

Name: Roy Hamilton, MD, MS Department of Neurology

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Clinical Specialty: Cognitive Neurology

Research Interests: Neuroplasticity in stroke recovery; noninvasive brain stimulation

Potential projects: Our lab investigates the behavioral and neurophysiologic correlates of neuroplasticity in patients with focal brain injury and behavioral deficits such as aphasia and neglect. We employ electrical and magnetic noninvasive brain stimulation techniques both to inform models of normal cognitive function in healthy individuals and to facilitate beneficial neuroplastic changes in brain-injured patients. Students would work with research staff, graduate students, cognitive neurology fellows, and post doctoral fellows and would be expected both to contribute to ongoing studies and also to design and execute their own experiments.

Potential projects include:

- * Noninvasive stimulation of patients with stroke and chronic aphasia in order to facilitate language recovery.
- * Focal noninvasive brain stimulation in healthy individuals to characterize the neural substrates of cognitive constructs such as language, visuospatial attention, or executive function.
- * Direct current stimulation in normal healthy subjects to induce facilitation of a variety of cognitive abilities.
- * Measuring the neurophysiologic correlates of focal noninvasive brain stimulation using EEG/ERP in both human and animal models.

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