Cukier-Goldstein-Goren Center for Mind, Cognition and Language,
School of Philosophy, Linguistics and Science Studies,
Department of Linguistics

THURSDAY INTERDISCIPLINARY COLLOQUIUM

Thursday 18/05/2023
16:15-17:45
Webb 103

Galit Agmon, University of Pennsylvania

Spontaneous speech: Semi-controlled linguistic stimuli in the healthy brain and in neurodegeneration

Processing spontaneous speech poses many challenges that are not present in the standard linguistic stimuli used in lab settings. Because speech is produced by the speaker 'on the fly', unscripted and unedited, it is peppered with pauses, contains many fillers and often includes partial structures. Yet, normal people understand everyday speech easily and without much effort. These natural disfluencies have to be dealt with by our brain during ongoing processing of speech production and perception. These also affect performance of natural language processing (NLP) tools when analyzing speech. How does the brain deal with the disfluent input? How can we use spontaneous speech to study the brain?

In this talk, I will present two lines of research to address these questions. In the first, I study speech perception in the healthy brain. Using EEG signals, I show reduced brain responses to disfluencies in speech, possibly 'filtering them out' prior to higher-level linguistic processing. In the second, I study neurodegeneration in primary progressive aphasia (PPA) through automated analysis of patients' speech. Using NLP tools and CSF biomarkers, I show that syntactic complexity in spontaneous speech can be quantified to reflect disease severity, offering a linguistic measure to monitor disease progression at scale.

Click here to see the colloquium program.

Sagol School
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Tel Aviv University