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Research Statement

Introduction

My research interests involve integrating phonetic perception methodologies with brain imaging technologies such as fMRI and MEG in order to investigate neuronal circuitry in multilinguals. Additional technologies useful in investigating the neural basis of auditory perception and language comprehension include EEG, ERP, and eye tracking.

Previous Research

L1, L2 Decay & Vowel Space

Exploratory study investigating if L1 decays onto L2 to the extent of affecting the vowel space. Bilingual speakers of English and Spanish who self reported as code switchers demonstrated an asymmetrical vowel space merger between L1 and L2.

Current Research

Phonetic Mental Arithmetic

Pilot study investigating if a difference in RT exists when participants are tasked with providing a verbal response to simple arithmetic stimuli presented acoustically in L1 or L2.

Future Research

Mental Arithmetic

Future imaging studies will identify the neuronal circuits involved in conducting mental arithmetic when presented acoustically in L1 and L2.

Language Acquisition

Future DTI studies can investigate if subtle white matter differences between learners encoding L2 in a primarily acoustic (verbally rich) environment and in a primarily visual (reading rich) environment exist.