

## **Biorobotics & Biomechanics Laboratory**

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The goal of the Biorobotics and Biomechanics Laboratory (BLL) is to provide a fundamental understanding of how the neuromotor system controls human gait and exploit this understanding to enhance the status quo of robot-assisted gait rehabilitation. The highly interdisciplinary research in the BBL is on the intersection of robotics, human movement science, human-robot interaction, and motor control. The lab's research focuses on developing wearable robots and exoskeletons to provide haptic (tactile and kinesthetic) feedback and power assistance to generate lasting improvements in the gait of individuals with walking impairments and advance knowledge in the field of neurorehabilitation. To develop more effective training approaches, researchers seek to create models of young and older adults' neural systems by applying the principles of system dynamics to users' gait responses while using the developed robots. Although the current target population for gait improvement is older adults, the outcomes of this research can be beneficial for other populations with walking difficulty due to neurological disorders.