In Person Seminar: Prioritizing Individuals and Individual Differences in the Study of Children with Neurodevelopmental Disorders

The human central nervous system constitutes, arguably, the most complex biological system known. The myriad and heterogeneous clinical manifestations of disorders of the developing nervous system, both rare and common, reflect that complexity. Commonly, the study of typical and atypical neurodevelopment embraces central tendency assumptions and approaches to investigation. However, if we are to move effectively towards a precision medicine for neurodevelopmental disorders, we will need to shift our approach to methodologies that afford us an individual-level analysis. Dr. Schlaggar’s talk, organized into two sections, will first assess the utility of functional MRI to investigate the development and plasticity of brain systems at the group- and individual-level of analysis. The discussion will then evaluate the reliance on central tendency-based approaches to investigating the etiology and treatment of developmental brain dysfunction and make the case for attending to heterogeneity in study design and clinical care.