talk), June 2007.

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Schneider, J.A., Patterson, J., DeLay, T.K., "Cryogenic COPV Material Development," NanoComposites-Their Science, Technology, and Applications, *MS&T 06*, Cincinnati, OH., October 2006.

Carter, R.W., Romine, P., Venable, R., Schneider, J.A., Nunes, Jr., A.C., "Stick-Slip Conditions in the Friction Stir Welding Process," Joining of Advanced and Specialty Materials Including Affordable Joining of Titanium and Joining Technologies for MMCs, *MS&T 06*, Cincinnati, OH., October 2006.

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Nunes, Jr., A.C. and Schneider, J.A., "Introduction to Friction Stir Welding," NSSTC Summer Seminar, UAH Campus, (Invited Talk), Huntsville, AL, July 2006.

Schneider, J.A., Nunes, Jr., A.C., "Characterization of the metal flow path in the friction stir welding process by use of microstructure and texture," *TMS Annual Meeting*, San Antonio, TX., March 2006.

Schneider, J.A., "Unraveling the processing parameters in friction stir welding," South West Research Institute Seminar, San Antonio, TX, (Invited Talk) March 2006.

Schneider, J.A., "Do you have what it takes to be an engineer?" Engineering Week (Invited Talk), University of Texas, Tyler, February 2006

Schneider, J.A., "Metal Flow Paths in Friction Stir Welding," University of Missouri Rolla, Metallurgical Engineering Department Seminar, (Invited Talk) January 2006.

Schneider, J.A., "Unraveling the processing parameters in friction stir welding," Ohio State University, Materials Science and Engineering Department, (Invited Talk), January 2006.

Schneider, J.A., "Engineering of Composites for Cryogenic Fuel Tanks," Presentation to ATK, Iuka MS, July 2005.

Schneider, J.A., "Unraveling the processing parameters in friction stir welding," MPI/PML Seminar, Stuttgart, GE, (Invited Talk), June 2005.

Schneider, J.A., Jones, E., "Specialty Design Solutions from the Department of Mechanical Engineering at Mississippi State University," Economic Development Seminar, MSU, April 2005.

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Schneider, J.A., "Unraveling the processing parameters in friction stir welding," Sandia National Laboratories Seminar, Livermore, CA., (Invited Talk), February 2005.

Schneider, J.A., Nunes, Jr., A.C., "Unraveling the microstructural flow path variations in friction stir welding," *TMS Annual Meeting*, San Francisco, CA., February 2005.

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Schneider, J.A., Beshears, R., Nunes, Jr., A.C., "Computer tomography 3-D imaging of the metal deformation flow path in friction stir welding", *Material Science & Technology (MS&T)/TMS*, New Orleans, LA., Sept. 26-29, 2004.

Schneider, J.A., "Friction Stir Welding," Presentation to local chapters of AWS, SME, and ASME, Mississippi State University, (Invited Talk), March 2003, March 2005, March 2007.

Schneider, J.A., "Thermo-Mechanical processing in Friction Stir Welding (FSW), Presentation to local AWS Chapter, Mississippi State University, (Invited Talk), September 30, 2002.

Schneider, J.A., Biswas, K., Rixecker, G., Aldinger, F., "Grain boundary phase evolution in LPS-SiC during creep testing," Sandia National Laboratories Seminar, Livermore, CA., (Invited Talk), May 2001.

Posters (14 total with 12 by undergraduates):

Waters, T.B., Stockman, T.J., Schneider, J.A., "Additive Manufacturing of Inconel 718," TMS 2015 Annual Meeting Poster Competition, Orlando, FL, March 15-19, 2015.

Waters, T.B., Stockman, T.J., Schneider, J.A., "Out-of-the-Box Printing of Large Metal Parts," MS&T 2014 Annual Meeting Poster Competition, Pittsburg, PA, October 12-16, 2014.

