Nancy R. Sottos

Swanlund endowed chair
Materials Science and Engineering & The Beckman Institute
University of Illinois at Urbana Champaign

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Professional Appointments

2020-present	*Head*, Department of Materials Science and Engineering University of Illinois at Urbana-Champaign, Urbana, Illinois
2019-present	*Swanlund Endowed Chair* Department of Materials Science and Engineering University of Illinois at Urbana-Champaign, Urbana, Illinois
2006-2019	*Donald Biggar Willett Professor* of Engineering Department of Materials Science and Engineering University of Illinois at Urbana-Champaign, Urbana, Illinois.
2005-2006	*Interim Head,* Department of Theoretical and Applied Mechanics University of Illinois at Urbana-Champaign, Urbana, Illinois.
2005-present	*Co-Founder and Member Scientific Advisory Board*, Autonomic Materials Inc., Champaign, Illinois
2004-2017	*Co-chair Molecular and Electronic Nanostructures Research Theme,* Beckman Institute for Advanced Science and Technology University of Illinois at Urbana-Champaign, Urbana, Illinois.
2002-2006	*Professor*, Department of Theoretical and Applied Mechanics University of Illinois at Urbana-Champaign, Urbana, Illinois.
2002-present	*Part-time Faculty Member*, Beckman Institute for Advanced Science and Technology University of Illinois at Urbana-Champaign, Urbana, Illinois.
1998-1999	*Assistant Dean of Engineering*, one year rotating position (50% time) University of Illinois at Urbana-Champaign, Urbana, Illinois.
1997-2002	*Associate Professor,* Department of Theoretical and Applied Mechanics University of Illinois at Urbana-Champaign, Urbana, Illinois.
1991- 1997	*Assistant Professor,* Department of Theoretical and Applied Mechanics University of Illinois at Urbana-Champaign, Urbana, Illinois.
1986-1991	*Graduate Fellow,* Department of Mechanical Engineering University of Delaware, Newark, Delaware.
1987-1989	*Summer Research Fellow*, Naval Air Development Center, Warminster, PA.
1986	*Visiting Research Assistant,* Imperial College, Center for Composite Materials, London, England.

Education

Doctor of Philosophy in Mechanical Engineering, 1991.
University of Delaware, Newark, Delaware.

Bachelor of Science in Mechanical Engineering with Distinction, *summa cum laude*, 1986.
University of Delaware, Newark, Delaware.

Awards and Honors

- Member of the National Academy of Engineering (2020–)
- Maybelle Leland Swanlund Endowed Chair (2019–)
- Beckman Institute Spirit and Vision Award (2019)
- Engineering Science Medal, Society of Engineering Science (2018)
- Best Oil and Gas Research Project Award, IChemE Global Awards (2016)
- Hetényi Award from the Society for Experimental Mechanics (2016)
- Drucker Eminent Faculty Award, College of Engineering (2014)
- Fellow, Society for Experimental Mechanics (2012)
- Frocht Award - for Experimental Mechanics Educator of the Year, Society for Experimental Mechanics (2011)
- Lazan Award - for distinguished technical contributions in experimental mechanics, Society for Experimental Mechanics (2011)
- Best Paper Award, Society of Experimental Mechanics, Biological Systems and Materials Technical Division (2010)
- NASA Certificate of Recognition - for development of self-healing bladder materials (2009)
- *SCIENTIFIC AMERICAN 50* (2007) - for technological advances in self-healing materials
- University of Delaware, Dept. of Mech. Engineering Distinguished Alumni (2007)
- Fellow, Society of Engineering Science (2007)
- Donald Biggar Willett Professor of Engineering (2005–2019)
- Hetényi Award, Society for Experimental Mechanics (2004)
- University Scholar, University of Illinois Urbana-Champaign (2002)
- University of Delaware Presidential Citation for Outstanding Achievement (2002)
- American Society for Composites Best Paper Award (2002, 2003)
- Univ. of Illinois Outstanding Engineering Advisor Award (2002, 1999, 1998, 1992)
- Tech Museum of Innovation Award Finalist - Technology Benefiting Humanity (2001)
- Robert E. Miller Award for Excellence in Teaching (1999)
- Univ. of Illinois Award for Excellence in Undergraduate Research (1999)
- Office of Naval Research Young Investigator Award (1992)
- Advanced Materials and Process Eng. International Graduate Student Award (1989)
- Office of Naval Research Graduate Fellow (1986-89)
- Tau Beta Pi Centennial Graduate Fellow (1986-87)
- Tau Beta Pi, Pi Tau Sigma, Phi Kappa Phi Honor Societies

Editorships and Editorial Boards

- Editorial Advisory Board, *Polymer Engineering & Science* (2019–)
- Editorial Board Member, *Multifunctional Materials* (2017–)
- International Advisory Board, *Experimental Mechanics* (2008–)
- Senior Technical Editor, *Experimental Mechanics* (2003–2006)
- Editorial Board Member, *Composites Science and Technology* (2002–)
- Associate Technical Editor, *Experimental Mechanics* (1999–2003)

