

Ph.D. Program in Speech-Language-Hearing Sciences

Fall 2017 Colloquium
Wednesday, October 25, 2017
2:45 p.m. - 4:00 p.m., Room 7102

Dr. Adam Buchwald
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*“Training Motor Speech Production in Impaired
and Unimpaired Speakers.”*

Abstract:

The distinction between phonological processing and motor planning has been a persistent topic of both theoretical and clinical research. In the clinical domain, a lot of careful work has gone into determining how to differentiate aphasia (which can affect phonology) from apraxia of speech (AOS, which affects motor planning and/or programming). Despite the success of this work, it is rare that AOS occurs in isolation as it frequently co-occurs with aphasia, and the motor-based treatment literature that examines this population frequently reports that some (but not all) participants respond to treatment, a finding that often is related to variability in the population.

In this talk, I will first present a line of research that attempts to discern structure in this variability that can help predict responsiveness to intervention targeting motor learning and recovery. Leaning on the distinction from psycholinguistic accounts between phonological and motor components of production, I will introduce a prediction about the relationship between the acoustics of consonant deletion errors in clusters (e.g., snail -> _nail) and responsiveness to motor-based training in individuals with these complex deficits. After demonstrating some success with this approach, I discuss an approach to enhance training effects with transcranial direct current stimulation (tDCS). Here, I report on a recent study in which speech motor learning in unimpaired speakers was enhanced with tDCS. I will then discuss the theoretical implications of these two lines of research, and how they form the basis of ongoing and future translational work using tDCS with individuals with acquired speech impairment.

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