Mujahid, S., Lacy, T., Toghiani, H., Schneider, J.A., "Improving Impact Behavior of Composites, Use of Lantor Soric with Carbon Nano-fibers," Undergraduate Student Research Poster Symposium, Mississippi State University, April 23, 2014

Warner, B., Schneider, J.A., "Effects of Layer Orientation in 3D Printing," Undergraduate Student Research Poster Symposium, Mississippi State University, April 23, 2014

Hawkins, J., Schneider, J.A., " Friction Stir Weld Tool Design," BCoE College - Undergraduate Student Research Poster Symposium, Mississippi State University, April 23, 2014

Varner, C., Schneider, J.A., "Solid state joining of Haynes 230," BCoE College - Undergraduate Student Research Poster Symposium, Mississippi State University, April 23, 2014.

Patton, B., Stafford, S., Varner, C., Crownover, R., Schneider, J., "Design of a portable Friction Stir Welding (FSWing) system and the development of active feedback controls," AWS International Conference and FabTech, Chicago, IL, November 17, 2013 [**Honorable Mention**].

Patton, B., Stafford, S., Varner, C., Crownover, R., Schneider, J., "Design of a portable Friction Stir Welding (FSWing) system and the development of active feedback controls," MSU Undergraduate Research Symposium, August 1, 2013 [**First place award**].

Oyeka, O., Patnaik, S., Grewal, H. Asafa, O., Schneider, J., Liao, J., Williams, L.N., "Role of bone mineral in physical and microstructural characteristics of cortical bone," Biomedical Engineering Society Conference, Atlanta, GA, October 28-30, 2012.

Waters, T., Patton, B., Murphy, T., Schneider, J.A., "Effect of FSWing process on natural aging of aluminum alloys," Honors Conference, Mississippi State, MS, July 26, 2012

Waters, T., Patton, B., Stafford, S., Murphy, T., Doude, H.A.R., Schneider, J.A., "Studies in Friction Stir Welding," ASEE SE Conference, Mississippi State, MS, April 1-3, 2012

Cannon, S., Schneider, J., "Evaluating Fracture Toughness of Polymers," *ASEE-SE Regional Conference*, Louisville, KY, April 1-3, 2007.

DeLay, T.K., Patterson, J., Schneider, J.A., Jackson, J.R., Allison, P.G., "COPV Development for the Aerospace Industry," *2006 National Space & Missile Materials Symposium & the 2006 MISSE Post-Retrieval Conference*, Orlando, FL., June 26-30, 2006.

Schneider, J.A., Nunes, Jr., A.C., "Quantifying the material processing conditions for an optimized FSW process," SR-FSW Demo Day at the NASA-MSFC, August 4, 2005.

Referred Manuscripts: Preparation, Submitted, or In Press:

Manuscripts (3 total):

Hastings, W.C., Schneider, J.A., "Effect of Environment on the Mechanical Properties of Carbon Fibers," *SAMPE Journal* (in process).

Schneider, J.A., "Influence of processing parameters on the flow path in friction stir welding," *Science and Technology of Welding and Joining* (in process).

J.B. Cobb, J.A. Schneider, J. Carpenter, M. Lavato, C. Lui, S. Vachhini, N. Mara, "Friction stir welding of interface dominated nano-materials," (in process)

Symposium Organization (17 total: organizer -4, co-organizer - 13):

"Mechanical Behavior of Thin Solid Films"

- **Sponsored by:** SMD-Mechanical Behavior and MPMD-NanoMechanical Materials Behavior Committees.
- **Organizers:** X Zhang, B.L. Boyce, E. Ma, A. Minor, C.L. Muhlstein, J.A. Schneider
- *TMS 2005, San Francisco, CA.*
- **Proceeding publication:** *Solid Thin Films, Vol. 515, 2007.*

"Amiya Mukherjee Symposium on Processing and Mechanical Response of Engineering Materials: Nano-Behavior of Materials"