Professional Affiliations & Leadership Positions

- Leader, Autonomous Materials System Group, Beckman Institute (2018-)
- Co-chair, Molecular and Electronic Nanostructures Research Initiative, Beckman Institute (2004-2017).
- Society for Experimental Mechanics (SEM), President (2014-15), Vice President (2012-13), Executive Committee (2007-2010), Editorial Council Chair (2016-present)
- BP International Center for Advanced Materials (ICAM), Lead PI, Univ. of Illinois Spoke (2013–)
- Society for Engineering Science (SES), Board of Directors (2008-2013), National Student Chapter Coordinator (1999–2002)
- American Association for the Advancement of Science (AAAS) (2011– present)
- American Society for Composites (ASC), member (1993–)
- American Society of Mechanical Engineers (ASME), Composites Committee (1993-1996)
- U. S. National Committee on Theoretical and Applied Mechanics (USNCTAM), Member-at-Large (2004–2007)
- International Society for Optical Engineering (SPIE), Organizing Committee for Conference on Smart Structures and Materials (1995–97)

Panels and Advisory Boards

- Royal Society, Working Group on Animate Materials (2018-)
- Georgia Tech, Department of Materials Science and Engineering External Advisory Board (2019)
- Fredrick Seitz Materials Research Lab Advisory Board, Univ. of Illinois (2019-)
- Center for Materials in Extreme Dynamic Environments (MEDE) Science Advisory Board, John Hopkins University (2016–)
- BP International Center for Advanced Materials (ICAM), Program Management Board Member (2013–)
- University of Delaware, Department of Materials Science and Engineering External Advisory Board (2009–present)

- Department of Energy/Division of Materials Sciences and Engineering Review, Lawrence Berkley National Lab (2010)
- Federal Highway Administration (FHWA), Nanoscale Research Workshop (2009)
- NSF MRSEC Site Review Panel (2009)
- Scientific Board, International Conference on Self-Healing Materials (2007–present)
- National Research Council (NRC) Decadal Survey of Civil Aeronautics (2005-06)
- National Research Council (NRC) Review Panel for NASA's Pioneering Revolutionary Technology Program (2002-03)

Outreach and Development Activities

- *Self-Healing and Sustainability*, Beckman Open House Exhibit (2013, 2015, 2017, 2019)
- Without a Scratch: Self-Healing Materials, Bitesize Science Video produced by American Chemical Society (2012)
- *Everything is Made of Atoms* Exhibit, Museum of Science and Industry, Chicago, IL (2010)
- Provost Committee on Undergraduate Research (2007-2008)
- Chair, Provost's Gender Equity Planning Team (2006-2007)
- Massive Change: The Future of Global Design, Exhibition—*Self-Healing Plastics*, Vancouver Art Gallery (2004-05) and international tour (2005–07)
- Wired Nextfest, Self-Healing Polymers Exhibit at Navy Pier, Chicago, IL (2005)
- Faculty Athletic Representative to the Big Ten Conference (2003–2011)
- Univ. of Illinois Teaching Advancement Board (2000–2002)
- Univ. of Illinois Living-Learning Community Advisory Board (1999–01)
- Chair, Univ. of Illinois College of Engineering Honors Council (1998–2000)
- Univ. of Illinois Women in Engineering Advisory Board (1998–2004)
- Society for Women Engineers (SWE), UIUC Student Chapter Advisor (1997–2007)
- Univ. of Illinois Women in Math, Science and Engineering Advisory Board (1996–)
- Developed High School Teaching Module: *Composites—The Designer Materials* (1995)
- Univ. of Illinois/NSF Materials Workshop for High School Science Teachers (1991–95)

Conference Symposia and Sessions Organized

- Scientific Advisory Board, *Multiscale Mechanochemistry & Mechanobiology (MechanoChemBio) Meeting*, Montreal, July 29-31 (2019).
- Co-Chair, *The 2018 Gordon Research Conference on Multifunctional Materials and Structures*, Ventura CA, January 14-19 (2018).
- Co-Vice Chair, *The 2016 Gordon Research Conference on Multifunctional Materials and Structures*, Ventura CA, January 31-February 5 (2016).
- Session Organizer, *Multifunctional Composites – Self-healing and Bio-inspired Designs*, 20th International Conference on Composite Materials (ICCM), July 19-24 (2015).
- Conference Scientific Committee and Symposium Organizer, *Multifunctional Composites*, 16th International Conference on Experimental Mechanics (ICEM 16), University of Cambridge, July 6-9 (2014).

