

# NARLY GOLESTANI, PhD

## NEURAL BASES OF LANGUAGE LEARNING, EXPERTISE AND DYSFUNCTION

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In this talk I will describe our work on the brain and language, mainly in healthy adults and in language experts. This will include an overview of our brain functional and structural imaging work on phonetic learning, and on neural plasticity arising from expertise in the analysis of speech sounds and also arising from a much higher-level form of expertise: expert skill in language control, in simultaneous interpreters and in hyperpolyglots. I will also address the flip side of the nature-nurture question, by describing findings suggesting the presence of an intermediate brain structural phenotype which may predispose people for domain-specific skill in fine auditory perception. Finally, I will describe the results of our very recent work showing task effects in the low-level, early auditory cortex response to specific acoustic dimensions in speech, will outline some future research directions.

**Narly Golestani** received her PhD in Clinical Psychology at McGill University in Montreal, Canada in 2002. Following post-docs in France (INSERM, Orsay) and the UK (Institute of Cognitive Neuroscience, University College London), she received a Prize of Excellence at the University of Geneva in 2009. Subsequently, in 2012, she was appointed SNSF Professor, and since 2018 she has been Associate Professor at the Faculty of Psychology and of Education Sciences at the University of Geneva. Her group uses methods such as functional and structural MRI, diffusion tensor imaging and electroencephalography to better understand the brain basis of language processing and of multilingualism, and of brain plasticity in language experts. She also works on the neural underpinnings of dyslexia, in order to better understand the differences underlying compensation in this disorder.