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Ph.D., University of Illinois at Urbana-Champaign, Theoretical and Applied Mechanics

Research Interests:

- Increasing the safety of Li-ion batteries via development of autonomic fail-safe shutdown mechanisms.
- Extending Li-ion battery lifetime and efficiency through dynamic repair of electrode damage.
- Investigating failure and degradation processes associated with Li-ion batteries via x-ray nanotomography and fluorescence
- Developing novel targeted therapies via bioconjugated nanoparticles.

Selected Recent Publications:

B.J. Blaiszik, S.L.B. Kramer, M.E. Grady, D.A. McIlroy, J.S. Moore, N.R. Sottos, S.R. White. "Autonomic Restoration of Electrical Conductivity," *Advanced Materials,* 24, 398-401 (2012). (cover article)

M. Baginska, **B.J. Blaiszik**, R.J. Merriman, N.R. Sottos, J.S. Moore, S.R. White. "Autonomic Shutdown of Lithium-Ion Batteries Using Thermoresponsive Microspheres" *Advanced Energy Materials*, 10.1002/aenm.201100683 (2011). (in press)

S.R. White, **B.J. Blaiszik**, S.L.B. Kramer, S.C. Olugebefola, J.S. Moore, N.R. Sottos. "Self-Healing Polymers and Composites," *American Scientist*, Sept-Oct (2011). (cover article)

G.O. Wilson, J.W. Henderson, M.M. Caruso, **B.J. Blaiszik**, P.J. McIntire, N.R. Sottos, S.R. White, J.S. Moore. "Evaluation of peroxide initiators for radical polymerization-based self-healing applications," *Journal of Polymer Science, Part A: Polymer Chemistry*, 48, 2698-2708, (2010).

B.J. Blaiszik, S.L.B. Kramer, S.C. Olugebefola, J.S. Moore, N.R. Sottos, S.R. White. "Self-Healing Polymers and Composites," *Annual Review of Materials Research*, 40, 179-211 (2010).

B.J. Blaiszik, M. Baginska, S.R. White, N.R. Sottos. "Autonomic Recovery of Fiber/Matrix Interfacial Bond Strength in a Model Composite," *Advanced Functional Materials*, 20, 3547-3554 (2010). (cover article)

D.A. McIlroy, **B.J. Blaiszik**, M.M. Caruso, S.R. White, J.S. Moore, N.R. Sottos. “Microencapsulation of a reactive liquid-phase amine for self-healing epoxy composites," *Macromolecules*, 43, 1855-1859 (2010).

M.M. Caruso, **B.J. Blaiszik**, H. Jin, S.R. Schelkopf, D.S. Stradley, N.R. Sottos, S.R. White, J.S. Moore. “Robust Double-Walled Microcapsules for Self-Healing Polymeric Materials," *Applied Materials and Interfaces*, 2, 1195-1199 (2010).

B.J. Blaiszik, M.M. Caruso,D.A. McIlroy, J.S. Moore, S.R. White, N.R. Sottos, “Microcapsules filled with reactive solutions for self-healing materials," *Polymer,* 50, 990-997 (2009).

M.M. Caruso, **B.J. Blaiszik**, S.R. White, N.R. Sottos, J.S. Moore. “Full recovery of fracture toughness using a non-toxic solvent-based self-healing system," *Advanced Functional Materials,* 18, 1898-1904 (2008). (cover article)

S.D. Mookhoek, **B.J. Blaiszik**, H.R. Fisher, N.R. Sottos, S.R. White, S. van der Zwaag. “Peripherally decorated binary microcapsules containing two liquids," *Journal of Materials Chemistry,* 18, 5390-5394, (2008).

B.J. Blaiszik, N.R. Sottos, S.R. White. “Nanocapsules for Self-Healing Materials," *Composites Science and Technology* 68, 978-986 (2008).

M.W. Keller, **B.J. Blaiszik**, S.R. White, N.R. Sottos. “Recent Advanced in Microencapsulated Self-healing Materials Systems” in Adaptive Structures:Engineering Applications, ed. by D.J. Wagg and I.P. Bond. Wiley, Sussex (2007).