- Organizer and Chair, Symposium on Mechanics of Materials in Energy Technologies, *ASME Applied Mechanics and Materials Conference McMAT*, Chicago, IL, May 31-June 2 (2011).
- Scientific Committee, Chair, *3rd International Conference on Self-Healing Materials*, Bath, UK, June 26-29 (2011).
- Scientific Committee,16th *U.S. National Congress of Theoretical and Applied Mechanics* (USNCTAM '10), Penn State University, June 26-30 (2010).
- Scientific Committee and Technical Program, *3rd International Conference on Self-healing Materials*, Chicago, IL, June 29 (2009).
- Organizer and chair, Symposium II: *Mechanochemistry in Materials Science*, Materials Research Society (MRS) Fall Meeting, Boston, MA, Nov. 30-Dec. 1 (2009).
- Chair, Scientific Committee and Technical Program, *2nd International Conference on Self-healing Materials*, Chicago, IL, June 29 (2009).
- Scientific Organizing Committee, *45th Annual Technical Meeting of the Society of Engineering Science*, University of Illinois at Urbana-Champaign, October 12-15 (2008).
- Organizer and chair, *Mechanics of Thin Films and Layered Media*, Annual Meeting of the Society for Engineering Science (SES), College Station Texas, October 22-24, (2007).
- Scientific Organizing Committee, *First International Conference on Self-Healing Materials*, Noordwijk, The Netherlands, April 18-20 (2007).
- Scientific Committee,15th *U.S. National Congress of Theoretical and Applied Mechanics* (USNCTAM '06), University of Colorado at Boulder, Boulder, CO, June 25-30 (2006).
- Organizer and chair, *Symposium on Damage and Healing Mechanisms in Synthetic and Biological Materials Systems*, 15th U.S. National Congress of Theoretical and Applied Mechanics (USNCTAM '06), University of Colorado, Boulder, CO, June 25-30 (2006).
- Organizing Committee, *First IEEE Advanced Materials/Failure Analysis (AMFA) Workshop*, San Jose, CA, March 31, 2006.
- Organizer and chair, *Symposium on Smart Materials and Structures* 21st International Congress of Theoretical and Applied Mechanics (ICTAM), Warsaw Poland, 15-21 August (2004).
- Organizer and chair, *Symposium on Healing and Toughening Mechanisms in Polymers and Composites* Annual Meeting of the Society for Engineering Science (SES), Ann Arbor, MI, October 12-15 (2003).
- *SES Student Paper Competition*, The American Society of Mechanical Engineers (ASME) and Society of Engineering Science (SES) Joint Applied Mechanics and Materials Summer Meeting—MMC2001, San Diego, June (2001).
- *Symposium on Interface/Interphase*, Annual Technical Conference of the American Society for Composites (ASC), College Station, TX, Sept. 24-27 (2000).
- *SES Student Paper Competition*, Annual Meeting of the Society of Engineering Science (SES), University of South Carolina, Columbia, SC, Oct. 23-25 (2000).

- *Symposium on Adaptive Materials and Composites*, The American Society of Mechanical Engineers (ASME) and Society of Engineering Science (SES) Joint Applied Mechanics and Materials Summer Meeting—McNU'97, Northwestern University, July (1997).
- *Symposium on Mathematical Modeling and Control of Smart Materials*, Organizing Committee Member—SPIE Conference on Smart Structures and Materials, San Diego, CA (1995-1997).
- Organizing Committee Member, *Symposium on Mathematical Modeling and Control of Smart Materials, SPIE Conference on Smart Structures and Materials*, San Diego, CA, February (1996).
- *Symposium on Mechanics of Shape Memory Alloys*, Society of Engineering Science (SES) Annual Meeting, Tempe AZ, October (1996).
- *Symposium on Mechanics of Shape Memory Alloys*, Society of Engineering Science (SES) Annual Meeting, New Orleans LA, November (1995).
- Organizing Committee Member, *Modeling the Development of Residual Stresses During Thermoset Curing*. Sponsored by NSF, NIST and NCSA, University of Illinois, Urbana, IL, September (1995).
- *Symposium on the Design and Manufacture of Composites*, American Society of Mechanical Engineers (ASME) Winter Annual Meeting, San Francisco, CA, November (1995).
- *Symposium on Adaptive Material Systems*, The American Society of Mechanical Engineers (ASME) Joint Applied Mechanics and Materials Summer Meeting, UCLA, June (1995).

Invited Seminars and Lectures

- Colorado State University, State of Innovation Seminar Series, *Self-Healing Polymers– the long road from Lab Bench to Commercialization*, March 1 (2020)
- Invited Lecture, Materials Research Society (MRS) Fall Meeting, Symposium on Mechanics of Nanocomposites and Hybrid Materials, *Bioinspired Fabrication of Complex Vascular Architectures in Polymers and Composites,* Boston, MA December 4 (2019).
- Invited Lecture, Materials Research Society (MRS) Fall Meeting, Symposium on Mechanobiology to Materials, *Force Amplification in Mechanochemically Active Polymers,* Boston, MA, December 3 (2019).
- Henry L. Pierce Laboratory Seminar Series, MIT, Department of Civil Engineering, Cambridge, MA, *Control of Reaction Fronts for Rapid Energy-Efficient Manufacturing of Multifunctional Polymers and Composites*, October 30 (2019).
- Keynote Lecture, Society for Engineering Science Annual Meeting (SES) Washington University, *Enhancing Mechanochemical Activity in Polymer Nanocomposites*, October 14 (2019).

