

Liang-Ching Tsai, PT, PhD
Assistant Professor

I. General Research Interests

- A. Mechanisms associated with lower extremity musculoskeletal injuries and pathologies
- B. Limitations in patient outcomes following musculoskeletal rehabilitation

II. Current Research Projects

- A. Muscle function and knee joint loading profiles following anterior cruciate ligament reconstruction or meniscus tears
- B. Longitudinal biomechanical assessment in knee osteoarthritis patients with and without intraarticular stem cell injections
- C. Influence of limb weight bearing and joint kinematics on progression of tissue degeneration in post-traumatic knee osteoarthritis in rats

III. Research Skills

- A. 3D motion and kinetic Analysis
- B. Electromyography (EMG)
- C. Human gait analyses
- D. Dynamometer for strength measurement
- E. MRI imaging measurements
- F. Statistical analysis and research design