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Brief Biographical Sketch

Assistant Professor Ryan Elliott:

Assistant Professor Ryan Elliott joined the Department of Aerospace Engineering and Mechanics faculty at the University of Minnesota in January of 2005. He received his B.S. from Michigan State University, and his M.S.E., M.S., and Ph.D. all from The University of Michigan in 1990, 2002, and 2004, respectively. In 2004 he was a Research Fellow at The University of Michigan.

Dr. Elliott's research interests lie in the field of solid mechanics and, specifically, multi-physics problems in materials and structures. These are problems involving materials and structures with strong coupling between two or more physical fields, such as stress, temperature, and magnetic field. In many of these problems, interactions spanning multiple length scales give rise to new and intriguing behavior. These interests encompass the fundamental modeling of non-linear multi-field physics and homogenization techniques for bridging length scales, as well as the development of new numerical methods for use in the large-scale simulations needed to fully understand such unique behavior. Current research projects include: atomistic modeling of Martensitic transformations in Shape Memory Alloys and other "Active Materials"; development of numerical methods for studying bifurcation and stability of systems with symmetry, including single crystals of atoms (nano-scale), Micro-Electro-Mechanical Systems (micro-scale), and space trusses (macro-scale); and the development of numerically assisted material design techniques to aid in the search for new materials with exotic and technologically important properties.

Dr. Elliott has received numerous awards, including: the Frederick A. Howes Scholar in Computational Science award in 2005, the Ivor K. McIvor Award in Applied Mechanics in 2004, the U.S. D.O.E. Computational Science Graduate Fellowship in 2000, and the Tau Beta Pi Matthews Fellowship in 1998.

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