

NANCY R. SOTTOS
DONALD B. WILLETT PROFESSOR
MATERIALS SCIENCE AND ENGINEERING & THE BECKMAN INSTITUTE
UNIVERSITY OF ILLINOIS AT URBANA CHAMPAIGN

<https://publish.illinois.edu/sottosgroup/>
n-sottos@illinois.edu

PROFESSIONAL APPOINTMENTS

- 2006-present *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

- 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–)
- 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 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 (2018-2019)
- Georgia Tech, Department of Materials Science and Engineering External Advisory Board (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)
- 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)
- 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

- 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

- 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), *Autonomous Strategies for Restoration of Electrical Interfaces*, 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, January 16 (2015).
- 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 aan Zee, 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 Nanotechnology 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).
- PolyanomerESS: 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*=72)

219. Roberston, I.D., Yourdkhani, M., Centellas, P.J., Aw, J.E. Ivanoff, D.G., Goli, E., Lloyd, E.M., Dean, L.M. Sottos, N.R., Geubelle, P.H., Moore, J.S. and White, S.R., Rapid energy-efficient manufacturing of polymers and composites via frontal polymerization, *Nature*, **557**, 223-227, (2018). DOI: 10.1038/s41586-018-0054-x
218. Lu, X., Li, W., Sottos, N.R., and Moore, J.S., Autonomous Damage Detection in Multilayered Coatings via Integrated Aggregation-Induced Emission Luminogens, *ACS Applied Materials and Interfaces*, **10**, 40361-40365 (2018). DOI: 10.1021/acsami.8b16454
219. Kim, T.A., Maxwell, R.J., Moore, J.S., White, S.R., and Sottos, N.R. Mechanical Reactivity of Two Different Spiropyran Mechanophores in Polydimethylsiloxane, *Macromolecules*, **51** (22) 9177-9183 (2018). DOI: 10.1021/acs.macromol.8b01919.
217. Odarczenko, M., Thakare, D., Li, W., Yang, K., Tang, S., Vankateswaren, S.P., Sottos, N.R. and S.R. White, Self-Protecting Epoxy Coatings with Anticorrosion Microcapsules, *ACS Omega*, **3** (10) 14157-14164 (2018). DOI: 10.1021/acsomega.8b01950
216. Dean, L.M., Krull, B.P., Li, K.R, Fedonina, Y.I., White, S.R, and Sottos, N.R., Enhanced Mixing of Microvascular Self-Healing Reagents Using Segmented Gas–Liquid Flow, *ACS Applied Materials & Interfaces*, **10** (38), 32659-32667 (2018). DOI: 10.1021/acsami.8b09966
215. Sung, J., Robb, M.J., White, SR, Moore, J.S. and Sottos, N.R. Interfacial Mechanophore Activation Using Laser-Induced Stress Waves, *J. Am. Chem. Soc.*, **140** (15), 5000–5003 (2018). DOI: 10.1021/jacs.8b01427
214. Geng, J.L., Li, W., Smaga, L.P., Sottos, N.R., Chan, J., Damage-Responsive Microcapsules for Amplified Photoacoustic Detection of Microcracks in Polymers, *Chem. Mater.*, **30** (7), 2198–

- 2202 (2018) DOI: 10.1021/acs.chemmater.8b00457
213. Çapraz, Ö Ö, Rajput, S., White, S.R. and Sottos, N.R., Strain Evolution in Lithium Manganese Oxide Electrodes, *Experimental Mechanics* (2018). DOI: 10.1007/s11340-018-0381-8
212. Feinburg, A.M., Hernandez, H.L., Plantz, C.L., Mejia, E.B., Sottos, N.R., White, S.R. and Moore, J.S., Cyclic Poly(phthalaldehyde): Thermoforming a Bulk Transient Material, *ACS Macro Letters*, **7**, 47-52 (2018). DOI: 10.1021/acsmacrolett.7b00769
211. Baginska, M. Sottos, N.R. and White, S.R., Core–Shell Microcapsules Containing Flame Retardant Tris(2-chloroethyl phosphate) for Lithium-Ion Battery Applications, *ACS Omega*, **3**, 1609-1613 (2018). DOI: 10.1021/acsomega.7b01950
210. Zhao, L., Chenard, E., Capraz, O.O., Sottos, N.R. and White, S.R., Direct Detection of Manganese Ions in Organic Electrolyte by UV-vis Spectroscopy, *Journal of the Electrochemical Society*, **165**, A345-A348 (2018). DOI: 10.1149/2.1111802jes
209. Pety, S.J., Aw, J.E., Gendusa, A.C., Barnett, P.R., Calvert, Q.A., Sottos, N.R. and White, S.R., Effect of microchannels on the crashworthiness of fiber-reinforced composites, *Composites Structures*, **184**, 428-436 (2018). DOI: 10.1016/j.compstruct.2017.09.105
208. Gergeley, R.C.R., Santa Cruz, W.A., Krull, B.P., Pruitt, E.L., Wang, J., Sottos, N.R. and White, S.R., Biomimetics: Restoration of Impact Damage in Polymers via a Hybrid Microcapsule–Microvascular Self-Healing System, **28**, 1704197 (2017). DOI: 10.1002/adfm.201704197. *Cover feature.*
207. Lim, T.-W., Park, C.W., White, S.R., Sottos, N.R., Time Release of Encapsulated Additives for Enhanced Performance of Lithium-Ion Batteries, *ACS Applied Materials & Interfaces*, **9**, 40244-40251 (2017). DOI: 10.1021/acsaami.7b12169
206. Yup, S.K., Jones, A.R., Sottos, N.R. and White, S.R., Manufacturing of unidirectional glass/epoxy prepreg with microencapsulated liquid healing agents, *Composites Science and Technology*, **153**, 190-197 (2017). DOI: 10.1016/j.compscitech.2017.10.017
205. Hart, K.R., Chia, X.L., Sheridan, L.E., Wetzal, E.D., Sottos, N.R. and White, S.R., Mechanisms and characterization of impact damage in 2D and 3D woven fiber-reinforced composites, *Composites: Part A*, **101**, 432-443 (2017). DOI: 10.1016/j.compositesa.2017.07.004
204. Kang, S., Yang, K., White, S.R. and Sottos, N.R., Silicon Composite Electrodes with Dynamic Ionic Bonding, *Advanced Energy Materials*, 1740045 (2017). DOI: aenm.20170045
203. Çapraz, Ö Ö, Bassett, K.L., Gewirth, A.A. and Sottos, N.R., Electrochemical Stiffness Changes in Lithium Manganese Oxide Electrodes, *Advanced Energy Materials*, **7** (7) 1601778 (2017). DOI: 10.1002/aenm.201601778
202. Tang, S., Yourdkhani, M., Casey, C.M.P., Sottos, N.R., White, S.R. and Moore, J.S., Low-Ceiling-Temperature Polymer Microcapsules with Hydrophobic Payloads via Rapid Emulsion-Solvent Evaporation, *ACS Applied Materials & Interfaces*, **9**, 20115-20123 (2017). DOI: 10.1021/acsaami.7b05266
201. Gergely, R.C.R., Rossol, M.N., Tsubaki, S., Wang, J., Sottos, N.R. and White, S.R., A Microvascular System of the Autonomous Regeneration of Large Scale Damage in Polymeric Coatings, *Advanced Engineering Materials*, 1700319 (2017). DOI: 10.1002/adem.201700319

200. Gergely, R.C.R., Sottos, N.R. and White, S.R., Regenerative Polymeric Coatings Enabled by Pressure Responsive Surface Valves, *Advanced Engineering Materials*, 1700308 (2017). DOI: 10.1002/adem.201700308
199. Robertson, I.D., Dean, L.M., Rudebusch, G.E., Sottos, N.R., White, S.R. and Moore, J.S., Alkyl Phosphite Inhibitors for Frontal Ring-Opening Metathesis Polymerization Greatly Increase Pot Life, *ACS Macro Letters*, **6**, 609-612 (2017). DOI: 10.1021/acsmacrolett.7b00270
198. Hart, K.R., Chia, X.L., Sheridan, L.E., Wetzel, E.D., Sottos, N.R. and White, S.R., Comparison of Compression-After-Impact and Flexure-After-Impact protocols for 2D and 3D woven figure-reinforced composites, *Composites: Part A*, **101**, 471-479 (2017). DOI: 10.1016/j.compositesa.2017.07.005
197. Hart, K.R., Lankford, S.M., Freund, I.A., Patrick, J.F., Krull, B.P., Wetzel, E.D., Sottos, N.R. and White, S.R., Repeated healing of delamination damage in vascular composites by pressurized delivery of reactive agents, *Composites of Science and Technology*, 151, 1-9 (2017). DOI: 10.1016/j.compscitech.2017.07.027
196. Hart, K.R., Chia, P.X.L., Sheridan, E.L., Wetzel, E.D., Sottos, N.R., and White, S.R., Mechanisms and characterization of impact damage in 2D and 3D woven fiber-reinforced composites, *Composites Part A*, **101**, 432-433 (2017). DOI: 10.1016/j.compositesa.2017.07.004
195. Patrick, J.F., Krull, B.P., Garg, M., Mangun, C.L., Moore, J.S., Sottos, N.R., and White, S.R., Robust Sacrificial Polymer Templates for 3D Interconnected Microvasculature in Fiber-Reinforced Composites, *Composites Part A*, **100**, 361-370 (2017). DOI: 10.1016/j.compositesa.2017.05.022
194. Zhang, C., Awasthi, A.P., Geubelle, P.H., Grady, M.E. and Sottos, N.R., Effects of interface roughness on cohesive strength of self-assembled monolayers, *Applied Surface Science*, **397**, 192-198 (2017). DOI: 10.1016/j.apsucs.2016.10.089
193. Patrick, J.F., Robb, M.J., Sottos, N.R., Moore, J.S. and White, S.R., Polymers with autonomous life-cycle control, *Nature*, **540**, 363-370 (2016). DOI: 10.1038/nature21002
192. Kim, T.A., Beiermann, B.A., White, S.R. and Sottos, N.R., Effect of Mechanical Stress on Spiropyran-Merocyanine Reaction Kinetics in a Thermoplastic Polymer, *ACS Macro Letters*, **5**, 1312-1316 (2016). DOI: 10.1021/acsmacrolett.6b00822
191. Doan, T.Q., Leslie, S.L., Kim, S.Y., Bhargava, R., White, S.R. and Sottos, N.R., Characterization of core-shell microstructure and self-healing performance of electrospun fiber coatings, *Polymer*, **107**, 263-272 (2016). DOI: 10.1016/j.polymer.2016.10.062
190. Ren, Y., Lee, J., Sottos, N.R. and Moore, J.S., Crystal Structure, Thermal Properties and Shock-Wave-Induced Nucleation of 1,2-bis (phenylethynyl) benzene, *Crystal Growth & Design*, **16**, 6148-6151 (2016). DOI: 10.1021/acs.cgd.6b01119
189. Robb, M.J., Kim, T.A., Halmes, A.J., White, S.R., Sottos, N.R. and Moore, J.S., Regioisomer-Specific Mechanochromism of Naphthopyran in Polymeric Materials, *Journal of the American Chemical Society*, **138**, 12328-12331 (2016). DOI: 10.1021/jacs.6b07610
188. Zhang, Y., Ying, H., Hart, K.R., Wu, Y., Hsu, A.J., Coppola, A.M., Kim, T.A., Yang, K., Sottos, N.R., White, S.R. and Cheng, J., Malleable and Recyclable Poly(urea-urethane)