- Invited Lecture, Symposium on Bioinspired Design of Advanced Materials to honor Prof. Minora Taya, *New Strategies for Manufacturing Multifunctional Composites*, Tokyo University of Science, Japan, Oct. 11 (2019).
- Plenary Lecture, International Conference on Composite Materials (ICCM 22), *New Strategies for Manufacturing Multifunctional Composites*, Melbourne, Australia, Aug. 12 (2019).
- Invited presentation, NSF-AFOSR Joint Workshop on Mechanics-Based Design of Intelligent Material Systems by Multi-material Additive Manufacturing, International Conference on Composite Materials (ICCM 22), *Additive manufacturing of thermosetting polymers and composites using frontal polymerization*, Melbourne, Australia, Aug. 12 (2019).
- Multiscale Mechanochemistry & Mechanobiology (MechanoChemBio) Meeting 2019, Mechanochemical Activation at Solid Interfaces, Montreal, July 31 (2019).
- ACS POLY Polymer Composites and High Performance Materials, *Energy Efficient Manufacturing of Fiber Reinforced Composites*, Sonoma CA, July 23 (2019).
- American Chemical Society, Symposium on New Frontier in Aerospace Polymers, *Additive Manufacturing of Thermosetting Polymers using Frontal Polymerization* Orlando, FL, March 31 (2019).
- Johns Hopkins University, Department of Mechanical Engineering, Baltimore, MD, *Control of Reaction Fronts for Rapid Energy-Efficient Manufacturing of Multifunctional Polymers and Composites*, February 14 (2019).
- Invited Speaker, WE Heraeus Symposium on Materials Development for Automotive Propulsion, *Autonomous Intervention Strategies for Electro-Chemo-Mechanical Stability in Li-ion Batteries*, October 15 (2018).
- Engineering Science Medal Plenary Lecture, 55th Annual Meeting of the Society of Engineering Science, Madrid Spain, *Control of Reaction Fronts for Rapid Energy-Efficient Manufacturing of Multifunctional Polymers and Composites***,** October 10 (2018).
- Texas A&M University, Department of Aerospace Engineering, *Control of Reaction Fronts for Rapid Energy-Efficient Manufacturing of Multifunctional Polymers and Composites,* October 4 (2018).
- Plenary Lecture, SPIE Smart Structures and Nondestructive Evaluation Conference, *Multifunctional Vascularized Polymer and Composites*, March 7 (2018).
- University of Massachusetts Amherst, Polymer Science and Engineering Department, *Polymers with Biologically-Inspired Autonomous Functions*, February 23 (2018).
- Northwestern University, Department of Materials Science and Engineering, *Interfacial Stress, Strain and Stabilization in Li-ion Battery Electrodes,* November 14 (2017).
- Duke University, Department of Mechanical and Materials Engineering Seminar, *Polymers with Biologically Inspired Autonomous Functions,* April 11 (2017).
- Rutgers University, Department of Mechanical Engineering Seminar, *Electrochemical stiffness in lithium-ion batteries,* March 29 (2017).
- Covestro Lecture, Department of Polymer Science and Engineering, University of Southern Mississippi, *Polymers with Biologically Inspired Autonomous Functions,* January 11 (2017).

- Plenary Lecture, Materials Track, ASME IMECE Meeting, *Electrochemical stiffness in lithium-ion batteries – a new concept for understanding electrode response,* Phoenix, AZ, November (2016).
- Distinguished Seminar Series, Department of Mechanical Engineering, University of Delaware, *Polymers with Autonomous Function for Lifecycle Control*, Newark, DE, October 28 (2016).
- BP International Center for Advanced Materials (ICAM) Webinar, *Polymers with Biologically Inspired Autonomous Function*, September 8 (2016).
- BP Advanced Materials Workshop, *Functional Polymers and Composites*, University of Manchester, Manchester, UK, September 20 (2016).
- Plenary Lecture, MACH Conference, *Mechanochemically Active Soft Composites for Energy Dissipation*, Annapolis, MD, April (2016).
- Inaugural Charles W. Bert Memorial Lecture, University of Oklahoma, Department of Mechanical Engineering, *Multifunctional Microvascular Composites*, Tulsa, OK, March (2016).
- Invited Lecture, Gordon Research Conference, *Self-Cooling of Structural Polymers and Composites*, Ventura, CA, January (2016).
- California Institute of Technology, Department of Materials Science Seminar, *The Evolution of Vascularized Polymers and Composites: Regeneration and Remodeling*, Pasadena, CA, September (2015).
- Keynote Lecture, ASME/ASCE Workshop on Mechanics and Materials, *Regeneration of Catastrophic Damage in Polymers*, Champaign IL August (2015).
- Keynote Lecture, ICCM, *Single Channel Microvascular Delivery for Self-Healing Polymer Composites*, Copenhagen, Denmark, July (2015).
- Plenary Lecture, ASME Summer Mechanics and Materials Meeting (McMat), *The Evolution of Vascularized Polymers and Composites,* Seattle, WA, June (2015).
- Plenary Lecture, International Conference on Self-Healing Materials (ICSHM), *Beyond Healing: Autonomous Detection, Protection, and Regeneration*, Durham, NC, June (2015)
- Keynote Lecture, Society for Experimental Mechanics (SEM) Annual Meeting and Exposition, *Regeneration of catastrophic damage in polymers*, Costa Mesa CA, June (2015).
- University of Michigan, Materials Engineering Department, *The Evolution of Vascularized Polymers and Composites*, Ann Arbor, MI, January 16 (2015).
- Plenary Lecture, 16th International Conference on Experimental Mechanics (ICEM 16), *A Multidisciplinary Experimental Approach to Microvascular Self-Healing Composites,* University of Cambridge, July 8 (2014).
- Materials Research Society (MRS) Spring Meeting, Symposium P, Mechanics of Energy Storage and Conversion, *Electrochemically Induced Strains in Lithium-ion Battery Anodes*, San Francisco, CA, April 23 (2014).
- University of Michigan, Mechanical Engineering Department, *Autonomous Protection and Restoration of Electrical Interfaces,* Ann Arbor, MI, April 8 (2014).

