Full-Time Postdoctoral Fellowship in Developmental Cognitive Neuroscience and Infant Neuroimaging

Developmental Mechanisms Program,

Department of Medical Social Sciences, Feinberg School of Medicine

*Northwestern University, Chicago, Illinois *

A full-time postdoctoral fellowship is available for a candidate with interest and experience in MRI studies of neurodevelopment from infancy through adolescence. This position is based in the Developmental Mechanisms Program in the Department of Medical Social Sciences, Feinberg School of Medicine, Northwestern University (http://www.mss.northwestern.edu/research/developmental.html) with PI Lauren Wakschlag, PhD and lead neuroscientist Elizabeth Norton, PhD.

The focus of the position is MRI data collection and analysis, as well as publishing papers related to our active NIMH-funded MRI studies. These projects include the When to Worry (W2W) Study, which is designed to identify atypical patterns and neural bases of irritability in the first years of life (12-36 mos.) The study employs intensive, state-of-the-art, multi-modal, neurodevelopmental measurement longitudinally in a sample of 350 infants. Measures include lab-based assessments of behavior and executive function, and bimonthly at-home language and irritability assessment via LENA and parent questionnaires. A subsample of 100 infants complete MRI (structural, resting state, diffusion) during natural sleep at 12 and 36 months. The project reflects the Developmental Mechanism Program's emphasis on the neurodevelopmental basis of psychopathology in early life. Building on Dr. Norton's focus on early biomarkers of dyslexia and Co-Investigator Dr. Megan Roberts' work on prevention of early language impairment, this collaboration is also the foundation for an increasing emphasis on the intersection of irritability and language in early atypical pathways, including a pending R01 focused on late talking toddlers. Another line of research is the MAPS study, designed to characterize how brain:behavior atypicalities in early childhood shape psychopathology pathways at the transition to adolescence. The fellow can also draw on the rich extant MAPS dataset to generate scientific products including longitudinal, multi-wave data derived from behavioral tasks, contextual measures from preschool through adolescence, including two waves of MRI data (structural, functional, resting state, diffusion), ERP measures, and inflammatory and genetic bioassays. An additional project is in development relating to neurocognitive and neural outcomes in children whose mothers received an innovative stress reduction intervention during pregnancy.

The postdoctoral fellow will be an integral member of this scientific team and will have rich opportunities to publish throughout the study, drawing both on data from W2W, MAPS and a range of neurodevelopmental studies of irritability, language and their intersection across the laboratories of the investigative team. The fellow will also be encouraged and supported to

develop supplementary studies via the NIH NRSA mechanism. The postdoctoral fellow will oversee MRI scan familiarization and acquisition and neurobehavioral assessments of emergent executive function using eye-tracking methods, under the direction of neuroscientists Elizabeth Norton and John Gilmore. The translational investigative team also includes experts in developmental psychopathology, epidemiology and longitudinal modeling (Margaret Briggs-Gowan, Amelie Petitclerc, & Ryne Estabrook), language and LENA assessment (Megan Roberts), and developmental cognitive neuroscience (Ellen Leibenluft, Susan Perlman, Daniel Pine & Joel Voss).

We utilize the NU Center for Translational Imaging, which houses two research-dedicated 3T Siemens Prisma MRI scanners (www.cti.northwestern.edu). The Northwestern University Feinberg School of Medicine provides an ideal training environment for postdoctoral fellows, coordinated by the Interdepartmental Neuroscience Program (NUIN: www.nuin.northwestern.edu). The Northwestern University Postdoctoral Forum is an organization of postdoctoral fellows that provides additional resources for career and personal development. NU's Institute for Innovations in Developmental Sciences (DevSci: http://devsci.northwestern.edu) also provides a cross-campus network of interdisciplinary biomedical and social scientists and scientific platforms focused on how early development shapes life course health and disease.

The position requires a PhD or MD/PhD in a neuroscience-related field. The ideal candidate will have prior experience with acquisition and processing of infant neuroimaging data including scan acquisition and computer-assisted image analysis pipelines for gray and white matter analysis of infant scans. Candidates with broader pediatric neuroimaging training will also be considered. Training/experience in developmental cognitive neuroscience and strong computational abilities are strongly preferred. The successful candidate will have an excellent publication record with demonstrated interest in developmental science and neuroscience, and will combine a collaborative orientation with the ability to function well independently. We are seeking an energetic, dynamic individual who seeks a team science environment and brings a high level of initiative, drive, and spirit of inquiry.

The postdoctoral fellowship will begin as soon as possible and may extend up to four years. Applicants will be considered until the position is filled. To apply, please send a cover letter, CV and the names and contact information for three references to Elizabeth Norton, PhD, at enorton@northwestern.edu.