## Uniformity in phonetic realization within and across languages

A core aspect of linguistics is understanding the range and limits of linguistic variation. It is well-known that phonetic variation is extensive, but also highly structured by linguistic and extralinguistic factors. In this talk, I consider a suite of "uniformity" constraints that might structure the projection of phonological segments into phonetic space (e.g., the perceptuo-motor targets underlying articulation and acoustics). For instance, a talker with a long voice onset time (VOT) for [t<sup>h</sup>] will also have long VOTs for [p<sup>h</sup>] and [k<sup>h</sup>], and these relationships are highly predictable (Chodroff & Wilson, 2017). Moreover, this between-segment structure holds not only across talkers of a single language, but also cross-linguistically (Cho & Ladefoged, 1999; Chodroff, Golden, & Wilson 2019). Bringing together large spoken corpora and corpus phonetic techniques, I examine the predictions of the uniformity constraints in accounting for structured phonetic variation within and across a wide range of languages.