

Innovative Mechanics at the University of Mississippi  
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The primary objective of this seminar is to introduce the multi-disciplinary mechanics work at the University of Mississippi to TTU faculty and students. Both individual pursuits as well as group interests will be discussed in detail. While Dr. Ervin will focus on her own research involving impact dynamics and structural health management, potential collaborative research efforts on several projects will also be addressed. Involving aging infrastructure, the urgent and emergent areas of structural health include monitoring, evaluation, and rehabilitation on such structures as levees, buildings, and bridges. Additionally, design for abnormal events (earthquake, hurricane, blast, etc.) is extremely active, including funding from the Department of Homeland Security, the Office of Naval Research, and the National Science Foundation. Including multi-scale modeling and experimental work, cutting-edge uses of composite materials for protection and retrofitting are being researched through the University of Mississippi Composite Structures and Nano Engineering Research Group. Manufacturing processes are also being advanced through the University of Mississippi Composite Materials Research Group and soon the Center for Manufacturing Excellence. Research centers at the University of Mississippi include the Center for Community Earthquake Preparedness and the Center for Advanced Infrastructure Technology. New initiatives include hazard mitigation, climate change, and nuclear engineering.

Receiving both the 2000 Derryberry and Engineering Awards, Dr. Ervin graduated *in cursu honorum* from TTU's Civil and Environmental Engineering Department in 1999. She continued on to graduate studies at Vanderbilt University (M.S. Civil Eng.) and Carnegie Mellon University (Ph.D. Mechanical Eng.) as well as working with the Naval Nuclear Propulsion Program. She is now an assistant professor at the University of Mississippi, where she heads the Multi-Function Dynamics Laboratory.