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Stevens Institute of Technology

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BPI 140 AB

Zoom: https://udel.zoom.us/j/97918813993
PW: seminarBME

10:30 A.M.

Personalizing Sensory-driven Computerized Interfaces for Motor Rehabilitation

ABSTRACT:

Augmented sensory feedback (ASF) during motor training is proven to support better functional performance. Computerized interfaces, such as virtual reality, provide a versatile platform to custom adapt ASF and maximize a broad array of user outcomes. In this talk, I will present our lab's work to demonstrate how performance, perceptional, and physiologic measures depend on ASF training parameters (e.g., frequency, intensity, and type: visual, audio, haptic). We have examined how these variables are affected in neurotypical and clinical populations. I will conclude by suggesting how such findings can be leveraged to optimize performance and well-being while using advanced rehabilitation platforms.

BIOGRAPHY:

Dr. Raviraj (Ravi) Nataraj is an Assistant Professor in Biomedical Engineering at Stevens Institute of Technology. He received his Ph.D. in Biomedical Engineering at Case Western Reserve University and his Master's in Mechanical Engineering at Stanford University. His postdoctoral work involved motor restoration (e.g., neuroprostheses, exoskeletons) and assessment of persons having spinal cord injury (SCI), amputation, or carpal tunnel syndrome. His current research focus is motor training with computerized interfaces that rehabilitate upper-extremity function after SCI or traumatic brain injury. This work is being done in partnership with the Bronx VA Medical Center and the Kessler Foundation, funded by the Department of Veterans Affairs and the New Jersey Health Foundation.

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