

VA



U.S. Department of Veterans Affairs
Veterans Health Administration
VA Northeast Ohio Healthcare System



Post-Doctoral Researcher (Balance and Control)

The **Department of Biomedical Engineering at Case Western Reserve University** and the **Louis Stokes Cleveland VA Medical Center** (Cleveland, OH) have immediate NIH-funded Post-Doctoral positions available 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 at the Cleveland VA Medical Center** with a dynamic interdisciplinary team led by Drs. Musa Audu and Ronald Triolo that conducts federally funded research ranging from basic neural control of movement to the development and testing of advanced neuroprosthetic systems for automatically ensuring **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. Additional mentors in biomechanics, neural engineering, robotics, rehabilitation, human subject research, assistive device design, and quantitative analysis of user-device interactions are available at CWRU and the **Advanced Platform Technology (APT) Center** of the VA Rehabilitation R&D Service. Successful applicants will work closely with faculty collaborators and other pre- and post-doctoral trainees, as well as research volunteers with spinal cord injuries, stroke, MS, and other paralyzing CNS conditions.

Candidates should possess:

- a Ph.D. or equivalent in Biomedical, Rehabilitation or Neural Engineering, Rehabilitation Science, Kinesiology, Physical Therapy, Robotics or related discipline.
- Good working knowledge and application of dynamic systems, feedback control theory, and optimization.
- Experience with collection and analysis of kinematic and kinetic data from able-bodied and volunteers with neuromusculoskeletal disabilities.
- Familiarity with musculoskeletal modeling in the OpenSim environment and MATLAB/Simulink real-time control programming.
- Strong interpersonal and written/oral communication skills

U.S. Citizenship or Permanent Residency is strongly preferred but not required. Refer to this announcement and state your citizenship status. Qualified candidates should send a 1) full CV, 2) personal research statement, 3) sample publication, and 4) list of three references to:

careers@aptcenter.org