



WPI

Neuroscience &
Bioinformatics and
Computational Biology Programs



Neuroscience Guest Seminar

Dr. Verena Klamroth-Marganska, Zurich University of Applied Sciences

"Robots as Therapists and Cybathles as Patients: New Technologies change Neurorehabilitation"

The origin of all movement lies in the central nervous system. Damage to the brain (e.g., after stroke) often leads to motor dysfunctions and requires the patient to relearn movement sequences, which is often tedious and time-consuming. Verena Klamroth studies the neurological principles of sensory-motor restoration. Her research focus is on the investigation of motor learning and sensory-motor control with the assistance of technical applications. Robots can enhance sensory-motor restoration through intense training in motivating VR environments. The next step in robot-assisted therapy is the individualization of training, achieved by games and tasks that adapt to the abilities of the user and by haptic therapist-patient-robot interactions.

In this talk, Dr. Klamroth gives an overview of novel robotic assistance and training systems for sensory-motor neurorehabilitation.



Bio:

Verena Klamroth is a physician and human geneticist. After gaining clinical experience in Neurology, she joined the Sensory Motor Systems Lab at ETH in Zurich in 2008. She participated in the development and clinical evaluation of the ARMin robot, a pioneering robotic rehabilitation system to train arm and hand functions after stroke. In 2018, Klamroth became lecturer at R&D in the Department of Health Sciences at Zurich University of Applied Sciences. Verena Klamroth is also the medical coordinator of the Cybathlon, a unique championship in which people with physical disabilities compete against each other to complete everyday tasks using state-of-the-art technical assistance systems.

Thursday, October 24, 2019

12:00 p.m.

Foisie 203

Lunch will be provided