Central auditory processing: From molecule to behavior

Most of us live in an auditory world. We use spoken language to communicate, we tune in to environmental sounds, and we listen to music. Formal and informal experiences with these acoustically and functionally complex sounds are linked to our neural systems (from neurotransmitters to network) on the one hand, and our cultural traditions on the other. In this talk, a series of experiments from the author's research group that investigate factors influencing auditory processing and learning, including genetic profiles, neuroanatomy, neurophysiology, instructional paradigms, and culture will be reported. For examples, the author will talk about how genetic polymorphism and neural characteristics may be tied to spoken language learning success, how different learners may require distinct training methods, and how auditory training focusing on cognitive skill development can improve language communication in individuals with cochlear implants. This hodgepodge of findings form a starting point for a more comprehensive understanding of the human auditory system that takes into account the connection between the context in which we live and the building blocks of our physiology.

Biography

Patrick C M Wong, PhD, CCC-SLP is Professor in Linguistics at The Chinese University of Hong Kong and Adjunct Professor of Otolaryngology and Communication Sciences and Disorders at Northwestern University. Research by his team concerns central auditory processing and neurophysiology, especially speech perception and learning, auditory deficits, and interactions between speech and music. His scholarly publications have appeared in *Nature Neuroscience, Journal of Neuroscience, Cerebral Cortex*, among others. His work has also attracted much public attention, such as coverage by the New York Times.

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