

A Phonetic Basis for Contrast in Phonology
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What is contrast? How does it interact with speech systems to give rise to phonological processes? How does contrast develop? These are the questions that I will address in this talk. In particular, I will discuss how the different phonological representations in the speech system interact with phonetic factors to result in natural class membership, allophonic alternations, and diachronic changes. I will present data from four studies to highlight how my research has made progress in understanding each of these phenomena. In the first study, I present ultrasound evidence for an articulatory link between rhotics of disparate places and manners of articulation. In the second study, I present acoustic data which suggests that different phonetic factors can cause positional neutralization through masking acoustic contrasts between segments. In the third study, I present perceptual evidence that shows how extra perceptual pressures can cause contrasts to collapse leading to mergers and sound change. Finally, I will present data which shows children must master both the timing and magnitude of the gestures involved in contrasting segments to acquire adult-like speech.