Postdoctoral Fellow in Visual-Spatial Representations: Experimental and Computational Approaches  
Language and Cognition Lab (PI Barbara Landau), Johns Hopkins University  
Closing date: None

The Language and Cognition Lab at Johns Hopkins University has an opening for a post-doctoral fellow who will serve as the lead on a project examining the development and use of spatial representations in children and adults. The project uses block construction as an exemplar domain to examine the nature and use of spatial representations in complex tasks that involve substantial planning and motor deployment of those plans. It is being carried out by a large collaborative team including members of Cognitive Science (Language and Cognition Lab, PI: Barbara Landau), Education (Spatial Cognition Lab PI: Amy Shelton) and Computer Science (Computational and Robotics Lab, PI: Greg Hager). The team uses a combination of experimental (including eye tracking and standardized developmental assessments) and computational/ machine learning approaches. The post-doctoral fellow will be tasked with leading the cognitive experimental aspects of the research, and linking that work to that of the engineering team. The cognitive aspects of the project include helping to design and implementing new experiments, recruiting and testing child and adult participants, managing and trouble-shooting the analytic system (in collaboration with the engineering team), analyzing data, and preparing the results for talks and publications. The post-doctoral fellow will also supervise a team of undergraduates who work on the cognitive side, and interact regularly with undergraduate, graduate, and post-graduate researchers on the engineering side. S/he will organize our weekly team meetings (which include all team members), and keep track of and coordinate progress between the cognitive and engineering team members. The postdoctoral fellow will also have the opportunity to interact with other graduate and undergraduate students’ work during Dr. Landau’s and Dr. Shelton’s weekly lab meetings.

Requirements include a Ph.D. in Cognitive Science or related field, a strong cognitive science background, excellent skills in research methodology and scientific writing, experience working with children and their families, excellent computer and technical skills including developing and managing large databases, strong quantitative skills including familiarity with multilevel or repeated measures / nested data structures, and strong organizational skills for coordinating multifaceted research projects. Preferred qualifications include an interest in spatial cognition, interest and skills in computer science and computational methods, basic programming skills, familiarity with MATLAB, Tobii eye tracking platforms, and standardized developmental assessments (i.e. DAS, WRAT, KBIT, WISC). Funding is guaranteed for one year, with a second year fundable upon review. There is also the possibility of extending funding beyond two years, pending new grants.

For more information, contact Dr. Barbara Landau, Department of Cognitive Science (landau@jhu.edu). Applicants should include a letter of interest (including a statement of ‘fit’ between the candidate’s interests / skills and the project), a cv, and the names of three references who we may contact for recommendation letters. Applications will be reviewed promptly. The position may start as early as June 1, 2019, but will be open until the right candidate is identified.