- **Sponsored by:** TMS/SMD – Mechanical Behavior, MPMD - Shaping and Forming Committee.
- **Organizers:** J.A. Schneider, R.S. Mishra, Y.T. Zhu, K.B. Morsi, V.L. Acoff, E.M. Taleff, T.R. Bieler.
- *TMS 2006, San Antonio, TX.*
- **Proceeding publication:** *Materials Science & Engineering A.*

"NanoComposites-Their Science, Technology, and Applications"

- **Sponsored by:** TMS/SMD-Mechanical Behavior and Composites Committees.
- **Organizers:** J.A. Schneider, K. Simmons, F. Marquis, L.S. Schadler
- *MS&T 2006, Cincinnati, OH*
- **Proceeding publication:** *MS&T 06 Conference Proceedings.*
- Selected articles published: *JOM*, March 2007.

"Joining of Advanced and Specialty Materials (JASM) XI"

- **Sponsored by:** ASM-Joining Critical Technologies Sector.
- **Organizers:** V.L. Acoff, P. Hoch, T. Lienert, J.A. Schneider
- *MS&T 2007, Detroit, MI.*

"Dislocations: 75 Years of Deformation Mechanisms"

- **Sponsored by:** TMS/SMD-Mechanical Behavior Committee
- **Organizers:** D. Bahr, N. Moody, E. Lilleodden, J. Schneider
- *TMS 2009, San Francisco, CA*
- Selected articles published: *JOM*, Febr. 2009.

“Nanocomposite Materials”

- **Sponsored by:** TMS/SMD Composites Committee
- **Organizers:** J. Spoward, J. Schneider, B. Majumdar, B. Maruyama
- *TMS 2009*, San Francisco, CA

“General Abstracts: Structural Materials Division”

- **Sponsored by:** TMS, Structural Materials Committee
- **Organizers:** E. Ott; R. Hanrahan; J. Schneider
- *TMS 2010*, Seattle, WA

“Advanced Metallic Materials: Technological Exploitation of Mechanical Properties”

- **Sponsored by:** TMS/SMD-Mechanical Behavior Committee
- **Organizers:** A. Sergueeva N. Mara, J. Schneider
- *MS&T 2010*, Houston, TX

“Joining of Advanced and Specialty Materials (JASM) XII”

- **Sponsored by:** ASM-Joining Critical Technologies Sector.
- **Organizers:** J.A. Schneider, N. Zhou, L. Li, M. Brochu, B. Alexandrov, M. Halbig, A. Hirose
- *MS&T 2010*, Houston, TX

“Laser Applications in Materials Processing”

- **Sponsored by:** ASM International's Emerging Technologies Awareness Committee (ETAC) and ASM-Joining Critical Technologies Sector..
- **Organizers:** S. Copley, A. Black, J.A. Schneider
- *MS&T 2010*, Houston, TX

“General Abstracts: Structural Materials Division”

- **Sponsored by:** TMS, Structural Materials Committee
- **Organizers:** E. Ott; R. Hanrahan; J. Schneider
- *TMS 2011*, San Diego, CA

“Joining of Advanced and Specialty Materials (JASM) XIII”

- **Sponsored by:** ASM-Joining Critical Technologies Sector.
- **Organizers:** J.A. Schneider, N. Zhou, L. Li, M. Brochu, B. Alexandrov, M. Halbig, A. Hirose
- *MS&T 2011*, Columbus, OH

“Laser Applications in Materials Processing”

- **Sponsored by:** ASM International's Emerging Technologies Awareness Committee (ETAC) and ASM-Joining Critical Technologies Sector.
- **Organizers:** S. Copley, A. Black, J.A. Schneider
- *MS&T 2011*, Columbus, OH

“Joining and Sustaining of Superalloys”

- **Sponsored by:** TMS High Temperature Alloys Committee (HTAC) and ASM-Joining Critical Technologies Sector.
- **Organizers:** Sammy Tin; Jeffrey Evans; Jon Groh; Judith Schneider; Ji-Cheng Zhao

