



Postdoctoral Scholar in Brain Imaging/ Neurosciences

College of Health and Human Services

Department: Communication Sciences and Disorders

Description: The Postdoctoral Scholar will conduct their own research and work closely with a senior faculty mentor to develop an independent research program consistent with the NIH path to independence. The primary area of research will be in system level neuroscience using non-invasive brain imaging to study the neurobiology of communication sciences and disorders. Additional professional development support will be provided in the form of participation in faculty development academies with early career tenure track faculty, coaching by a senior faculty colleagues including those that participate in the Interdisciplinary Neuroscience and Behavior Program, workshops on teaching and learning, involvement academic department life, and support funds. The Scholar will also attend workshops on grant writing and the development of a long-range research trajectory include funding from the NIH or other organizations. Responsibilities may include teaching one course annually. We encourage a breadth of applications across the spectrum of relevance to communication sciences and disorders, broadly defined. The specific disciplinary area of research may include:

- 1. Brain Imaging:** This area focuses on using MRI and fMRI to understand the mechanism of action of specific disorders of communication (e.g., autism, stroke, Parkinson's disease, specific language impairment) in children and/or adults. Specific areas will include using brain imaging to understand neural plasticity associated with experience-based learning as a foundation for specific interventions. This area is consistent with current NIH priorities.
- 2. Brain Stimulation:** The NIH has indicated that non-invasive brain stimulation is a high priority research area in order to use such technology as a treatment modality. Brain stimulation can be in the form of magnetic, electric or ultrasonic stimulation of the nervous system. This area can also be used to examine stimulation approaches to learning (an NSF priority), reduction of stress and anxiety, and other problems.
- 3. Swallowing, Cleft Palate, Voice, Stuttering:** This area of work involves understanding how the brain changes as a result of disorders of swallowing or cleft palate and changes in neural plasticity associate with successful treatment of these disorders.
- 4. Communication Disorders:** It is possible that the successful candidate will develop a program that does not focus on neurobiology but rather on the genetics of communication sciences and disorders. Work in genetic bases of CSD could be in the area of stuttering, specific language impairment and other communication disorders.

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