

STUDENTSHIP at Penn State FALL 2010

A PhD studentship is available to study movement neuroscience in Bob Sainburg's laboratory in the Kinesiology Department at Penn State University. Dr. Sainburg's laboratory provides an active and fertile research environment, in which to pursue graduate research. The Kinesiology department houses a very strong group of labs that focus on motor control and biomechanics. We have a long standing seminar series, which attracts world renowned researchers to our campus on a regular basis, and the graduate students have recently developed a innovative journal club in motor control and biomechanics. The intellectual environment is top notch.

Ongoing research areas that can serve as potential research topics include: hemispheric lateralization as a model for understanding the neural organization of reaching movements, hemispheric lateralization as a model for understanding coordination deficits and recovery of function in stroke patients, and the roles of vision and proprioception in coordination of bilateral and unilateral movements. Our lab has custom developed software and experimental systems for studying arm movements. These systems include 4 virtual-reality set-ups, in which subjects interact with a computer game, while movements and electromyography is recorded from the arms. One of our set-ups is coupled with a robot arm to impose programmed perturbations to the arm during movement. We employ a variety of data recording and analysis techniques, including inverse dynamics analysis of 2-D and 3-D movements, Forward dynamics simulations and optimization techniques, Nerve stimulation techniques, and robot imposed perturbation studies.

We are seeking highly motivated candidates, who are interested in science and focused on developing a research career. This research is at the interface between Neuroscience and Biomechanics. It would be beneficial for the applicant to have a strong background in these areas, as well as computer programming skills, and some research experience.

Please contact Dr. Sainburg (rls45@psu.edu), if interested. We are now conducting interviews for fall 2010 admission to our program. Successful candidates will join the Kinesiology graduate program at Penn State University.

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