- Thermosets bearing Hindered Urea Bonds, *Advanced Materials*, **28**, 7646-7651 (2016). DOI: 10.1002/adma.201601242
187. Robb, M.J., Li, W., Gergely, R.C.R., Matthews, C.C., White, S.R., Sottos, N.R. and Moore, J.S., A Robust Damage-Reporting Strategy for Polymeric Materials Enabled by Aggregation-Induced Emission, *ACS Central Science*, **2**, 598-603 (2016). DOI: 10.1021/acscentsci.6b00198 *Cover feature*.
186. Tavassol, H., Jones, E.M.C., Sottos, N.R. and Gewirth, A.A., Electrochemical stiffness in lithium-ion batteries, *Nature Materials*, **15**, 1182-1187 (2016). DOI: 10.1038/nmat4708
185. Awasthi, A.P., Grady, M.E., Kim, I.H., Sottos, N.R. and Geubelle, P.H., Nanoscale mechanical tailoring of interfaces using self-assembled monolayers, *Mechanics of Materials*, **98**, 71-80 (2016). DOI: 10.1016/j.mechmat.2016.04.003
184. Jajam, K.C. and Sottos, N.R., Energy Absorption Behavior of Polyurea Under Laser-Induced Dynamic Mixed-Mode Loading, *Journal of Dynamic Behavior Materials*, **2**, 379-390 (2016). DOI: 10.1007/s40870-016-0073-3
183. Safdari, M., Najafi, A.R., Sottos, N.R., and Geubelle, P.H., A NURBS-based generalized finite element scheme for 3D simulation of heterogenous materials, *Journal of Computational Physics*, **318**, 373-390 (2016). DOI: 10.1016/j.jcp.2016.05.004
182. Jones, E.M.C., Capraz, O.O., White, S.R. and Sottos, N.R., Reversible and Irreversible Deformation Mechanisms of Composite Graphite Electrodes in Lithium-Ion Batteries, *Journal of the Electrochemical Society*, **163**, A1965-A1974 (2016). DOI: 10.1149/2.0751609jes
181. Krull, B., Patrick, J., Hart, K., White, S. and Sottos, N., Automatic Optical Crack Tracking for Double Cantilever Beam Specimens, *Experimental Techniques*, **40**, 937-945 (2016). DOI: 10.1111/ext.12148
180. Krull, B.P., Gergely, R.C.R., Santa Cruz, W.A., Fedonina, Y.I., Patrick, J.F., White, S.R. and Sottos, N.R., Strategies for Volumetric Recovery of Large Scale Damage in Polymers, *Advanced Functional Materials*, **26**, 4561-4569 (2016). DOI: 10.1002/adfm.201600486
179. Coppola, A.M., Hu, L., Thakre, P.R., Radovic, M., Karaman, I., Sottos, N.R. and White, S.R., Active cooling of a microvascular shape memory alloy-polymer matrix composite of hybrid materials, *Advanced Engineering Materials*, **82**, 170-179 (2016). DOI: 10.1002/adem.201600020
178. Li, W., Matthews, C.C., Yang, K., Odarczenko, M.R., White, S.R. and Sottos, N.R., Autonomous indication of mechanical damage in polymer coatings, *Advanced Materials*, **28**, 2189-2194 (2016). DOI: 10.1002/adma.201505217 *Cover feature*.
177. Coppola, A.M., Warpinski, L.G., Murray, S.P., Sottos, N.R. and White, S.R., Survival of actively cooled microvascular polymer matrix composites under sustained thermomechanical loading, *Composites Part A: Applied Science and Manufacturing*, **82**, 170-179 (2016). DOI: 10.1016/j.compositesa.2015.12.010
176. Yang, K., Lee, J. Sottos, N.R. and Moore, J.S., Shock-induced ordering in a nano-segregated network-forming ionic liquid, *JACS*, **137**, 16000-16003 (2015). DOI: 10.1021/jacs.5b10721
175. Jones, A.R., Watkins, C.A., White, S.R. and Sottos, N.R., Self-healing thermoplastic-toughened epoxy, *Polymer*, **74**, 254-261 (2015). DOI: 10.1016/j.polymer.2015.07.028

174. Diesendruck, C.E., Sottos, N.R., Moore, J.S. and White, S.R., Biomimetic Self-Healing, *Angewandte Chemie International Edition*, **54**, 2-22 (2015). DOI: 10.1002/anie.201500484
173. Coppola, A.M., Griffin, A.S., Sottos, N.R. and White, S.R., Retention of mechanical performance of polymer matrix composites above the glass transition temperature by vascular cooling, *Composites: Part A* (2015). DOI: 10.1016/j.compositesa.2015.07.012
172. Park, C.W., Kang, S.-K., Lopez Hernandez, H., Kaitz, J.A., Wie, D.S., Shin, J., Lee, O.P., Sottos, N.R., Moore, J.S., Rogers, J.A. and White, S.R., Thermally Triggered Degradation of Transient Electronic Devices, *Advanced Materials*, **27**, 3783-3788 (2015). DOI: 10.1002/adma.201501180 *Cover feature*.
171. Kang, S., Baginska, M., White, S.R. and Sottos, N.R., Core-Shell Polymeric Microcapsules with Superior Thermal and Solvent Stability, *ACS Applied Materials & Interfaces* (2015). DOI: 10.1021/acsami.5b02169
170. Hart, K.R., Sottos, N.R. and White, S.R., Repeatable self-healing of an epoxy matrix using imidazole initiated polymerization, *Polymer*, **67**, 174-194 (2015). DOI: 10.1016/j.polymer.2015.04.068
169. Celestine, A.-D.N., Sottos, N.R. and White, S.R., Autonomic healing of PMMA via microencapsulated solvent, *Polymer*, **69**, 241-248 (2015). DOI: 10.1016/j.polymer.2015.03.072
168. Safdari, M., Najafi, A.R., Sottos, N.R. and Geubelle, P.H., A NURBS-based interface-enriched generalized finite element method for problems with complex discontinuous gradient fields, *International Journal for Numerical Methods in Engineering*, **101**, 950-964 (2015). DOI: 10.1002/nme.4852
167. Baginska, M., Kaitz, J.A., Jones, A.R., Long, B.R., Gewirth, A.A., Sottos, N.R., Moore, J.S. and White, S.R., Electropolymerization of Microencapsulated 3-hexylthiophene for Lithium-Ion Battery Applications, *Journal of the Electrochemical Society*, **162**, A373-A377 (2015). DOI: 10.1149/2.0451503jes
166. Gladman, A.S., Celestine, A.-D.N., Sottos, N.R. and White, S.R., Autonomic Healing of Acrylic Bone Cement, *Advanced Healthcare Materials*, **4**, 202-207 (2015). DOI: 10.1002/adhm.201400084 *Cover feature*.
165. Gergely, R.C., Pety, S.J., Krull, B.P., Patrick, J.F., Doan, T.Q., Coppola, A.M., Thakre, P.R., Sottos, N.R., Moore, J.S. and White, S.R., Multidimensional Vascularized Polymers using Degradable Sacrificial Templates, *Advanced Functional Materials*, **25**, 1043-1052 (2015). DOI: 10.1002/adfm.201403670
164. Hernandez, H.L., Kang, S.-K., Lee, O.P., Hwang, S.-W., Kaitz, J.A., Inci, B., Park, C.W., Chung, S., Sottos, N.R., Moore, J.S., Rogers, J.A. and White, S.R., Triggered Transience of Metastable Poly(phthalaldehyde) for Transient Electronics, *Advanced Materials*, **26**, 7637-7642 (2014). DOI: 10.1002/adma.201403045
163. Baginska, M., Blaiszik, B.J., Rajh, T., Sottos, N.R. and White, S.R., Enhanced autonomic shutdown of Li-ion batteries by polydopamine coated polyethylene microspheres, *Journal of Power Sources*, **269**, 735-739 (2014). DOI: 10.1016/j.jpowsour.2014.07.048
162. Grady, M.E., Geubelle, P.H., Braun, P.V. and Sottos, N.R., Molecular Tailoring of Interfacial Fracture, *Langmuir*, **30**, 11096-11102 (2014). DOI: 10.1021/la502271k