- BP Annual Surface Science Meeting, *Self-Healing Surfaces and Interfaces*, Naperville IL, Oct. 16 (2013)
- University of Washington, Department of Mechanical Engineering Seminar, *Autonomous Protection and Restoration of Electrical Interfaces*, Seattle, WA, Oct. 8 (2013)
- International Conference on Composite Materials (ICCM*), Autonomous Restoration of Electrical Interfaces*, Montreal, Canada, July 31 (2013).
- Keynote Lecture, Symposium on Mechanics of Thin Film and Multilayer Structures, Annual Technical Meeting of the Society for Engineering Science, *Molecular Tailoring of Thin Film Adhesion*, Providence, RI, July 29 (2013).
- ACS Polymer Division, Workshop on Composites and High Performance Materials, *Autonomous Healing of Interfacial Failure*, Santa Rosa, CA, July 22 (2013).
- Max Plank Institute of Colloids and Interfaces, Biomaterials Seminar, *Mechanochemically Active Polymers*, Golm, Germany, March 19 (2013).
- Advanced Materials Seminar, Netherlands Ministry of Economic Affairs, Agriculture and Innovation, Self-healing on Small Length Scales, The Hague, Netherlands, December 11-14 (2012).
- TU Delft, Department of Aerospace Engineering, Multiscale Characterization of Autonomous Materials Systems, Delft Netherlands, December 11-14 (2012).
- International Symposium on Experimental Mechanics, Plenary Lecture, *Multiscale Characterization of Autonomous Materials Systems*, Taipei, Taiwan, November 9 (2012).
- European Conference on Composite Materials, *Microvascular Based Regeneration of Polymers*, Venice, Italy, June (2012).
- Composites at Lake Louise Conference, Plenary Lecture, *Autonomous Healing of Interfacial Fracture*, Banff, Canada, Oct. 31 (2011).
- Columbia University, Department of Mechanical Engineering Seminar, *Self-Healing at Small Length Scales*, Oct. 21 (2011).
- GMSI International Symposium, *Self-Healing Polymers and Composites*, Tokyo, Japan, March 1-6 (2011).
- Alcoa Research Center, *Self-Healing Materials Systems*, Pittsburgh, PA, November 18 (2010).
- University of Texas A&M, *Self-Healing Materials Systems: Mechanics Meets Chemistry*, College Station, TX, March 26 (2010).
- Naval Research Laboratory, *Self-Healing Polymers*, Washington, DC, February 18 (2010).
- U.S. National Congress of Theoretical and Applied Mechanics, Symposium on Multi-Physics of Materials and Interfaces, Mechanochemically Active Polymeric Materials, *Activation of Mechanochemically Responsive Polymers*, State College, PA, June 28-July 1 (2010).
- University of Wisconsin, Department of Materials Science and Engineering Seminar, *Mechanochemically Active Polymeric Materials*, Madison, WI, October 15 (2009).
- Auburn University, Department of Materials Science and Engineering Seminar, Auburn, AL, September 18 (2009).

- Keynote Lecture, 2nd International Conference on Self-healing Materials, *Recent Advances in Microcapsule and Microvascular Based Self-Healing Polymers*, Chicago, IL, June 29 (2009).
- Northwestern University, Theoretical and Applied Mechanics Seminar, *Mechanochemically Active Polymeric Materials*, May 14 (2009).
- CalTech University, Department of Aeronautics, GALCIT Seminar, *Mechanochemically Active Polymeric Materials*, March 13 (2009).
- Brown University, Institute for Microscopic and Nanoscale Innovation Seminar, *Mechanochemically Active Polymeric Materials*, November 6 (2008).
- Symposium to Honor John Hutchinson, 2008 ASME International Mechanical Engineering Congress & Exposition, *Dynamic Delamination of Patterned Thin Films*, Boston, MA October 31-November 6 (2008).
- Sectional Lecture, International Union of Theoretical and Applied Mechanics (IUTAM), *Self-healing Materials Systems: Mechanics Meets Chemistry,* Adelaide, Australia, August 24-30 (2008).
- Society for Experimental Mechanics XI International Congress, Keynote, *Dynamic Adhesion Test To Measure Thin Film Interface Toughness,* Orlando, FL, June 2-5 (2008).
- Inaugural Curie Lecture, University of Florida Department of Mechanical and Aerospace Engineering Seminar, *Self-healing Materials Systems*, Gainesville, FL February 5 (2008).
- NASA/Kennedy Space Center Seminar, *Autonomic Healing: Self-Healing Polymer Systems*, Kennedy Space Center, FL, February 4 (2008).
- Lawrence Livermore National Laboratory, Engineering Division Seminar, *Self-Healing Materials Systems*, Livermore, CA, January 28 (2008).
- AFSOR/ARO/DARPA Workshop on Autonomous Materials, *Microvascular Composites for Autonomic Healing*, Boston, MA, November 29 (2007).
- City College of New York (CCNY)-U.S. Army TACOM, *Short Course on Smart Composites*, New York, October 16 (2007).
- Pritchard Seminar, The Pennsylvania State University Math Department, *Mechanics of Self-Healing Materials Systems*, State College, PA, October 1 (2007).
- Thin Air Philosophical Society Symposium on Mechanics and Materials, *Dynamic Adhesive Failure of Patterned Thin Films*, Boulder, CO, August 7, (2007).
- First International Conference on Self-Healing Materials, *Towards Nanoscale Self-Healing*, Noordwijk, The Netherlands, April 19 (2007).
- Harvard University, Materials Science Seminar, Cambridge, MA, *Microvascular Autonomic Composites for Self-Healing*, March 8 (2007).
- Iowa State University, Department of Mechanical Engineering, Ames, Iowa, *Microvascular Autonomic Composites for Self-Healing*, February 16 (2007).
- National University of Ireland, National Biomedical Science Centre, Galway, Ireland, *Recent Developments in Self-Healing Materials Systems*, November 21 (2006).

