Child brain development is shaped by social, economic, and cultural contexts. Allyson Mackey will present research linking socioeconomic status, along with specific environmental exposures such as language and stress, to neurocognitive development in childhood. She will then discuss how advances in neuroscience can be leveraged to inform the type and timing of educational interventions.

**Environmental Influences on Brain Development: Implications for Learning and Academic Achievement**

Allyson Mackey is interested in how changes in the brain give rise to changes in the mind, both as development unfolds, and in response to experience. Over the course of development, maturational changes restrict plasticity. These changes are generally adaptive. However, reduced plasticity limits the acquisition of new facts and skills. Therefore, developing brains must strike a balance between plasticity/vulnerability and stability/protection. Her lab studies the mechanisms by which environmental factors tip this balance to shorten or shift windows of peak plasticity.

Dr. Mackey joined the Psychology faculty at the University of Pennsylvania in 2016. She completed her postdoctoral training at the Massachusetts Institute of Technology with John Gabrieli. She earned a Ph.D. in Neuroscience from the University of California, Berkeley, with Silvia Bunge, and a B.S. in Biological Sciences from Stanford University. Her years in inner city public schools, first as a student, and then as a researcher, have led her to concentrate her translational work on reducing the income achievement gap.