

Date: May 27

Speaker: Dr. Shirley Handelzalts, Department of Physical Therapy, BGU

Title: Laboratory and real-world gait measurements in at-fall risk stroke survivors

Abstract: Most stroke survivors regain some level of their walking ability within six months following the stroke, yet they often experience gait impairments that interfere with daily functioning and increase the risk of falling. Near-falls, such as trips, slips, stumbles, or missteps involve a loss of balance (LOB) that does not result in a fall, occur more frequently than actual falls, and are associated with an increased fall risk. Little is known about *real-world* gait kinematics that may put PwS at risk for losses of balance (LOBs). The kinematics associated with these LOBs, particularly in those that ultimately result in falls, remain poorly understood. While there are extensive *in-laboratory* studies of post-stroke gait kinematics, few studies address the link between *real-world* post-stroke gait kinematics that are associated with LOBs and falls. In my talk I will present our ongoing research utilizing inertial measurement units (IMUs) to study laboratory and real-world gait kinematics and LOBs in at-fall risk stroke survivors.

Bio: Shirley Handelzalts is a Lecturer in the Physical Therapy Department at Ben-Gurion University (BGU) of the Negev, Israel. She leads the Neurorehabilitation Laboratory at BGU and the Gait Recovery Laboratory at Loewenstein Rehabilitation Medical Center, Ra'anana, Israel. She earned her PhD in Physical Therapy from BGU and completed a postdoctoral fellowship in the Geriatric Department at the University of Michigan, USA. Her research focuses on better understanding, measuring, and treating gait and balance disorders associated with neurological injuries, primarily stroke.