161. Celestine, A.D.N., Beiermann, B.A., May, P.A., Moore, J.S., Sottos, N.R. and White, S.R., Fracture-induced activation in mechanophore-linked, rubber toughened PMMA, *Polymer*, **55**, 4164-4171 (2014). DOI: 10.1016/j.polymer.2014.06.019
160. White, S.R., Moore, J.S., Sottos, N.R., Krull, B.P., Santa Cruz, W.A., Gergely, R.C.R., Restoration of Large Damage Volumes in Polymers, *Science*, **344**, 620-623 (2014). DOI: 10.1126/science.1251135
159. Sottos, N.R., Polymer Mechanochemistry: Flex, Release and Repeat, *Nature Chemistry*, **6**, 381-383 (2014). DOI: 10.1038/nchem.1927
158. Grady, M.E., Beiermann, B.A., Moore, J.S. and Sottos, N.R., Shockwave Loading of Mechanochemically Active Polymer Coatings, *Applied Materials and Interfaces*, **6**, 5350-5355 (2014). DOI: 10.1021/am406028q
157. Jones, A.R., Cintora, A., White, S.R. and Sottos, N.R., Autonomic Healing of Carbon Fiber/Epoxy Interfaces, *ACS Applied Materials and Interfaces*, **6**, 6033-6039 (2014). DOI: 10.1021/am500536t
156. Jones, E.M.C., Silberstein, M.N., White, S.R. and Sottos, N.R., In Situ Measurements of Strains in Composite Battery Electrodes during Electrochemical Cycling, *Experimental Mechanics* **54**, 971-985 (2014). DOI: 10.1007/s11340-014-9873-3
155. Patrick, J.F., Hart, K.R., Krull, B.P., Diesendruck, C.E., Moore, J.S., White, S.R. and Sottos, N.R., Continuous Self-Healing Life Cycle in Vascularized Structural Composites, *Advanced Materials*, **26**, 4302-4308 (2014). DOI: 10.1002/adma.201400248 *Cover feature*.
154. Beiermann, B.A., Kramer, S.L.B., May, P.A., Moore, J.S., White, S.R. and Sottos, N.R., The Effect of Polymer Chain Alignment and Relaxation on Force-Induced Chemical Reactions in an Elastomer," *Advanced Functional Materials*, **24**, 1529-1537 (2014). DOI: 10.1002/adfm.201302341
153. Blaiszik, B.J., Jones, A.R., Sottos, N.R. and White, S.R., Microencapsulation of gallium-indium (Ga-In) liquid metal for self-healing applications, *Journal of Microencapsulation*, **31**, 350-354 (2014). DOI: 10.3109/02652048.2013.858790
152. Kang, S., Jones, A.R., Moore, J.S., White, S.R. and Sottos, N.R., Microencapsulated Carbon Black Suspensions for Restoration of Electrical Conductivity, *Advanced Functional Materials*, **24**, 2947-2956 (2014). DOI: 10.1002/adfm.201303427 *Cover feature*.
151. Olugebefola, S.C., Hamilton, A.R., Fairfield, D.J., Sottos, N.R. and White, S.R., Structural reinforcement of microvascular networks using electrostatic layer-by-layer assembly with halloysite nanotubes, *Soft Matter*, **10**, 544-548 (2014). DOI: 10.1039/C3SM52288A *Cover feature*.
150. Silberstein, M.N., Cremar, L.D., Beiermann, B.A., Kramer, S.B., Martinez, T.J., White, S.R. and Sottos, N.R., Modeling Mechanophore Activation within a Viscous Rubbery Network, *Journal of the Mechanics and Physics of Solids*, **63**, 141-153 (2014). DOI: 10.1016/j.jmps.2013.09.014
149. Coppola, A.M., Thakre, P.R., Sottos, N.R. and White, S.R., Tensile properties and damage evolution in vascular 3D woven glass/epoxy composites, *Composites: Part A*, **59**, 9-17 (2014). DOI: 10.1016/j.compositesa.2013.12.006

148. Grady, M.E., Geubelle, P.H., and Sottos, N.R., Interfacial adhesion of photodefinable polyimide films on passivated silicon, *Thin Solid Films*, **552**, 116-123 (2014). DOI: 10.1016/j.tsf.2013.11.085
147. Jin, H., Mangun, C.L., Griffin, A.S., Moore, J.S., Sottos, N.R. and White, S.R., Thermally Stable Autonomic Healing in Epoxy using a Dual-Microcapsule System, *Advanced Materials*, **26**, 282-287 (2014). DOI: 10.1002/adma.201303179 *Cover feature*.
146. Degen, C.M., May, P.A., Moore, J.S., White, S.R. and Sottos, N.R., Time-Dependent Mechanochemical Response of SP-Cross-Linked PMMA, *Macromolecules*, **46**, 8917-8921 (2013). DOI: 10.1021/ma4018845
145. Kramer, S.L.B., Beiermann, B.A., White, S.R. and Sottos, N.R., Simultaneous Observation of Phase-Stepped Images for Photoelasticity Using Diffraction Gratings, *Experimental Mechanics*, **53**, 1343-1355 (2013). DOI: 10.1007/s11340-013-9747-0
144. Soghrati, S., Najafi, A.R., Lin, J.H., Hughes, K.M., White, S.R., Sottos, N.R. and Geubelle, P.H., Computational analysis of actively-cooled 3D woven microvascular composites using a stabilized interface-enriched generalized finite element methods, *International Journal of Heat and Mass Transfer*, **65**, 153-164 (2013). DOI: 10.1016/j.ijheatmasstransfer.2013.05.054
143. Silberstein, M.N., Min, K., Cremer, L.D., Degan, C.M., Martinez, T.J., Aluru, N.R., White, S.R. and Sottos, N.R., Modeling mechanophore activation within a crosslinked glassy matrix, *Journal of Applied Physics*, **114**, 023504 (2013). DOI: 10.1063/1.4812581
142. Lee, C.K., Beiermann, B.A., Silberstein, M.N., Wang, J., Moore, J.S., Sottos, N.R. and Braun, P.V., Exploiting Force Sensitive Spiropyrans as Molecular Level Probes, *Macromolecules*, **46**, 3746-3752 (2013). DOI: 10.1021/ma40054281
141. Anderson, C.A., Jones, A.R., Briggs, E.M., Novitsky, E.J., Kukendall, D.W., Sottos, N.R. and Zimmerman, S.C., High-Affinity DNA Base Analogs as Supramolecular, Nanoscale Promoters of Macroscopic Adhesion, *Journal of the American Chemical Society*, **135**, 7288-7295 (2013). DOI: 10.1021/ja4005283I
140. Jin, H., Miller, G.M., Pety, S.J., Griffin, A.S., Stradley, D.S., Roach, D., Sottos, N.R. and White, S.R., Fracture behavior of a self-healing, toughened epoxy adhesive, *International Journal of Adhesion & Adhesives*, **44**, 157-165 (2013). DOI: 10.1016/j.ijadhadh.2013.02.015
139. Makeev, M.A., Geubelle, P.H., Sottos, N.R. and Kieffer, J., Interfacial Adhesive Properties between a Rigid-Rod Pyromellitimide Molecular Layer and a Covalent Semiconductor via Atomistic Simulations, *ACS Applied Materials and Interfaces*, **5**, 4702-4711 (2013). DOI: 10.1021/am3031163
138. Moll, J.L., Jin, H., Mangun, C.L., White, S.R. and Sottos, N.R., Self-sealing of mechanical damage in a fully cured structural composite, *Composites Science and Technology*, **79**, 15-20 (2013). DOI: 10.1016/j.compscitech.2013.02.006
137. Jones, A.R., Blaiszik, B.J., White, S.R. and Sottos, N.R., Full recovery of fiber/matrix interfacial bond strength using a microencapsulated solvent-based healing system, *Composites Science and Technology*, **79**, 1-7 (2013). DOI: 10.1016/j.compscitech.2013.02.007

