What altered auditory feedback and computational models can show about speech motor control and planning

Benjamin Parrell
University of Wisconsin-Madison

In this talk, I will present an overview of recent work from my lab using real-time perturbations to the auditory feedback speakers hear about their own speech to assess the speech motor control system. I will show how these auditory perturbations can be harnessed to 1) examine sensorimotor control of speech articulation and 2) probe the details of speech motor planning and its interaction with the linguistic system. I will additionally show how modeling of responses to auditory feedback can inform our understanding of both speech motor goals and control systems. Lastly, I will examine some limitations and misconceptions of what we can learn from auditory perturbation paradigm and suggest some potential paths forward for overcoming these issues.