- Colton Research Society Symposium on Adaptive Structures to Honor I.K. Brunel, *Recent Advances in Microencapsulated Self-Healing Materials*, University of Bristol, Bristol, UK, July 12 (2006).
- USNCTAM Mindlin Symposium, Boulder CO, *Fracture of Ultra-Thin Patterned Films*, June 28 (2006).
- Texas Instruments, Dallas TX, *Laser Spallation Investigation of Tensile Stresses on PBO Adhesion*, April 18 (2006).
- Duke University, Department of Civil Engineering, *Adhesion and Fracture of Micro- and Nano-patterned Thin Films*, February 8 (2006).
- Ecole Polytechnique Federale de Lausanne (EPFL), *Nanoencapsulation for Multifunctional Polymers*, Lausanne, Switzerland, September 12 (2005).
- NanoEurope 2005 Conference, *Nanoencapsulation for Multifunctional Polymers*, St. Gallen, Switzerland, September 13 (2005).
- Motorola Labs, Motorola Nanotechonology Summit, *Nanotechnology for Autonomous Materials Systems*, June 10 (2005).
- Princeton University, Department of Mechanical Engineering, *Mechanics of Self-Healing Materials Systems*, April 15 (2005).
- University of California at Riverside, Department of Mechanical Engineering, *Mechanics of Self-Healing Materials Systems,* April 5 (2005).
- University of Illinois at Urbana-Champaign, Beckman Institute Director's Seminar, *Mechanics of Self-Healing Materials Systems*, Feb. 25 (2005).
- University of Illinois at Urbana-Champaign, Department of Theoretical and Applied Mechanics, Professorial Lecture, *Adhesion and Fracture of Micro- and Nano-patterned Thin Films*, Sept. 16 (2004).
- Rutgers University, Department of Mechanical Engineering, *Adhesion and Fracture of Micro- and Nano-patterned Thin Films*, October 13 (2004).
- Bayer Materials Science, Pittsburg, PA. *Autonomic Healing in Polymers and Composites*, May 27 (2004).
- Department of Aerospace Engineering, University of Illinois at Urbana-Champaign, *Measurement of Thin Film Substrate Interface Strength Using Laser Induced Pulsed Loading*, December 8 (2003).
- Electronic Packaging Symposium, *Self-healing Polymers for Improving Microelectronic Reliability*, Binghamton University, September 25 (2003).
- PolynanomerESS: A Matrix for Design to Build Process, an NSF workshop on Nanotechnology, *Development of Autonomic Materials Systems,* Porto Heli, Greece, June 20 (2003).
- National Institute of Aerospace (NIA), Morphing Seminar Series, *Autonomic Healing of Polymers and Composites*, NASA Langley, VA, April 28 (2003).

- The Chicago Microtechnology and Nanotechnology Community International Technology Exchange Workshop, *Development of Self-Healing Polymers*, April 24 (2003).
- Gordon Conference on Thin Film Mechanical Behavior, *Ferroelectric Thin Film Performance - The Role of Residual Stress and other Matters of Scale*, July 18 (2002).
- University of Delaware, Center for Composite Materials, 2002 R.L. McCullough Research Symposium, *Autonomic Healing of Polymer Composites*, May 22 (2002).
- University of Michigan, Department of Aerospace Engineering Seminar Series, *Residual Stress Effects in Ferroelectric Thin Films*, February 21 (2002).
- Drexel University, Department of Chemical Engineering Seminar Series, *Autonomic Healing of Polymer Composites*, February 5 (2002).
- Beckman Institute for Advanced Science and Technology, Molecular and Electronic Nanostructures Seminar Series (Nano-hour). *Stress Effects in Ferroelectric Thin Films*, October (2001).
- Women of Promise Dinner, Key Note Speaker, Univ. of Delaware, Newark, DE, November 12 (2001).
- Gordon Conference on Composite Materials, *Interfacial Design for Improved Damage Tolerance in Composites*, January 10 (2000).
- University of Delaware, Center for Composite Materials, Composites 2000 Symposium, *Interfacial Design in Composites*, October 6 (1999).
- University of Akron, Department of Polymer Science and Engineering, *Dimensional Stability of Multilayer Circuit Boards*, April 9 (1999).
- Texas A & M University, Foundation Coalition Seminar, *Developing a Framework for Undergraduate Research in Engineering*, February 26 (1999).
- Texas A & M University, Aerospace Engineering Seminar Series, *Electromechanical Behavior of Piezoelectric Composites and Thin Films*, February 25 (1999).
- University of Illinois, Ceramics Seminar Series, Dept. of Materials Science and Engineering *Electromechanical Behavior of Piezoelectric Composites and Thin Films*, February 11 (1999).
- University of Notre Dame, Department of Mechanical Engineering Seminar Series, *Interfacial Fracture Toughness in High Temperature Composites*, September 15 (1998).
- University of Michigan, Department of Mechanical Engineering Seminar Series, *Integration of Smart Materials into Composites*, December 5 (1997).
- University of Delaware, Center for Composite Materials Annual Research Symposium, *Integration of Smart Materials into Composites*, October 14 (1997).
- University of Illinois at Chicago, Department of Mechanical Engineering Seminar Series, Mechanics of Embedded Shape Memory Alloys, April 17 (1997).
- University of Illinois Department of Aeronautical and Astronautical Engineering, *Mechanics of the Fiber Push-out Test*, October 14 (1996).
- National Center for Manufacturing Science (NCMS), *Dimensional Stability of Multilayer Circuit Boards*, Ann Arbor, MI, July 19 (1995).