136. King, A.J., Patrick, J.F., Sottos, N.R., White, S.R., Huff, G.H., Bernhard, J.T., Microfluidically Switched Frequency-Reconfigurable Slot Antennas, *IEEE Antennas and Wireless Propagation Letters*, **12**, 828-831 (2013). DOI: 10.1109/LAWP.2013.2270940
135. Hamilton, A.R., Sottos, N.R. and White, S.R., Mitigation of fatigue damage in self-healing vascular materials, *Polymer*, **53**, 5575-5581 (2012). DOI: 10.1016/j.polymer.2012.09.050
134. Patrick, J.F., Sottos, N.R. and White, S.R., Microvascular based self-healing polymeric foam, *Polymer*, **31**, 4231-4240 (2012). DOI: 10.1016/j.polymer.2012.07.021
133. Odom, S.A., Tyler, T.P., Caruso, M.M., Ritchey, J.A., Schulmerich, M.V., Robinson, S.J., Bhargava, R., Sottos, N.R., White, S.R., Hersam, M.C. and Moore, J.S., Autonomic Restoration of Electrical Conductivity Using Polymer-Stabilized Carbon Nanotube and Graphene Microcapsules, *Applied Physics Letters*, **101** (2012). DOI: 10.1063/1.4737935
132. Soghrati, S., Thakre, P.R., White, S.R., Sottos, N.R. and Geubelle, P.H., Computational Modeling and Design of Actively-Cooled Microvascular Materials, *International Journal of Heat and Mass Transfer*, **55**, 5309-5321 (2012). DOI: 10.1016/j.ijheatmasstransfer.2012.05.041
131. Diesendruck, C.D., Steinberg, B.D., Sugai, N., Silberstein, M.N., Sottos, N.R., White, S.R., Braun, P.V. and Moore, J.S., Proton-Coupled Mechanochemical Transduction: A Mechanogenerated Acid, *Journal of the American Chemical Society*, **134**, 12446-12449 (2012). DOI: 10.1021/ja305645x
130. Losego, M.D., Grady, M.E., Sottos, N.R., Cahill, D.G. and Braun, P.V., Effects of Chemical Bonding on Heat Transport Across Interfaces, *Nature Materials*, **11**, 502-506 (2012).
129. Odom, S.A., Chayanupatkul, S., Blaiszik, B.J., Zhao, O., Jackson, A.C., Braun, P.V., Sottos, N.R., White, S.R. and Moore, J.S., A Self-Healing Conductive Ink, *Advanced Materials*, **24** 2578-2581 (2012). DOI: 10.1002/adma.201200196. *Cover feature*.
128. Baginska, M. Blaiszik, B.J., Merriman, R.J., Sottos, N.R., Moore, J.S. and White, S.R., Autonomic Shutdown of Lithium-Ion Batteries Using Thermoresponsive Microspheres, *Advanced Energy Materials*, **2**, 583-590 (2012). DOI: 10.1002/aenm.201100683. *Cover feature*.
127. Dong, H., Esser-Kahn, A.P., Thakre, P.R., Patrick, J.F., Sottos, N.R., White S.R. and Moore, J.S., Chemical Treatment of Poly(lactic acid) Fibers to Enhance the Rate of Thermal Depolymerization, *Applied Materials & Interfaces*, **4**, 503-509 (2012). DOI: dx.doi.org/10.1021/am2010042
126. Lenhardt, J.M., Black, A.L. Beiermann, B.A., Steinberg, B.D., Rahman, F., Samborski, T., Elsagr, J., Moore, J.S., Sottos, N.R. and Craig, S.L., Characterizing the Mechanochemically Active Domains in Gem-Dihalocyclopropanated Polybutadiene Under Compression and Tension, *Journal of Materials Chemistry*, **21**, 8454-8459 (2011). DOI: 10.1039/c0jm04117c.
125. Hansen, C.J., White, S.R., Sottos, N.R. and Lewis, J.A., Accelerated Self-Healing Via Ternary Interpenetrating Microvascular Networks, *Advanced Functional Materials*, **21**, 4320-4326 (2011). DOI: 10.1002/adfm.201101553

124. Odom, S.A., Jackson, A.C., Prokup, A.M., Chayanupatkul, S., Sottos, N.R., White, S.R., and Moore, J.S., Visual Indication of Mechanical Damage Using Core-Shell Microcapsules, *ACS Applied Materials & Interfaces*, **3**, 4547-4551 (2011). DOI: 10.1021/am201048a
123. Beiermann, B.A., Kramer, S.L.B., Moore, J.S., White, S.R. and Sottos, N.R. Role of Mechanophore Orientation in Mechanochemical Reactions, *ACS Macro Letters*, **1**, 163-166 (2012). DOI: 10.1021/mz2000847
122. Jin, H., Mangun, C.L., Stradley, D.S., Moore, J.S., Sottos, N.R. and White, S.R. Self-healing thermoset using encapsulated epoxy-amine healing chemistry, *Polymer*, **53**, 581-587 (2012). DOI: 10.1016/j.polymer.2011.12.005
121. Blaiszik, B.J., Kramer, S.L.B., Grady, M.E., McIlroy, D.A., Moore, J.S., Sottos, N.R. and White, S. R. Autonomic Restoration of Electrical Conductivity, *Advanced Materials*, **24**, 398-401 (2012). DOI: 10.1002/adma.201102888 *Cover feature*.
120. Hamilton, A.R., Sottos, N.R. and White, S.R. Pressurized vascular systems for self-healing materials, *Journal of the Royal Society: Interface*, **70**, 1020-1028 (2012). DOI: 10.1098/rsif.2011.0508
119. Jin, H., Mangun, C.L., Stradley, D.S., Moore, J.S., Sottos, N.R. and White, S.R. Self-healing thermoset using encapsulated epoxy-amine healing chemistry, *Polymer*, **53**, 581-587 (2012). DOI: 10.1016/j.polymer.2011.12.005
118. White, S.R., Blaiszik, B.J., Kramer, S.L.B., Olugebefola, S.C., Moore, J.S. and Sottos, N.R., Self-healing Polymers and Composites, *American Scientist*, **99**, 392-399 (2011).
117. Wilson, G.O., Caruso, M.M, Schelkopf, S.R., Sottos, N.R., White, S.R. and Moore, J.S. Adhesion Promotion via Noncovalent Interactions in Self-Healing Polymers, *ACS Applied Materials and Interfaces*, **3**, 3072-3077 (2011). DOI: 10.1021/am200584z
116. Esser-Kahn, A.P., Odom, S.A., Sottos, N.R., White, S.R., and Moore, J.S. Triggered Release from Polymer Capsules, *Macromolecules*, **44**, 5539-5553 (2011). DOI: 10.1021/ma201014n *Cover feature*.
115. Sottos, N.R. and Moore, J.S. Materials Chemistry: Spot-on Healing, *Nature*, **472**, 299-300 (2011).
114. Beiermann, B.A., Davis, D.A., Kramer, S.L.B., Moore, J.S., Sottos, N.R. and White, S.R. Environmental effects on mechanochemical activation of spiropyran in linear PMMA, *Journal of Materials Chemistry*, **21**, 8443-8447 (2011). DOI: 10.1039/c0jm03967e
113. Kingsbury, C.M., May, P.A., Davis, D.A., White, S.R., Moore, J.S. and Sottos, N. R. Shear activation of mechanophore-crosslinked polymers, *Journal of Materials Chemistry*, **21**, 8381-8388 (2011). DOI: 10.1039/c0jm04015k
112. Jackson, A.C., Bartelt, J.A., Marczewski, K., Sottos, N.R. and Braun, P.V., Silica-Protected Micron and Sub-Micron Capsules and Particles for Self-Healing at the Microscale, *Macromolecular Rapid Communications*, **32**, 82-87 (2011). DOI: 10.1002/marc.201000468
111. White, S.R., Blaiszik, B.J., Kramer, S.L.B., Olugebefola, S.C., Moore, J.S. and Sottos, N.R., Self-healing Polymers and Composites, *American Scientist*, **99**, 392-399 (2011). *Cover feature*.

110. Esser-Kahn, A.P., Thakre, P.R., Dong, H., Patrick, J.F., Vlasko-Vlasov, V.K., Sottos, N.R., Moore, J.S. and White, S.R., Three-Dimensional Microvascular Fiber-Reinforced Composites, *Advanced Materials*, **23**, 3654-3658 (2011). DOI: 10.1002/adma.201100933, *Cover feature*.
109. Lee, C.K., Davis, D.A., White, S.R., Moore, J.S., Sottos, N.R. and Braun, P.V., Force-Induced Redistribution of a Chemical Equilibrium, *Journal of the American Chemical Society*, **132**, 16107-16111 (2011).
108. Jin, H., Miller, G.M., Sottos, N.R. and White, S.R. Fracture and fatigue response of a self-healing epoxy adhesive, *Polymer*, **52**, 1628-1634 (2011). DOI: 10.1016/j.polymer.2011.02.011
107. Brandon, E.J., Vozoff, M., Kolawa, E.A., Studor, G.F., Lyons, F., Keller, M.W., Beiermann, B., White, S.R., Sottos, N.R., Curry, M.A., Banks, D.L., Brocato, R., Zhou, L., Jung, S., Jackson, T.N. and Champaigne, K. Structural health management technologies for inflatable/deployable structures: Integrating sensing and self-healing, *Acta Astronautica*, **68**, 883-902 (2011). DOI: 10.1016/j.actaastro.2010.08.016.
106. Tran, P., Kandula, S.S., Geubelle, P.H. and Sottos, N.R. Comparison of dynamic and quasi-static measurements of thin film adhesion, *Journal of Physics D: Applied Physics*, **44**, 034006 (2011). DOI: 10.1088/0022-3727/44/3/034006
105. Hamilton, A.R., Sottos, N.R. and White, S.R. Self-Healing of Internal Damage in Synthetic Vascular Materials, *Advanced Materials*, **22**, 5159-5163 (2010). DOI:10.1002/adma.201002561
104. Mangun, C.L., Mader, A.C., Sottos, N.R. and White, S.R. Self-healing of a high temperature cured epoxy using poly(dimethylsiloxane) chemistry, *Polymer*, **51**, 4063-4068 (2010). DOI: 10.1016/j.polymer.2010.06.050
103. Blaiszik, B.J., Baginska, M., White, S.R. and Sottos, N.R. Autonomic Recovery of Fiber/Matrix Interfacial Bond Strength in a Model Composite, *Advanced Functional Materials*, **20**, 3547-3554 (2010). DOI: 10.1002/adfm.201000798. *Cover feature*.
102. Esser-Kahn, A.P., Sottos, N.R., White, S.R. and Moore, J.S. Programmable Microcapsules from Self-Immolative Polymers, *Journal of the American Chemical Society*, **132**, 10266-10268 (2010). DOI: 10.1021/ja104812p, *Selected for Faculty of 1000 Biology, Cover feature*.
101. Olugebefola, S.C., Aragon, A.M., Hansen, C.J., Hamilton, A.R., Kozola, B.D., Wu, W., Geubelle, P.H., Lewis, J.A., Sottos, N.R. and White, S.R. Polymer Microvascular Network Composites, *Journal of Composite Materials*, **44**, 2587-2603 (2010). DOI: 10.1177/0021998310371537
100. Kitey, R., Sottos, N.R. and Geubelle, P.H. A hybrid experimental/numerical approach to characterize interfacial adhesion in multilayer low-k thin film specimens, *Thin Film Solids*, **519**, 337-344 (2010). DOI: 10.1016/j.tsf.2010.07.094
99. Odom, S.A., Caruso, M.M., Finke, A.D., Prokup, A.M., Ritchey, J.A., Leonard, J.H., White, S.R., Sottos, N.R. and Moore, J.S. Restoration of Conductivity with TTF-TCNQ Charge-Transfer Salts, *Advanced Functional Materials*, **20**, 1721-1727 (2010). DOI: 10.1002/adfm.201000159. *Cover Feature*.
98. Blaiszik, B.J., Kramer, S.L.B., Olugebefola, S.C., Moore, J.S., Sottos, N.R. and White, S.R. Self-Healing Polymers and Composites, *Annual Review of Materials Research*, **40**, 179-211 (2010). DOI: 10.1146/annurev-matsci-070909-104532

