Human Factors and Ergonomics Society Presents

Dr. Alison Novak

"Biomechanical assessment of environmental design features to reduce risk of falls"

Thursday, December 1st, 2016
11:00 am Wittemore 542

Dr. Alison Novak is a Scientist at Toronto Rehabilitation Institute-UHN and Assistant Professor in the Department of Occupational Science and Therapy and Faculty of Kinesiology and Physical Education, University of Toronto. Dr. Novak's primary research focuses on understanding mobility in challenging environments (such as stairs, ramps, bathrooms) to reduce fall risk across the lifespan, with an emphasis on biomechanical evaluation of movement.

Seminar Abstract: At Toronto Rehabilitation's Challenging Environments Assessment Laboratory we are building a large-scale research program to address the impact of various environmental design parameters on biomechanical risk of falls. Our laboratory spaces are fully modifiable to systematically evaluate features of various environments. We are also capable of providing high acceleration walking surface movements, which permit the delivery of perturbations (provoked balance loss) during stair ambulation, inclined walking, bathing transfers, and other daily living tasks. Measurement tools include 3D motion capture (error < 0.5mm), force plates, EMG, and load cells to enable analyses of dynamic balance control, kinematic behaviour, and reach-to-grasp balance recovery reactions in response to the perturbations. Results from ongoing and recently published studies will be presented to highlight the high risk of falls related to various environmental design parameters, key measurement analyses of risks, and the impact that biomechanical data can achieve to inform policy change.

All ISE faculty, staff, and students are invited to attend

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