Development, Plasticity, and Structure Underlying Auditory Language Comprehension and Production

Thursday, November 20, 2014
4:00 p.m.
Stuart Hall 102

Featuring

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I will discuss our work over the last years on the cognitive and neural scaffolding underlying our language abilities, and how we build upon this scaffolding over development to become remarkable experts in language use. One strand of this work has employed different non-linguistic skills (such as environmental sound comprehension and oromotor praxis) to try to tease apart different perceptual and cognitive mechanisms underlying language production and comprehension. The results from these have informed our MRI studies that aim to understand some of the 'day jobs of the language brain', e.g., the structural, sensory, and motor characteristics of brain regions and networks typically involved in language processing. I'll also present some fMRI studies whose results suggest quite dramatic yet task-specific changes in neural strategies for basic language skills over the school years. Finally, I'll preview results from a very recent study of individual differences that combines myeloarchitectonic, tonotopic, and 'language' maps in the same individuals to uncover common 'fault lines' in the brain's functional organization for complex audition and communication.