97. Tran, P., Kandula, S.S.V., Geubelle, P.H. and Sottos, N.R. Dynamic delamination of patterned thin films: a numerical study, *International Journal of Fracture*, **162**, 77-90 (2010). DOI: 10.1007/s10704-010-9460-2
96. Wilson, G.O., Henderson, J.W., Caruso, M.M., Blaiszik, B.J., McIntire, P.J., Sottos, N.R., White, S.R. and Moore, J.S. Evaluation of Peroxide Initiators of Radical Polymerization-Based Self-Healing Applications, *Journal of Polymer Science: Part A: Polymer Chemistry*, **48**, 2698-2708 (2010). DOI: 10.1002/pola.24053
95. Kryger, M.J., Ong, M.T., Odom, S.A., Sottos, N.R., White, S.R., Martinez, T.J. and Moore, J.S. Masked Cyanoacrylates Unveiled by Mechanical Force, *Journal of American Chemical Society*, **132**, 4558-4559 (2010). DOI: 10.1021/ja1008932
94. Caruso, M.M., Blaiszik, B.J., Jin, H., Schelkopf, S.R., Stradley, D.S., Sottos, N.R., White, S.R. and Moore, J.S. Robust Double-Walled Microcapsules for Self-Healing Polymeric Materials, *Applied Materials and Interfaces*, **2**, 1195-1199 (2010).
93. McIlroy, D.A., Blaiszik, B.J., Caruso, M.M., White, S.R., Moore, J.S. and Sottos, N.R. Microencapsulation of a reactive liquid-phase amine for self-healing epoxy composites, *Macromolecules*, **43**, 1855-1859 (2010). DOI: 10.1021/ma902251n
92. Moll, J.L., White, S.R. and Sottos, N.R., A self-sealing fiber-reinforced composite, *Journal of Composite Materials*, **44**, 2573-2585 (2010). DOI: 10.177/0021998306356605
91. Krehbiel, J., Lambros, J., Viator, J. and Sottos, N.R., Digital image correlation for improved detection of basal cell carcinoma, *Experimental Mechanics*, **50**, 813-824 (2010). DOI: 10.1004/s11340-009-9324-8
90. Hamilton, A.R., Sottos, N.R. and White, S.R., Local strain concentrations in a microvascular network, *Experimental Mechanics*, **50**, 255-263 (2010). DOI: 10.1007/s11340-009-9299-5
89. Berfield, T.A., Carroll III, J.F., Payne, D.A. and Sottos, N.R., Thermal strain measurement in sol-gel lead zirconate titanate thin films, *Journal of Applied Physics*, **106**, 123501 (2009). DOI: 10.1063/1.3251420
88. Patel, A.J., Sottos, N.R., Wetzel, E.D. and White, S.R., Autonomic healing of low-velocity impact damage in fiber-reinforced composites, *Composites: Part A*, **41**, 360-368 (2010). DOI: 10.1016/j.compositesa.2009.11.002
87. Hansen, C., Wu, W., Toohey, K.S., Sottos, N.R., White, S.R. and Lewis, J.A., Self-healing materials with interpenetrating microvascular networks, *Advanced Materials*, **21**, 4143-4147 (2009). DOI: 10.1002/adma.200900588
86. Kirkby, E.L., Michaud, V.J., Manson, J.-A.E., Sottos, N.R. and White, S.R., Performance of self-healing epoxy with microencapsulated healing agent and shape memory alloy wires, *Polymer*, **50**, 5533-5538 (2009). DOI: 10.1016/j.polymer.2009.05.014
85. Caruso, M.M., Davis, D.A. Shen, Q., Odom, S.A., Sottos, N.R., White, S.R. and Moore, J.S., Mechanically-Induced Chemical Changes in Polymeric Materials, *Chemical Reviews*, **109**, 5755-5798 (2009). DOI: 10.1021/cr9001353
84. Wilson, G.O., Porter, K.A., Weissman, H., White, S.R., Sottos, N.R. and Moore, J.S. Stability of second generation grubbs' alkyldienes to primary amines: formation of novel ruthenium-

- amine complexes, *Advanced Synthesis & Catalysis*, **351**, 1817-1825 (2009). DOI: 10.1002/adsc.200900134
83. Beiermann, B., Keller, M.W. and Sottos, N.R., Self-healing flexible laminates for resealing of puncture damage, *Smart Materials and Structures*, **18**, 085001 (2009). DOI: 10.1088/0964-1726/18/8/085001
 82. Davis, D.A., Hamilton, A., Yang, Y. Cremar, L.D., Gough, D.V., Potisek, S.L., Ong, M.T. Braun, P.V., Martínez, T.J., White, S.R., Moore, J.S. and Sottos, N.R., Force-Induced Activation of Covalent Bonds in Mechanoresponsive Polymeric Materials, *Nature*, **459**, 68-72 (2009). DOI: 10.1038/nature07970
 81. Toohey, K.S., Hansen, C., Lewis, J.A., White, S.R., and Sottos, N.R., Delivery of two-part self-healing chemistry via microvascular networks, *Advanced Functional Materials*, **19**, 1399-1405 (2009). DOI: 10.1002/adfm.200801824, *Cover Feature*.
 80. Blaiszik, B., Caruso, M., McIlroy, D., Moore, J., White, S., and Sottos, N.R., Microcapsules filled with reactive solutions for self-healing materials, *Polymer*, **50**, 990-997 (2009). DOI: 10.1016/j.polymer.2008.12.040
 79. Kitey, R., Geubelle, P.H. and Sottos, N.R., Mixed-mode interfacial adhesive strength of a thin film on an anisotropic substrate, *J. Mechanics and Physics of Solids*, **57**, 51-66 (2009). DOI: 10.1016/j.jmps.2008.10.002
 78. Toohey, K., Sottos, N.R. and White, S.R., Characterization of microvascular-based self-healing Coatings, *Experimental Mechanics*, **49**, 707-717 (2009). DOI 10.1007/s11340-008-9176-7.
 77. Kandula, S., Tran, P., Geubelle, P., and Sottos, N.R., Dynamic delamination of patterned thin films, *Applied Physics Letters*, **93**, 261902-1 (2008). DOI: 10.1063/1.3056639
 76. Yang, J., Keller, M.W., Moore, J.S., White, S.R. and Sottos, N.R., Microencapsulation of Isocyanates for Self-Healing Polymers, *Macromolecules*, **41**, 9650-9655 (2008). DOI: 10.1021/ma801718v.
 75. Mookhoek, S.D., Blaiszik, B.J., Fisher, H.R., Sottos, N.R., White, S.R. and van der Zwaag, S., Peripherally decorated binary microcapsules containing two liquids, *Journal of Materials Chemistry*, **18**, 5390-5394, (2008). DOI: 10.1039/b810542a
 74. Youngblood, J. and Sottos, N.R., Bioinspired materials for self-cleaning and self-healing, *MRS Bulletin*, **33**, 732-741 (2008).
 73. Kandula, S., Hartfield, C., Geubelle, P.H., and Sottos, N.R., Adhesion strength measurement of polymerdielectric interfaces using laser spallation technique, *Thin Solid Films*, **516**, 7627-7635 (2008). DOI: 10.1016/j.tsf.2008.05.033
 72. Kirkby, E., Rule, J., Michaud, V., Sottos, N., White, S.R., and Manson, J.A., Embedded Shape-Memory Alloy Wires for Improved Performance of Self-Healing Polymers, *Advanced Functional Materials*, **18**, 2253-2260 (2008). DOI: 10.1002/adfm.200701208
 71. Caruso, M.M., Blaiszik, B.J., White, S.R., Sottos, N.R., and Moore, J.S., Full recovery of fracture toughness using a nontoxic solvent-based self-healing system, *Advanced Functional Materials*, **18**, 1898-1904 (2008). DOI: 10.1002/adfm, *Cover Feature*.

