

# SEMINAR SERIES

Supported by The Department of Biomechanics and  
The Center for Research in Human Movement Variability (MOVCENTR)



## Evaluating Injury Risk Metrics During Movement in Military Service Members and People with Leg Amputations

Featuring Dr. Anne Silverman  
Colorado School of Mines



Friday, Oct. 28 | 12:00 - 1:15 pm | H&K 112

### PRESENTATION ABSTRACT

Characterizing the link between whole-body movement and joint mechanics is critical to prevent injury, optimize assistive devices, and reduce medical costs. Musculoskeletal injury and joint health are at least partly driven from internal dynamic conditions during movement, which are challenging to measure directly. This presentation will share our recent work using musculoskeletal modeling techniques to evaluate internal biomechanics that are important for long-term injury risk. Specifically, military service members are routinely required to perform biomechanically demanding tasks, which can result in long-term overuse injuries in the spine. People with leg amputations are at risk for joint pain and osteoarthritis in multiple joints. Internal mechanics can be affected by external interventions designed to prevent injury and promote mobility in these populations.

### ABOUT DR. SILVERMAN

Dr. Silverman is the Rowlinson Associate Professor of Mechanical Engineering at the Colorado School of Mines. Her research program centers on understanding musculoskeletal biomechanics and movement coordination to develop effective training interventions, prevent injury, and improve mobility. As director of the Functional Biomechanics Laboratory, she uses experimental movement analysis and computational whole-body modeling techniques to evaluate muscle action, joint loading, and device function during movement.

more info at [cobre.unomaha.edu](http://cobre.unomaha.edu)

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