



Keynote Speakers



Prof. Barbara Tillmann

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Title: Perception of music and speech: Focus on rhythm processing

Research in cognitive neuroscience has revealed similarities in neural and cognitive correlates of music and language processing. Investigations focusing on temporal processing, in particular, rhythmic and metrical processing, have revealed interesting connections between music and speech. These observations have led to several theoretical frameworks and hypotheses about underlying mechanisms and neural functioning, and has motivated applications to clinical research. I will present research that has demonstrated beneficial effects of rhythmic stimulation or training to improve language processing in populations of adults and children with typical development and with developmental language disorder or dyslexia. A recent hypothesis highlights the potential value of early detection of atypical rhythmic processing as indicative of increased risk for language disorders. This research domain provides perspectives for creating rhythm-based training programs for rehabilitation and also for early intervention, aiming to decrease language deficits during development.

Biography

After a PhD in cognitive psychology and postdoctoral research in cognitive neuroscience, Barbara Tillmann started a CNRS research position in France and directed the research group “Auditory Cognition and Psychoacoustics” at the Lyon Neuroscience Research Center, before moving to the Laboratory for Research on Learning and Development in Dijon. Her research uses behavioral, neurophysiological and computational methods to investigate how the brain acquires knowledge about complex sound structures (music, language), and how this knowledge shapes perception and memory via predictions. She also studies perspectives for stimulating cognitive and sensory processes with music, including in pathology (e.g., dyslexia, Alzheimer Disease, disordered states of consciousness, hearing-impairment).
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