70. Keller, M.W., White, S.R. and Sottos, N.R., Torsion fatigue of self-healing poly(dimethyl siloxane) elastomers, *Polymer*, **49**, 3136-3145 (2008). DOI: 10.1016/j.polymer.2008.04.041
69. Tran, P., Kandula, S.S.V., Geubelle, P.H., and Sottos, N.R., Hybrid Spectral/Finite Element Analysis of Dynamic Delamination of Patterned Thin Films, *Engineering Fracture Mechanics*, **75**, 4217-4233 (2008). DOI: 10.1016/j.engfracmech.2008.006
68. Wilson, G.O., Caruso, M.M., Reimer, N.T., White, S.R., Sottos, N.R. and Moore, J.S., Evaluation of Ruthenium Catalysts for Ring-Opening Metathesis Polymerization-Based Self-Healing Applications, *Chemistry of Materials*, **20**, 3288-3297(2008). DOI: 10.1021/cm702933h
67. Wilson, G.O., Moore, J.S., White, S.R., Sottos, N.R., and Andersson, H.M., Autonomic Healing of Epoxy Vinyl Esters via Ring Opening Metathesis Polymerization, *Advanced Functional Materials*, **18**, 44-52 (2008). DOI: 10.1002/adfm.200700419
66. Blaiszik, B.J., Sottos, N.R. and White, S.R. Nanocapsules for Self-Healing Materials, *Comp. Sci. Tech.*, **68**, 978-986 (2008). DOI: 10.1016/j.compscitech.2007.07.021
65. Kamphaus, J.M., Rule, J.D., Moore, J.S., Sottos, N.R., and White, S.R., A new self-healing epoxy with tungsten (VI) chloride catalyst, *JRS Interface*, **5**, 95-103 (2008). 10.1098/rsif.2007.1071, *Cover Feature*.
64. Caruso, M.M., Delafuente, D.A., Ho, V., Moore, J.S., Sottos, N.R. and White, S.R., Solvent-Promoted Self-Healing Materials, *Macromolecules*, **40**, 8830-8832 (2007).
63. Potisek, S., Davis, D.A., Sottos, N.R., White, S.R. and Moore, J.S., Mechanophore-Linked Addition Polymers, *JACS*, **129**, 13808-13809 (2007).
62. Keller, M.K., White, S.R. and Sottos, N.R., A self-healing poly(dimethyl siloxane) Elastomer, *Adv. Func. Materials*, **17**, 2399-2404 (2007).
61. Toohey, K.S., Sottos, N.R., Lewis, J.A., Moore, J.S., and White, S.R., Self-healing materials with microvascular networks, *Nature Materials*, **6**, 581-585 (2007).
60. Rule, J.D., Sottos, N.R. and White, S.W., Effect of microcapsule size on the performance of self-healing materials, *Polymer*, **48**, 3520-3529 (2007).
59. Hickenboth, C.R., Moore, J.S., White, S.R., Sottos, N.R., Baudry, J. and Wilson, S.R. Biasing Reaction Pathways with Mechanical Force, *Nature*, **446**, 423-427 (2007), *Cover Feature*.
58. Maudlin, T., Moore, J.S., Sottos, N.R. and White, S.R., Self-healing kinetics and the stereoisomers of dicyclopentadiene, *J. Royal Society: Interface*, **4**, 389-393 (2007).
57. Jones, A.S., Rule, J.D., Moore, J.S., Sottos, N.R. and White, S.R., Life extension of self-healing polymers with rapidly growing fatigue cracks. *J. Royal Society: Interface*, Special Issue of Self-Healing Polymers and Composites, **4**, 395-403 (2007), *Cover Feature*.
56. Berfield, T. A., Ong, R.J., Payne, D.A. and Sottos, N.R., Residual stress effects on piezoelectric response of sol-gel derived lead zirconate titanate thin films, *J. Applied Physics*, **101**, 024102 (2007).
55. Berfield, T.A., Patel, J.K., Shimmin, R.G., Braun, P.V., Lambros, J. and Sottos, N.R., Micro- and nanoscale deformation measurement of surface and internal planes via digital image correlation, *Experimental Mechanics*, **47**, 51-62 (2007).

54. O'Brien, D.J., Sottos, N.R. and White, S.W., The Viscoelastic Poisson's Ratio of Epoxy, *Experimental Mechanics*, **47**, 237-249 (2007).
53. Keller, M.W. and Sottos, N.R., Mechanical Properties of Microcapsules Used in a Self-Healing Polymer, *Experimental Mechanics*, **46**, 725-733 (2006).
52. Brown, E.N., White, S.R. and Sottos, N.R., Fatigue crack propagation in microcapsule toughened epoxy, *J. Materials Science*, **41** (19): 6266-6273 (2006).
51. Berfield, T.A., Patel, J.K., Shimmin, R.G., Braun, P.V., Lambros, J. and Sottos, N.R., Fluorescent image correlation for nanoscale deformation measurements, *Small*, **2** (5), 631-635 (2006).
50. Jones, A.S., White, S.R., Sottos, N.R., Rule, J.D. and Moore, J.S., Catalyst Morphology and Dissolution Kinetics for Self-Healing Polymers, *Chemistry of Materials*, **18** (5), 1312-1317 (2006).
49. Cho, S., Andersson, H.M., White, S.R., Sottos, N.R., and Braun, P.V., Environmentally stable polydimethylsiloxane-based self-healing of polymers, *Advanced Materials*, **18** (8), 997-1000 (2006).
48. Mackin, T.J., Halverson, T.L. and Sottos, N.R., The Effect of Interfacial Properties on Damage Evolution in Model Composites, *Polymer Composites*, **26**, 241-246 (2005).
47. Rule, J.D. Sottos, N.R., White, S.R. and Moore, J.S. The Chemistry of Self-Healing Polymers, *Education in Chemistry*, **42** (5) 130-132 (2005).
46. Ong, R., Sottos, N.R. and Payne D.A., Residual Stress and Thickness Effects for Integrated PZT Thin Films, *Journal of the American Ceramic Society*, **88**, 2839-2847 (2005).
45. Brown, E.N., White, S.R. and Sottos, N.R., Retardation and repair of fatigue cracks in a microcapsule toughened epoxy composite—Part II: *In situ* self-healing. *Composite Science and Technology*, Special Anniversary Issue, **65**, 2474-2480 (2005).
44. Brown, E.N., White, S.R. and Sottos, N.R., Retardation and repair of fatigue cracks in a microcapsule toughened epoxy composite—Part I: Manual infiltration. *Composite Science and Technology*, Special Anniversary Issue, **65**, 2466-2473 (2005).
43. Ong, R., Berfield, T.A., Sottos, N.R. and Payne D.A., Sol-gel derived Pb(Zr,Ti)O₃ thin films: residual stress and electrical properties, *Journal of the European Ceramic Society*, **25**, 2247-2251 (2005).
42. Rule, J., Brown, E.N., Sottos, N.R., White, S.R. and Moore, J.S., Wax-protected catalyst microspheres for efficient self-healing materials, *Advanced Materials*, **17**, 205-208 (2005).
41. Hendrickx, J., Geubelle, P.H. and Sottos, N.R., A spectral scheme for the simulation of dynamic mode 3 delamination of thin films, *Engineering Fracture Mechanics*, **72**, 1866-1891 (2005).
40. Shrotriya, P. and Sottos, N.R., Viscoelastic response of woven composite substrates, *Composite Science and Technology*, **65**, 621-634 (2005).
39. Brown, E.N., Davis, A.K., Jonnalagadda, K.D. and Sottos, N.R., Effect of surface treatment on the hydrolytic stability of E-glass fiber bundle tensile strength, *Composite Science and Technology*, **65**, 129-126 (2005).

38. Shrotriya, P. and Sottos, N.R., Local Time-Temperature Dependent Deformation of a Woven Composite, *Experimental Mechanics*, **44**, 336-354 (2004).
37. Brown, E.N., White, S.R. and Sottos, N.R., Microcapsule induced toughening in a self-healing polymer composite, *J. Materials Science*, **39**, 1703-1710 (2004).
36. Wang, J., Sottos, N.R. and Weaver, R.L., Tensile and mixed-mode strength of a thin film-substrate interface under laser induced pulsed loading, *J. Mechanics and Physics of Solids*, **52**, 999-1022 (2004).
35. Lian, L. and Sottos, N.R., Stress effects in sol-gel derived ferroelectric thin films, *J Appl Phys*, **95**, 629-634 (2004).
34. Kessler, M.R., Sottos, N.R. and White, S.R., Self-healing structural composite material, *Composites Part A: Applied Science and Manufacturing*, **34**, 743-753 (2003).
33. Brown, E.N., Kessler, M.R., Sottos, N.R. and White, S.R., In situ poly(urea-formaldehyde) microencapsulation of dicyclopentadiene, *J. Microencapsulation*, **20**, 719-730 (2003).
32. Wang, J., Sottos, N.R. and Weaver, R.L., Mixed-mode failure of thin films using laser generated shear waves, *Experimental Mechanics*, **43**, 323-330 (2003).
31. Zhu, Q., Shrotriya, P., Sottos, N.R. and Geubelle, P.H., Three-dimensional viscoelastic simulation of woven composite substrates for multilayer circuit boards, *Composite Science and Technology*, **63**, 1971-1983 (2003).
30. Wang, J., Weaver, R.L. and Sottos, N.R., Laser-induced decompression shock development in fused silica, *Journal of Applied Physics*, **93**, 9529-9536 (2003).
29. Brown, E., Sottos, N.R. and White, S.R., Fracture testing of a self-healing polymer composite, *Experimental Mechanics*, **42**, 372-379 (2002).
28. Wang, J. Weaver, R.L. and Sottos, N.R., A parametric study of laser induced thin film spallation, *Experimental Mechanics*, **42**, 74-83 (2002).
27. White, S.R., Sottos, N.R., Geubelle, Moore, J.S., Kessler, M.R., Sriram, S.R., Brown, E.N. and Viswanathan, S., Autonomic Healing of Polymer Composites, *Nature*, **409**, 794-797 (2001).
26. Shrotriya, P., Sottos, N.R. and Skipor, A.F., Residual stress development during relamination of woven composite circuit boards, *J. of Composite Materials*, **35**, 905-927 (2001).
25. Lin, G. Geubelle, P.H. and Sottos, N.R., Simulation of fiber debonding with friction in a model composite pushout test, *International J. of Solids and Structures*, **38**, 8547-8562 (2001).
24. Lian, L. and Sottos, N.R., Effects of thickness on the piezoelectric and dielectric properties of lead zirconate titanate thin films, *J. of Applied Physics*, **87**, 3941-3949 (2000).
23. Stout, E.A., Sottos, N.R. and Skipor, A.F., Mechanical characterization of plastic ball grid array package flexure using moiré interferometry, *IEEE Transactions on Advanced Packaging*, **23**, 637-645 (2000).

