

“Multiscale Mechanics of Musculoskeletal Tissues”

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Dawn Elliott is the Blue and Gold Professor and founding department chair of Biomedical Engineering at the University of Delaware. Prior to joining Delaware in 2011, she spent 12 years in the University of Pennsylvania's Departments of Orthopaedic Surgery and Bioengineering. Her research focus is musculoskeletal biomechanics to study disc, meniscus, and tendon with degeneration, injury and therapy. Her multi-scale approach, from the entire joint-level, to the tissue-scale, and to the micro-scale, integrates mechanical testing, mathematical modeling, and multi-modal imaging. Dr. Elliott earned a PhD from Duke and a BS in ME from Michigan. She was awarded the American Society of Mechanical Engineers (ASME) Van C. Mow Medal for significant contributions to the field of bioengineering and the inaugural Outstanding Achievement in Mentoring Award from the Orthopaedic Research Society. Dr. Elliott is a Fellow of the American Institute for Medical and Biological Engineering (AIMBE) and of ASME. She is president-elect of the Biomedical Engineering Society (BMES).

ABSTRACT

Our lab investigates the structure and function of load bearing tissues, such as intervertebral disc, meniscus, and tendon. We address questions related to changes that occur during development, how function is lost with aging or injury, and our efforts inform regenerative medicine to improve musculoskeletal function. This presentation will describe our work to apply a multi-scale approach that integrates mechanical testing, computational modeling, and multimodal imaging across several hierarchical levels from the entire joint, to the tissue, and at the micro-scale levels.

**Friday, November 9th
12:00 Noon**

**Presented From: 4142 Engineering Building III (NC State)
Videoconferenced to: 321 MacNider Hall (UNC)
& East Carolina University (ECU)**