SEMINAR SERIES

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The Center for Research in Human Movement Variability (MOVCENTR)

SENSORY CONTRIBUTIONS TO HUMAN MOVEMENT CONTROL AND LEARNING IN HEALTH AND DISEASE

Featuring Dr. Mukul Mukherjee

University of Nebraska at Omaha

Friday, Oct. 29th | 12:00 - 1:15 pm | Via Zoom

https://unomaha.zoom.us/s/92012305734

PRESENTATION ABSTRACT

Each of our sensory systems on its own is capable of creating a distinct percept of the environment to enable us to perceive, process and act in an automatic manner. However, in daily life, such coherent percepts for posture and movement are created by the integration of a multisensory system comprising of vision, proprioception, tactile and vestibular systems. Our brain has a remarkable ability to integrate input from highly contrasting sensory modalities. This integration is important for perceiving and behaving optimally during our daily lives. However, a distortion of the percept or internal representation can occur with environmental perturbation (e.g., space travel) or pathology (e.g., stroke). Unlike multisensory contributions to postural control during quiet standing that has received major attention, such contributions during gait have been rarely studied. In this presentation, sensory contributions to human movement control and learning will be discussed with special emphasis to the impact on health and disease processes.

ABOUT DR. MUKHERJEE

Dr. Mukul Mukherjee is an Associate Professor in the Department of Biomechanics at UNO. He received his professional degree in Physical Therapy from Delhi University (India) and his PhD from the University of Kansas Medical Center in Kansas City. He received funding during his postdoctoral training from the AHA for research in rehabilitation robotics in chronic stroke survivors, and from NASA for investigating sensory augmentation of gait adaptation. As a COBRE junior faculty he led an NIH-funded research study investigating the effects of virtual reality on gait variability after stroke. He is currently leading a multi-University NASA study for investigating modular robotics for exercise in astronauts and AHA-funded research study investigating the effects of virtual reality on gait coordination after stroke. His major research objective is the exploration of multisensory contributions to human movement control and learning in health and disease.

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