- Northwestern University, Department of Mechanical Engineering Seminar Series, *Local Behavior of Embedded Active Materials*, Evanston, IL, May 19 (1995).
- University of Illinois, Department of Theoretical and Applied Mechanics Seminar Series, *Micromechanical Behavior of Embedded Active Materials*, April 13 (1995).
- McDonnell-Douglas Co., *Micromechanical Behavior of Embedded Shape Memory Alloys and Piezoelectrics*, St. Louis MO, December 16 (1994).
- University of Delaware, Center for Composite Materials, *Micromechanical Behavior of the Interphase*, Seminar for spring workshop series, Newark DE, May 10 (1994).
- The 25th National Symposium on Fracture Mechanics: New Trends in Fracture Mechanics, *Correlating Interphase Glass Transition and Interfacial Microcracking in Polymer Composites*, Bethlehem PA, June 28 (1993).
- Virginia Polytechnic Institute, Center for Composite Materials and Structures Seminar Series, *Detecting and Tailoring Interphases in Polymer Matrix Composites*, Blacksburg VA, March 4 (1992).
- Owens-Corning Fiberglas, *Thermoelastic Properties of Glass Epoxy Substrates in Multilayer Circuit Boards*, Granville OH, January 21 (1992).
- E. I. Du Pont Co., *The Interphase Region in Polymer Matrix Composites*, Wilmington DE, June 10 (1991).
- American Chemical Society National Meeting (ACS) Procter & Gamble University Exploratory Research Program– Symposium on Polymer Solutions, Blends and Interfaces, *The Influence of the Fiber/Matrix Interface on Local Glass Transition Temperature*, New York, August 27 (1991).
- University of Illinois, Department of Mechanical Engineering Materials Seminar Series, *The Influence of Interphase Regions on Local Thermal Stress States in Composites*, October 26 (1990).

ARCHIVAL JOURNAL PUBLICATIONS (Google Scholar, *h-index=82*, *total citations=32,069*)

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Benjamin Blaiszik (2010-2011)	University of Chicago
Meredith Silberstein (2011-2012)	Asst. Prof., Cornell University
Oya Okman (2012-2015)	BD Corp.
Chan Woo Park (2013-2015)	Korea Atomic Energy Research Institute
Michael Rossol (2015-2016)	NIST, Denver CO
Kailash Jajam (2014-2017)	Research Prof., Univ. of Arkansas
Jason Patrick (2014-2017)	Asst. Prof, North Carolina State University
Omer Ozgur Capraz (2015-2018)	Asst. Prof., Oklahoma State University
Mostafa Yourdkhani (2015-2018)	Asst. Prof., Colorado State University
Caterina Lamuta (2017-2018)	Asst. Prof., University of Iowa
Wenle Li (2015-2018)	BASF
Behrad Koobor (2017-2019)	Asst. Prof., Rowan University
Julie Hemmer (2019-)	

PhD Students

Li Li (1995)	IBM, Endicott NY
Vernon Bechel (1997)	Wright Patterson Air Force Materials Lab, Dayton OH
Krishna Jonnalagadda (1997)	Motorola Labs, Schaumburg, IL
Pranav Shrotriya (2000)	Professor, Iowa State University
Lei Lian (2000)	Applied Materials, Santa Clara CA
Junlan Wang (2003)	Professor, University of Washington
Eric Brown (2003)	Los Alamos National Lab
Michael Keller (2007)	Professor, University of Tulsa
Katie Toohey (2007)	Rose-Hulman Institute of Technology
Jason Kamphaus (2007)	Schlumberger, Dallas TX
Fang Li (2007)	Consultant, Las Vegas, NV
Thomas Berfield (2008)	Assoc. Prof., University of Louisville
Soma Kandula (2008)	Intel, Chandler, AZ
Phuong Tran (2010)	Senior Lecturer, RMIT University, Melbourne
Benjamin Blaiszik (2010)	University of Chicago
Andrew Hamilton (2011)	Assoc. Professor, Univ. of South Hampton (UK)
David McIlroy (2011)	Ticona Manufacturing, Florence, KY
Jericho Moll (2011)	Exponent, Boston, MA

Cassandra Kingsbury (2012)	Assoc. Professor, South Dakota School of Mines and Technology, Rapid City, SD
Brett Beiermann (2013)	3M, Minneapolis, MN
Martha Grady (2014)	Asst. Prof., Univ. of Kentucky
Jason Patrick (2014)	Asst. Prof., North Carolina State Univ.
Sen Kang (2015)	Dow, Boston MA
Amanda Jones (2015)	Sandia National Laboratory, Albuquerque, NM
Elizabeth Jones (2015)	Sandia National Laboratory, Albuquerque, NM
Brett Krull (2015)	3M, Minneapolis, MN
Tae Wook Lim (2017)	KC Corporation, Seoul, Korea
Thu Doan (2017)	PPG
Jaejun Lee (2018)	Postdoctoral Researcher, UC Santa Barbara
Tae Ann Kim (2018)	Senior Scientist, KIST
Christopher Montgomery (2018)	Solvay, Greenville SC
Jaeuk Sung (2019)	Samsung, Seoul, Korea
Anthony Griffin (2019)	Optivolt Labs
Mayank Garg	anticipated 2020
Lihong Zhao	anticipated 2020
Leon Dean	anticipated 2020
Evan Lloyd	anticipated 2020
Satoshi Matsuo	anticipated 2021
Polette Centallas	anticipated 2021
Jia En Aw	anticipated 2021
Doug Ivanoff	anticipated 2022
Dhawal Thakare	anticipated 2022
Kelly Cheng	anticipated 2022
Nil Parikh	anticipated 2022
Justine Paul	anticipated 2023
Luis Koett	anticipated 2024

