## ACOUSTICS2008/623 Segmental variability related to speech prosody - An articulatory-functional perspective

## Yi Xu

University College London, Wolfson House, 4 Stephenson Way, NW1 2HE London, UK

Just like in the tonal aspect, variability abounds in the segmental aspect of speech. Here I argue that segmental variability, similar to supra-segmental variability, can be understood from an articulatory- functional perspective. That is, two independent sources of segmental variability co-exist: a) multiple layers of communicative functions, and b) articulatory mechanisms of their encoding. From an articulatory perspective, much of the segmental variability arises from the nature of the syllable as a product of generating time markers, namely, synchronized onsets of consonant, vowel, tone and phonation register at the start of each syllable as recurrent events that serve like clock ticks to enable time tracking by both speakers and listeners. Such time marking results in complete overlap of initial consonant and the following vowel, which is responsible for most of the variability known as coarticulation, and sequential offset of coda components in a syllable, making them susceptible to deletion and merger. From a functional perspective, segments as supralaryngeal articulatory movements encode not only lexical contrast, but also other functional contrasts such as focus, grouping, attitude, etc. Like the tonal aspect of speech, these extra-lexical information are probably encoded as modification of segmental targets that have been lexically assigned.