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**ABSTRACT: Why children fail to learn to read: identifying the cognitive, neural, and environmental precursors**. Reading development utilizes and repurposes multiple cognitive and neural systems that support innate functions such as vision, hearing, language, and learning. In most children, these systems become seamlessly integrated through the experience of reading to form a reading circuit. In a subset of children with developmental dyslexia, however, neural specialization for reading proceeds atypically and reading impairment ensues. Because of the complexity of this circuit and the heterogeneity of dyslexia-related deficits, forming a cohesive theory of dyslexia etiology has been challenging and multiple hypotheses have been proposed. To establish the etiological causes of dyslexia, it is important to demonstrate that a particular mechanism or deficit precedes reading impairment and is present in pre-reading children. I will report findings from a longitudinal study that investigated the cognitive, neural, and environmental substrates of subsequent reading failure in pre-reading children.

**BIO**: **Ola Ozernov-Palchik, Ph.D**., is a postdoctoral associate at the McGovern Institute for Brain Research at the Massachusetts Institute of Technology (MIT), studying reading development and dyslexia. Ola applies neuroimaging, psychoeducational, and cognitive methods to investigating the mechanisms of deficit and compensation in dyslexia. She is interested in the hereditary and environmental factors affecting the development of the brain networks for reading. The reciprocity between research and real-world practices is an important goal of her work