MS Students

David L. Hiemstra (1991)	Prince Inc., Holland MI
George L. Kline (1995)	Veech and Black, MI
Eugene A. Stout (1997)	Motorola, Arlington Heights IL
Daniel Jung (1998)	Boeing, Seattle WA
Amanda K. Davis (1999)	Allied Signal, Tempe AZ
Jennifer Hommema (1999)	Sunstrand, Rockford IL
Jamie Kimberley (2002)	Asst. Prof., New Mexico Statue University
Brian Varcoe (2007)	Caterpillar
Joel Krehbiel (2008)	University of Illinois
Jericho Moll (2009)	Exponent, Boston, MA
Christopher Matthews (2015)	TPI Composites, Warren, RI
Anthony Griffin (2015)	Ph.D. Student, University of Illinois
Ariel Wilhelmsen (2015)	Boeing, CA
Sonika Rajput (2017)	Xerion, Dayton OH

Andrew Lauer (2018)	BASF
Megan Brooks (2018)	Lockhead Martin Corp., Fort Worth, TX
Jacob Diamond	expected 2020

Undergraduate Researchers

	Graduate School Attended
Logan Greening (1991-92)	
Jim Ockers (1991-92)	University of Illinois Urbana-Champaign
Kathleen Durkin (1991-94)	Northwestern University
Wyatt Warthen	
Michelle Kneer (1993)	University of Michigan
Steve McFarlin (1993-94)	
Tom Keane (1993-94)	Renssalear Polytechnic Institute
Tom Gitzinger (1993-94)	Renssalear Polytechnic Institute
Martha Grover (1994)	Cal Tech (now a Prof. at Georgia Tech)
Amanda Davis (1995-97)	University of Illinois Urbana-Champaign
Jennifer Woertz (1995-96)	University of Texas-Austin
Jennifer Myers (1996)	University of Illinois Urbana-Champaign
Adam Benzuly (1996-97)	
Eric Brown (1997)	University of Illinois Urbana-Champaign
Sonya Favila (1997)	
Carmen Lilly (1997-98)	Northwestern (now Prof. at Univ. Illinois Chicago)
Jason Pelch (1997-98)	University of Massachusetts Amherst
Thomas Berfield* (1998-01)	University of Illinois Urbana-Champaign
Ryan Giordano (1999-00)	
Stephen Grunschel (1999-01)	Brown University
Justin Ford (2000)	
Phil Spencer (2001)	
Bryan Lueng (2001)	Stanford University
Alyssa Rzeszutko (2001-2004)	University of Washington
Joesph Lai (2004)	University of Michigan
Joel Krehbiel (2005)	University of Illinois
Stephanie Fabre (2005)	
Jessica Berry (2005)	Georgia Tech
Adam Cobb (2005-06)	SIU Medical School
Michael Zeunert (2006)	
Chuma Nweke (2006)	
Brett Biermann (2006)	University of Illinois Urbana-Champaign
Jill Franke (2006-08)	
Angelica Vargas (2007)	
Alicia Tosdal (2007)	
Eleanor Good (2007-08)	
Marta Baginska (2008-09)	University of Illinois Urbana-Champaign

Amy Karony (2009-2010)	
Liz Buzzard (2009-2010)	
D.J. Farfield (2009-2011)	Northwestern University
Ashley Ford (2009-2011)	
Kyle Lamson (2010-2011)	
Ryan VanEcho (2010-2011)	
Alicia Cintora (2012-2014)	Cornell University
Jamie Kelleher (2012-2013)	University of Colorado Boulder
Maxwell Li (2013-2014)	University of Illinois Urbana-Champaign
Elizabeth Fedonina (2013-2015)	
Pritam Bhattarai (2013-2014)	
David Brandyberry (2013-2014)	University of Illinois Urbana-Champaign
Samantha Maasarani (2013-2015)	
Carrington Watkins (2013-2015)	
Zoey Sowinski (2014-2015)	
Fang Ewe (2014)	
David Litt (2014-2016)	
Weixian Hu (2015-2016)	TU Delft, Netherlands
Kate Jennings (2015-2016)	
Mudassir Khan (2015-2016)	
Alexander Snyder (2015)	Northern Illinois University
Justin Song (2015-2016)	
Heer Majithia (2016-2018)	Duke University
Thomas Molley (2016-2017)	University of New South Wales (UNSW) Sydney
Nicholas Sherman (2016-2018)	
Adam Ladd (2016-2018)	Northwestern University
Brian Wu (2017-2018)	Cornell University
Jacob Komenda (2017-2018)	University of Washington
Wolfgang Huber (2017-2018)	
Kevin Li (2017-2019)	
Young Hee Yoon (2017-2018)	Georgia Tech
Jacob Drewniak (2017-2018)	
Camille Faruggio (2017-)	MIT
Murtaza Zohair (2018)	Vanderbilt University
Enola Ma (2018-)	
Grayson Schaer (2018-)	
David Nejdl (2018-)	
Sophie Liu (2018-)	
Simon Egner (2018-)	Northwestern University
Suzanne Peterson (2018-)	
Ian Fluek (2019-)	
Alex Kosyakov (2019-)	