22. Jonnalagadda, J.D., Sottos, N.R., Qidwai, M.A. and Lagoudas, D.C., In-situ displacement measurements and predictions of embedded SMA transformation, *Smart Materials and Structures*, **9**, 701-710 (2000).
21. Sottos, N.R., Ockers, J.M. and Swindeman, M.J., Thermoelastic properties of plain weave composites for multilayer circuit board applications, *ASME J. of Electronic Packaging*, **121**, 37-43 (1999).
20. Bechel, V.T. and Sottos, N.R., High temperature fiber pushout of pristine and transversely fatigued SiC/Ti-6-4, *J. of Material Science*, **34**, 3471-3478 (1999).
19. Bechel, V. and Sottos, N.R., Application of debond length measurements to examine the mechanics of fiber pushout, *J. of Mechanics and Physics of Solids*, **46**, 1675-1697 (1998).
18. Bechel, V. and Sottos, N.R., A comparison of calculated and measured debond lengths from fiber pushout test, *Composites Science and Technology*, **58**, 1727-1739 (1998).
17. Bechel, V. and Sottos, N.R., The effect of residual stresses and sample preparation on progressive debonding during the fiber pushout test, *Composites Science and Technology*, **58**, 1741-1751 (1998).
16. Lian, L. and Sottos, N.R., Dynamic surface displacement measurement in 1-3 and 1-1-3 piezocomposites, *J. of Applied Physics*, **84**, 5725-5728 (1998).
15. Shrotriya, P. and Sottos, N.R., Creep and relaxation behavior of woven glass/epoxy substrates for multilayer circuit board applications, *Polymer Composites*, **19**, 5, 567-578 (1998).
14. Jonnalagadda, J.D., Sottos, N.R., Qidwai, M.A. and Lagoudas, D.C., Transformation of embedded shape memory alloy ribbons, *J. of Intelligent Materials Systems and Structures*, **9**, 379-390 (1998).
13. Jonnalagadda, J.D., Kline, G. E. and Sottos, N. R., Local displacements and load transfer in shape memory alloy composites, *Experimental Mechanics*, **37**, 78-86 (1997).
12. Li, L. and Sottos, N.R., Measurement of surface displacements in 1-3 and 1-1-3 piezocomposites, *J. of Applied Physics*, **79**, 1707-1712 (1996).
11. Li, L. and Sottos, N.R., A design for optimizing the hydrostatic performance of 1-3 piezocomposites, *Ferroelectric Letters*, **21**, 41-46 (1996).
10. Sottos, N.R. and Swindeman, M., Transient thermal deformations of the interphase in polymer composites, *J. of Adhesion*, **53**, 69-78 (1995). (Special issue to honor Prof. L. Drzal)
9. Sottos, N.R., Hiemstra, D. L., and Scott, W.R., Correlating interphase glass transition and interfacial microcracking in polymer composites, *Fracture Mechanics: 25th Volume*, ASTM STP 1220, F. Erdogan and R. Hartranft, eds., American Society for Testing Materials, 140-155 (1995).
8. Li, L. and Sottos, N.R., Predictions of static displacements in 1-3 piezocomposites, *J. of Intelligent Materials Systems and Structures*, **6**, 169-180 (1995).
7. Li, L. and Sottos, N.R., Improving hydrostatic performance of 1-3 piezocomposites, *J. of Applied Physics*, **77**, 4595-4603 (1995).

6. Palmese, G.R., McCullough, R.L. and Sottos, N.R., Relationship between interphase composition, material properties and residual stress in composite materials, *J. of Adhesion*, **52**, 101-113 (1995).
5. Sottos, N.R., Li, L. and Agarwal, G., The effects of interphase properties on interfacial shear strength in composites, *J. of Adhesion*, **45**, 105-124 (1994).
4. Hiemstra, D.L. and Sottos, N.R., Thermally induced interfacial microcracking in polymer matrix composites, *J. of Composite Materials*, **27**, 1030-1051 (1993).
3. Sottos, N.R., McCullough, R.L. and Scott, W.R., The influence of interphase regions on local thermal displacements in composites, *Composites Science and Technology*, **44**, 319-332 (1992).
2. Sottos, N.R., The influence of the fiber/matrix interface on local glass transition temperature, *Polymer Blends, Solutions and Interfaces*, I. Noda, ed., Elsevier, pp. 339-358 (1992).
1. Sottos, N.R., Scott, W.R. and McCullough, R.L., Micro-interferometry for measurement of thermal displacements at fiber/matrix interfaces, *Experimental Mechanics*, **31**, 98-103 (1991).

CHAPTERS, SPECIAL JOURNAL ISSUES AND PROCEEDINGS EDITED

- Jin, H.H., Hart, K.R., Coppola, A.M., Gergely, R.C., Moore, J.S., Sottos, N.R., and White, S.R., Self-Healing Epoxies and Their Composites, *Self-Healing Polymers: From Principles to Applications*, ed. by Binder, W.H., 361-380 (2013).
- Youngblood, J. and Sottos, N.R., Special Theme Issue on Self-Cleaning and Self-Healing Polymers, *MRS Bulletin*, August (2008).
- Sottos, N., White, S., and Bond, I. Special Issue on Self-Healing Polymers and Composites. *J. Royal Society: Interface* **4** 347-411 (2007).
- Keller, M.W., Blaiszik, B.B., White, S.R., and Sottos, N.R., Recent Advances in Microencapsulated Self-Healing Materials Systems, Chapter 9 in *Adaptive Structures: Engineering Applications*, ed. By D.J. Wagg and I.P. Bond, Wiley, Sussex, UK, 247-260 (2007).
- Andersson, H.M., Keller, M.W., Moore, J.S., Sottos, N.R. and White, S.R., Self-Healing Polymers and Composites", Self-Healing Polymers and Composites, Chapter 2, in *Self Healing Materials: An Alternative Approach to 20 Centuries of Materials Science*, ed. by. S. van der Zwagg, Springer, 19-44 (2007).
- Sottos, N. R. and Lagoudas, D. C., eds. *Journal of Intelligent Materials Systems and Structures*, Vol. **9**, No. **5** (80 pages) and No. **6** (83 pages), (1999).
- Sottos, N.R., ed. *Design and Manufacture of Composites*. Symposium of the Materials Division, ASME International Mechanical Engineering Congress, MD-vol. 69-1, The American Society of Mechanical Engineers (ASME), New York, 180 pages (1995).

- Carman, G.P., Lynch, C. and Sottos, N. R., eds. *Adaptive Materials Systems*. Symposium of the ASME Joint Applied Mechanics and Materials Divisions Summer Meeting, AMD-vol. 206, The American Society of Mechanical Engineers, New York, 153 pages (1995).
- Sottos, N. R. and McCullough, R. L. The Interphase in Polymer Matrix Composites. In *Flight-Vehicle Materials, Structures and Dynamics Technology—Assessment and Future Directions*, K. J. Wilkins and D. R. Mulville, eds., vol. 2, The American Society of Mechanical Engineers (ASME), New York, pp. 328-350 (1994).
- Sottos, N. R. The influence of the fiber/matrix interface on local glass transition temperature. *Polymer Blends, Solutions and Interfaces*, I. Noda, ed., Elsevier, pp. 339-358 (1992).

U.S. PATENTS

1. S.R. White, N.R. Sottos, and T.J. Mackin, “Corn Based Structural Composites.” U.S. Patent No. 5,834,105 issued Nov. 10, 1998.
2. S.R. White, N.R. Sottos, P.H. Geubelle, J.S. Moore, S. Sriram, M. Kessler, and E. Brown, “Multifunctional Autonomically Healing Composite Material.” US Patent No. 6,518,330 issued Feb. 11, 2003.
3. S.R. White, N.R. Sottos, P.H. Geubelle, J.S. Moore, S. Sriram, M. Kessler, and E. Brown, “Multifunctional Autonomically Healing Composite Material.” US Patent No. 6,858,659 issued Feb. 22, 2005.
4. J.S. Moore, J.D. Rule, E.N. Brown, N.R. Sottos, S.R. White, “Wax Particles for Protection of Activators, and Multifunctional Autonomically Healing Composite Materials,” U.S. Patent No. 7,566,747 issued July 28, 2009.
5. M.W. Keller, N.R. Sottos, S.R. White “Self-Healing Elastomer System,” U.S. Patent 7,569,625 issued August 4, 2009.
6. P.V. Braun, S.-H. Cho, S.R. White, N.R. Sottos, H.M. Andersson, “Self-Healing Polymers,” U.S. Patent 7,612,152 issued November 3, 2009.
7. S.L. Potisek, D.A. Davis, S.R. White, N.R. Sottos, J.S. Moore, “Self-Assessing Mechanochromic Materials,” U.S. Patent 8,236,914 issued August 7, 2012.
8. G.O. Wilson, M. Caruso, B.J. Blaiszik, J.W. Henderson, C. Britt, J.S. Moore, S.R. White, and N.R. Sottos, “Systems for Self-healing Composite Materials,” U.S. Patent No. 8,383,697 issued February 26, 2013.
9. B.J. Blaiszik, S. Odom, M. Caruso, A.C. Jackson, M. Baginska, J. Ritchey, A. Finke, S.R. White, J.S. Moore, N.R. Sottos, P.V. Braun, K. Amine, “Materials and Methods for Autonomous Restoration of Electrical Conductivity,” U.S. Patent 8,679,621 issued March 24, 2014.
10. B.J. Blaiszik, J. Moll, B.A. Beierman, S.R. White, and N.R. Sottos, “Interfacial Functionalization for Self-Healing Composites”, U.S. Patent No. 8,703,285 issued April 22, 2014.

