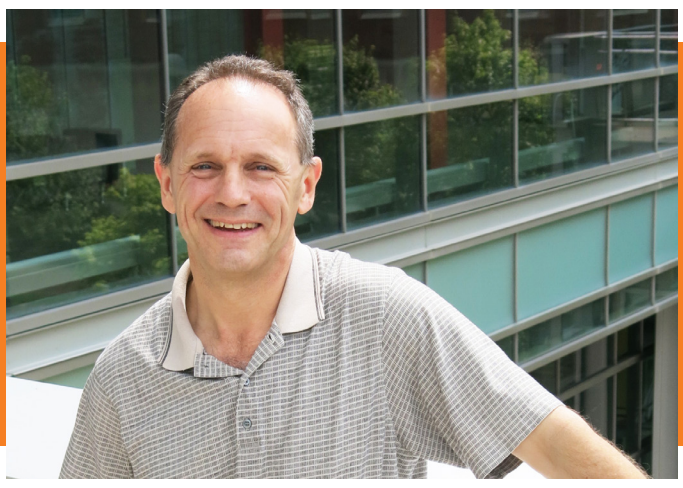
Mechanical SCIENCE AND ENGINEERING

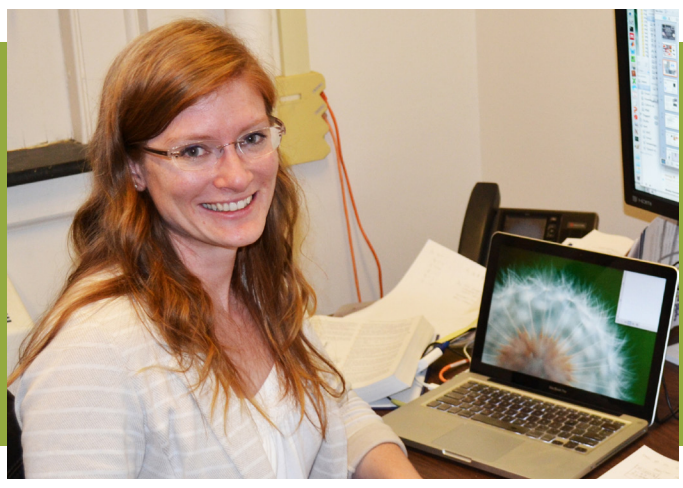
New Faculty - Fall 2014

Assistant Professor **Alison Dunn** received a Ph.D. in mechanical engineering from the University of Florida in 2013. Dr. Dunn works in the general area of tribology. Her work includes several fundamental areas—nanoscience, solid mechanics, and materials. While she brings a strong background in conventional tribology and wear, her research opens up several new and novel areas for tribology, including nanotribology, tribology of soft and porous materials, and tribology of biomaterials. She brings with her a strong background in design and instrumentation, having designed several tribometers for unconventional applications.



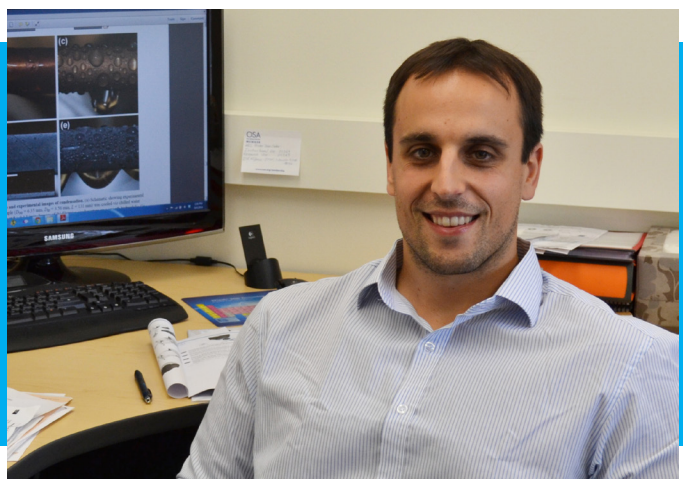
Professor **Paul Fischer** received a Ph.D. in mechanical engineering from MIT in 1989. Dr. Fischer's research is on numerical methods and large-scale supercomputer software for computational fluid dynamics (CFD), which has broad application across areas such as bioengineering, ocean modeling, material design, and astrophysics. He is widely known for his pioneering work on higher-order spectral and finite-element methods, and is author of the area's definitive text, which has over 500 Google Scholar citations. He is known for his design of a widely used CFD software package (nek5000), which reliably runs on up to 1,000,000 computing cores – making it the largest-scale software of its kind.

Assistant Professor **Shelby Hutchens** received a Ph.D. in chemical engineering from the California Institute of Technology in 2011. Dr. Hutchens' Ph.D. work was on experimental problems related to understanding material properties at the nanoscale, specifically energy absorption mechanisms in carbon nanotube foams. While a postdoc at the University of Massachusetts, Amherst, Dr. Hutchens was doing experimental research in the mechanics of soft materials in the Polymer Science and Engineering Department.



Assistant Professor **Mariana Kersh** received a Ph.D. in material science and engineering from the University of Wisconsin in 2010. As a graduate student, Dr. Kersh's research on biomechanics of bone tissue received several awards, scholarships, and fellowships, including an NSF Graduate Research Fellowship. Her postdoctoral work at the University of Melbourne, funded by a New Zealand Early Career Research Award, focused on experimental and computational methods to evaluate macro-level mechanical and structural properties of bone, cartilage, and connective tissues.

Assistant Professor **Nenad Miljkovic** received a Ph.D. in mechanical engineering from MIT in 2013. Dr. Miljkovic is an expert in heat transfer and thermal sciences. He brings a balance of experimental and modeling capabilities in the understanding of phase change behavior, with particular emphasis on the development of nano and micro scale surface structures to enhance multiphase heat and mass transfer. In addition, recent work examines the effect of electric charge and electrokinetic effects on enhancing heat and mass transport. His tools enhance the transfer processes that are at the heart of many current and future energy systems.



Assistant Professor **Kyle Smith** received a Ph.D. in mechanical engineering from Purdue in 2012. His Ph.D. work focused on the influence of non-spherical particle shape on microstructure and micro- and nanoscale transport processes in granular, heterogeneous materials. During this time he was named a National Science Foundation Graduate Research Fellow, Purdue Chappelle Fellow, and Lambert Teaching Fellow. He held a postdoctoral position at the MIT Joint Center for Energy Storage Research. His work has resulted in a number of publications in important nanoscience and energy publications.

Assistant Professor **Kelly Stephani** received a Ph.D. in aerospace engineering from the University of Texas, Austin in 2012. Dr. Stephani works in the area of computational fluid mechanics. She recently completed postdoctoral research in the Department of Aerospace Engineering at the University of Michigan. Her postdoctoral work focused on computational modeling of non-equilibrium plasmas, in particular multi-scale plasma flows.