- *MS&T 2011*, Columbus, OH

"Test Methods I and Testing, Test Methods II" Sessions

- **Sponsored by:** SAMPE
- **Organizers:** J. Lusk, J.A. Schneider
- No. Sessions: 2
- No. Speakers: 10 per session
- *SAMPE 2012*, Baltimore, MD

"Joining of Advanced and Specialty Materials (JASM) XIV"

- **Sponsored by:** ASM-Joining Critical Technologies Sector.
- **Organizers:** N. Zhou, L. Li, M. Brochu, B. Alexandrov, J.A. Schneider, M. Halbig, A. Hirose
- *MS&T 2012*, Pittsburg, PA

"Joining dissimilar materials for transportation light-weighting and energy savings"

- Sponsored by ASM Emerging Technology Awareness Committee
- with Co-Sponsorship by :
AIST Committee
ASM/AWS Joining Critical Technologies Committee
TMS LMD (Al Committee & Mg Committee)
NACE
- **Organizers:** Ron Radzilowski, Judy Schneider, Jorge F. dos Santos, Israel Stol, Gerald Cole, Manish Mehta, Subi Dinda, Jerry Gould, Kester Clark
- *MS&T 2015*, Columbus, OH.

"Additive Forming of Components - Tailoring Specific Material Properties in Low Volume Production"

- Sponsored jointly by TMS MPMD/SMD committees
- **Organizers:** Judy Schneider, Mark Stoudt, Kester Clark, Lee Semiatin, Mohsen Asle Zaeem
- *TMS 2016*, Nashville, TN.

Session Chair: TMS 05, 06, 09, 10, 11, 13; MS&T 06, 08, 09; 10, 11, 12, 13, 14, 15; SAMPE 07, 08, 09, 12.

PROFESSIONAL SERVICE

- 1) Materials Research Society (MRS), **Member**, 1996 to 2008.
 - **Membership Committee:**
Member: 2000 to 2005.
- 2) American Metals Society (ASM), **Member**, 1995 to present.
 - **Joining Critical Technologies Sector**
Member: 2004 to present.
Secretary: 2005 to 2007.
2nd Vice Chair, 2007 to 2008
1st Vice Chair, 2008 to 2009.

Chair, 2009 to 2011.

Past Chair, 2011 to 2013

- **Programming Committee**
Vice Chair: 2013 to 2015.
Chair: 2015 to 2017.
- **ASM Emerging Technologies Committee**
Appointed Member: 2013 to 2016.
- **Woman In Materials Engineering Committee**
Appointed Member: 2015-2018

3) Materials, Minerals, & Metallurgy Society (TMS), **Member**: 2003 to present.

- **Composites Committee (SMD)**:
Member 2003 to present.
JOM Advisor: 2006
- **NanoMechanical Materials Behavior Committee (MPMD)**:
Member: 2004-present.
- **Mechanical Behavior of Materials Committee (SMD)**:
Member: 2003 to present.
Secretary: 2004 to 2006.
Chair: 2006 to 2008.
Past Chair/JOM Advisor: 2008 to 2010
Awards Committee Member: 2010 to 2012
- **Programming Committee**:
SMD Program Repr: 2010 to 2012
TMS Grid Chair: 2012
TMS Program Repr.: 2012 to 2013
MS&T Program Repr.: 2013 to 2015
Program Chair: 2014 to 2016
- **Content Development and Dissemination Committee**
Member at large: 2011 to present (2017)

4) American Ceramic Society (ACerS), **Member**, 1995 to 2008.

5) American Association of University Women (AAUW), **Member**: 1996 to 2008.

6) American Society of Engineering Educators (ASEE), **Member**: 2000 to present.

7) Society of Manufacturing Engineers (SME), **Member**: 2006-2008.

8) Society of Advanced Mfgt & Process Engineering (SAMPE), **Member**: 2008- present.

MSU UNIVERSITY SERVICE

1) MSU-Meridian Manufacturing Technology Program – Ad Hoc committee – 2001.

2) Women in Engineering & Science (WISE), **Member**: 2003-present.