11. S.A. Odom, M.M. Caruso, A.D. Finke, A.C. Jackson, J.S. Moore, N.R. Sottos and S.R. White, "System for Visual Indication of Mechanical Damage," U.S. Patent No. 8,846,404 issued September 30, 2014.
12. K.S. Toohey, N.R. Sottos, J.A. Lewis, J.S. Moore, S.R. White, "Self-Healing Materials with Microfluidic Networks," U.S. Patent No. 8,920,879 issued Dec. 30, 2014.
13. S.R. White, J.S. Moore, N.R. Sottos, B.J. Blaiszik, M.M. Caruso, C.L. Mangun, "Thermally Robust Capsule System, and Composites Including the Capsules," U.S. Patent No. 8,951,639 filed February 10, 2015.
14. M.M. Caruso, D.A. Delafuente, B.J. Blaiszik, J.M. Kamphaus, N.R. Sottos, S.R. White, J.S. Moore, "Solvent-Promoted Self Healing Materials," U.S. Patent 9,108,364 issued August 18, 2015.
15. B. Beiermann, M.W. Keller, S.R. White, N.R. Sottos, "Self-Healing Laminate System," U.S. Patent No. 9,415,575 issued August 16, 2016.
16. S.R. White, N.R. Sottos, J.S. Moore, R. Gergely, B. Krull, W.A. Santa Cruz, "Multiple stage curable polymer with controlled transitions", U.S. Patent No. 9,550,845 issued January 24, 2017.
17. S.R. White, N.R. Sottos, S. Kang, M.B. Baginska, "Polydopamine-Coated Capsules", U.S. Patent No. 9,943,487 issued April 17, 2018.
18. A.P. Esser-Kahn, H. Dong, P.R. Thakre, J.F. Patrick, N.R. Sottos, J.S. Moore, S.R. White, "Thermally Degradable Polymeric Fibers" U.S. Patent No. 9,951,221 issued April 24, 2018.
19. H. Dong, S.J. Pety, N.R. Sottos, J.S. Moore and S.R. White, "Partially Degradable Fibers and Microvascular Materials Formed from the Fibers," U.S. Patent 9,988,746, issued Jun. 5, 2018.
20. S.R. White, N.R. Sottos and P.R. Thakre, "Branched Interconnected Microvascular Network in Polymers and Composites Using Sacrificial Polylactide Films, Sheets and Plates," U.S. Patent No. 10,081,715 issued Sept. 25, 2018.
21. J.S. Moore, S.R. White, N.R. Sottos, W. Li, C.C. Matthews, M.J. Robb, "Fluorescence Detection of Mechanical Damage", U.S. Patent No. 10,139,389 issued Nov. 27, 2018.

U.S. PATENT APPLICATIONS

1. S.R. White, N.R. Sottos, B.J. Blaiszik, "Methods for Making Capsules, and Self-Healing Composites Including the Same," U.S. Patent Application No. 11/756,280, filed May 31, 2007.
2. S.R. White, S. Mookhoek, S. van der Zwaag, N.R. Sottos, B.J. Blaiszik, "Multi-Capsule System and its Use for encapsulating Active Agents," U.S. Patent Application No. 12/014,573, filed Jan. 15, 2008.
3. S.R. White, N.R. Sottos, J.S. Moore, G.O. Wilson, B.J. Blaiszik, J.D. Rule, M.W. Keller, B.F. McCaughey, "Multi-Capsule System for Autonomic Healing," U.S. Patent Application, Ser. No. 61/174,214 filed April 30, 2009. U.S. Patent Application, Ser. No. 12/769,904 filed on April 29, 2010.

4. J.S. Moore, S.R. White, N.R. Sottos, K. Amine, B. Blaiszik, S. Odom, M. Baginska, A. Esser-Kahn, W. Wang, Z. Zhang, "Materials and Methods for Autonomous Battery Shutdown," U.S. Patent Application, Ser. No. 13/489,871 filed May 4, 2010.
5. S.R. White, K. Amine, M. Baginska, B. Blaiszik, P.V. Braun, M. Caruso, A. Finke, A. Jackson, J.S. Moore, S. Odom, N. Sottos, M. Thakeray, J. Richey, "Method and Apparatus for Automatic Repair and Restoration of Electrical Conductivity," U.S. Provisional Patent Application, Ser. No. 61/356,356 filed June 18, 2010.
6. M. Caruso, C. Mangun, L.G. Reifschneider, S.R. White, N.R. Sottos, J.S. Moore, "Injection Molding Thermoplastics containing Microcapsules for Solvent-Based Self-Healing," U.S. Patent Application 61/453,324 filed March 16, 2011.
7. J.F. Patrick, K.R. Hart, B.P. Krull, N.R. Sottos, J.S. Moore, S.R. White, "Self-Healing Composite Materials and Micro-Vascular Composites for Forming the Materials," U.S. Patent Application No. 13/721801 filed December 20, 2012.
8. J.F. Patrick, S.R. White, N.R. Sottos, J.S. Moore and B.P. Krull, "Advanced Thermal Processing Techniques of 'Sacrificial' Polylactic Acid," U.S. Patent Application No. 14/540324 filed November 14, 2013.
9. J.F. Patrick, K.R. Hart, B.P. Krull, N.R. Sottos, J.S. Moore and S.R. White, "Method of Making a Self-Healing Composite System," U.S. Patent Application No. 14/607759 filed January 28, 2015.
10. A. Coppola, S.R. White, N.R. Sottos, "Autonomic Cooling System", U.S. Patent Application, No. 15/274591 filed September 23, 2016.
11. M.T. Odarczenko, N.R. Sottos, S.R. White, "Self-Healing Coating", U.S. Patent Application No. 15/365,663, filed Nov. 30, 2016.
12. N.R. Sottos, S.R. White, W. Li, C.C. Matthews, "Autonomic Damage Indication in Coatings", U.S Patent Application No. 15/366,184, filed Dec. 1, 2016.
13. S.R. White, N.R. Sottos, M.T. Odarczenko, "Corrosion Inhibiting Self-Protecting Coatings", U.S. Patent Application No. 15/814,948, filed Nov. 16, 2017.
14. I.D. Roberston, J.S. Moore, N.R. Sottos, and S.R. White "Frontal Polymerization for Fiber-Reinforced Composites" U.S Patent Application No. 15/462,458, filed March 17, 2017.
15. J.S. Moore, S.R. White, I.D. Robertson, N.R. Sottos, J.E. Aw, "3D Printing of Thermoset Polymers and Composites" U.S Patent Application No. 15/979,029, filed May 14, 2018.

POSTDOCTORAL RESEARCH ASSOCIATES

Alan Jones (2003-05)	Prof., Indiana Univ.-Purdue Univ. at Indianapolis
Joe Rule (2005-06)	3M Corp.
Magnus Andersson (2004-08)	Senior Development Scientist, Autonomic Materials Inc
Byron McCaughey (2005-06)	Asst. Prof., Illinois Wesleyan University
Rajesh Kitey (2006-2008)	Assoc. Prof, IIT Kanpur
Jinglei Yang (2006-2008)	Prof, NTU, Singapore
Solar Olugebefola (2008-2010)	Consultant, New York, NY
Sharlotte Kramer (2009-2011)	Sandia National Laboratory
Piyush Thakre (2010-2013)	DOW
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-present)	

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)	Research Associate, University of Sydney
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)	Asst. 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)	Postdoctoral Researcher, Univ. of Texas-Austin
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)	KAIST
Christopher Montgomery (2018)	Solvay
Jaeuk Sung	anticipated 2019
Anthony Griffin	anticipated 2019
Mayank Garg	anticipated 2019
Lihong Zhao	anticipated 2019
Leon Dean	anticipated 2020
Evan Lloyd	anticipated 2020
Satoshi Matsuo	anticipated 2020
Polette Centallas	anticipated 2021
Jia En Aw	anticipated 2021
Doug Ivanoff	anticipated 2021
Dhawal Thakare	anticipated 2021
Kelly Cheng	anticipated 2022
Nil Parikh	anticipated 2022
Justine Paul	anticipated 2023

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 State 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)	High School Chemistry Teacher, Fort Worth TX
Jacob Diamond	expected 2019

UNDERGRADUATE RESEARCHERS

	<i>Graduate School Attended</i>
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)	Rensselaer Polytechnic Institute
Tom Gitzinger (1993-94)	Rensselaer 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)	
Nicholas Sherman (2016-2018)	
Adam Ladd (2016-2018)	
Brian Wu (2017-2018)	Cornell University
Jacob Komenda (2017-2018)	University of Washington
Wolfgang Huber (2017-2018)	
Kevin Li (2017-2018)	
Young Hee Yoon (2017-2018)	Georgia Tech
Jacob Drewniak (2017-2018)	
Camille Faruggio (2017-)	
Murtaza Zohair (2018)	Vanderbilt University
Enola Ma (2018-)	
Grayson Schaer (2018-)	
David Nejdil (2018-)	
Simon Egner (2018-)	