Executive function: Reflection, iterative reprocessing, complexity, and the developing brain

Abstract:

The development of executive function—the conscious control of thought, action, and emotion—has consequences for children’s behavior in a wide variety of domains. In this talk, I will present a neurocognitive model of executive function and its development according to which:

1. age-related improvements in executive function are brought about in part via increases in the extent to which children reprocess and reflect upon their experiences in order to formulate action plans maintained in working memory;
2. these cognitive and behavioral changes, in turn, are associated with the experience-dependent maturation of neural systems involving anterior cingulate cortex and lateral prefrontal cortex (inter alia).

I will also discuss the theoretical and practical implications of experimental research aimed at promoting the healthy development of executive function during the preschool period.