Project Title

Does Eccentric Loading Differentially Alter Muscle and its Adjoining Tendon?

Project Description

The REU student will participate in studies using an in vivo mouse model of eccentric muscle loading. The student, under guidance from a graduate student and faculty mentors, will analyze muscle and tendon tissue structure and biomechanical function using established approaches.

The student will gain the valuable experience of collaborating with an interdisciplinary team of bioengineers, muscle physiologists, and orthopedic physicians.

Expected Qualifications of Students

Students are expected to have a basic understanding of general engineering and/or biology principles. A strong work ethic and attention to detail are essential qualities for prospective students.

Faculty Bio

Vincent Wang is an Associate Professor in the Department of Biomedical Engineering and Mechanics at Virginia Tech. He earned his B.S., M.S., M.Phil, and Ph.D. degrees in mechanical engineering from Columbia University. His laboratory research focuses on tendon injury and the critical role of mechanical loading in promoting healing. More broadly, his lab utilizes microscopic and ultrasound imaging approaches to examine tissue internal structure and its relation to biomechanical properties. To date, Dr. Wang has mentored more than 50 undergraduate students, graduate students and fellows (engineering and life sciences students, medical students, orthopedic surgery residents and sports medicine fellows).

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Measurement of Biomechanical Properties