



Post-Doctoral Positions at Case Western Reserve University

Immediate NIH-funded Post-Doctoral Researcher positions are available in the **Department of Biomedical Engineering** at **Case Western Reserve University** in Cleveland Ohio in the areas the design, optimization, and experimental demonstration of control systems for peripheral nerve stimulation for improving motor function after paralysis. Work will take place at the Motion Study Laboratory of the Louis Stokes Cleveland VA Medical Center with a dynamic interdisciplinary team led by Drs. Musa Audu and Ron Triolo that conducts federally funded research ranging from basic neural control of movement to development and testing of advanced neuroprosthetic systems that automatically ensure **seated, standing and walking stability**.

Areas of focus include the **modeling, optimization, and application of advanced controllers** that coordinate voluntary and stimulation-assisted motion, as well as **their laboratory implementation and clinical validation** with surface or implanted systems. In addition to the biomechanics, neural engineering, and robotics experts at Case Western Reserve University, additional mentoring opportunities in rehabilitation, human subject research, dynamic simulation, musculoskeletal modeling, assistive device design and quantitative analysis of user-device interactions are available from experts at the **Advanced Platform Technology (APT) Center** of the VA Rehabilitation R&D Service. Training will involve interactions with neuroscientists, engineers, neurologists, surgeons, physical medicine and rehabilitation specialists, professional staff, other pre- and post-doctoral trainees, as well as research volunteers with spinal cord injuries, stroke, MS, and other paralyzing Central Nervous System conditions.

Candidates should have (1) good working knowledge and application of dynamic systems, feedback control theory, and optimization; (2) experience with collection and analysis of kinematic and kinetic data from able-bodied and volunteers with neuromusculoskeletal disabilities, and (3) familiarity with musculoskeletal modeling in the OpenSim environment and MATLAB/Simulink real-time control programming.

Please send a 1) personal research statement, 2) full CV, 3) sample publication, and 4) list of three references to:

CAREERS@APTCENTER.ORG.

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