3) Electron Microscopy Center (EMC) Committee, **Member**: 2000-present.

4) Electron Microscopy Center (EMC) Steering Committee, **Member**: 2005 - 2011.

5) Faculty Research Advisory Committee (FRAC), **Member**, 2003- 2006.

6) Ethics Review Committee, **Chair**, 2012.

7) Electron Microscopy Center (EMC) Search Committee, **Member**, 2012.

8) Graduate Council, **Appointed Member**, 2013-2016.

MSU COLLEGE SERVICE

- 1) Materials Working Group, **Member**, 2000-present, **Secretary**: 2000-2003, 2015-2016, **Chair**, 2003- 2007, 2010-2012.
- 2) College of Engineering Women Faculty Group, **Member**, 2002-present.
- 3) Materials Testing and Characterization in Engineering at MSU, **Chair**, 2002-2003.
- 4) Solid Mechanics Committee, **Member**, 2003-present.
- 5) MSU sponsored panel on NSF CAREER Proposals, **panel member**, April 2004.
- 6) MSU Career Development Workshop – **attendee** – Spring 2002.
- 7) MSU SWE Retreat, **panel member**, Spring 2002.
- 8) MSU MWG Certificate Program **Presentation** to Freshman Classes in ABE and ME, Fall 2003.
- 9) MSU MWG Certificate Program **Presentation** to Chemistry Department Retreat, Fall 2004.
- 10) AFS Student Chapter, **co-Advisor**, 1999 to 2000.
- 11) SPE Student Chapter, **co-Advisor**, 2001 to 2003.
- 12) SME Student Chapter, **co-Advisor**, 2005-2007.
- 13) Engineering Research Advisory Committee (ERAC), **Member**, 2008-2012.
- 14) College Dean Search Committee, **Member**, 2008-2009.
- 15) Promotion and Tenure Committee ChE, **Member**, 2012.
- 16) SACS accreditation for the Materials Certificate, **Coordinator**, 2012, 2013.

MSU DEPARTMENT SERVICE

- 1) ME Departmental Undergraduate Committee, **Member**, 2000-present
- 2) ME Departmental Laboratory Users Group, **Chair**, 2002-present.
- 3) ME Departmental Materials ABET Committee, **Chair**, 2009-2012.
- 4) ME Departmental Materials ABET Committee, **Member**, 2012-present.
- 5) ME Departmental Laboratory ABET Committee, **Chair**, 2002-present.
- 6) ME Departmental PhD Qualification Exam, Materials, **Chair**, 2005-2012.
- 7) Evaluation committee for the stem ME program courses, **Member**, 2003 to 2008.
- 8) Committee to revise the ME graphics class curriculum, **Member**, 2001 to 2003.
- 9) Committee to revise the graphics class software, **Member**, 2001 to 2003.
- 10) Search committee for ME faculty position, **Member**, 2001, 2002, 2003, 2004, 2011, **Chair**, 2012.
- 11) Committee to review engineering design courses at MSU, **Member**, 2005-2008.
- 12) Committee to draft metrics for faculty performance, **Chair**, 2006.
- 13) ME Department Head Search, **Member**, 2010-2011.
- 14) Promotion and Tenure ME Committee, **Member**, 2006, 2012.
- 15) Faculty Search Committee, **Chair**, 2012.

OUTREACH SERVICE

The following is a listing of companies who have utilized our laboratory for mechanical testing services.

Northrup Grummon, Long Beach, CA.
Viking Range Corporation,
Greenwood, MS
United Chair, MS
Rolls Royce Naval and Marine,
Pascagoula, MS

L&M Composites, MS
Bryon Foods, MS
Conforma Clad Inc., IN
Uniroyal, CT
HyperComp, UT
Lockheed Martin Corporation, LA

Keystone Engineering, FL
AZZ Corporation, MS
SpaceX, CA

Severstal (now Steel Dynamics Inc.)
Eurocopter, MS
Cimarron Composites, AI