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

Spring 2017 Colloquium
Wednesday, May 17, 2017
2:45-4:00 p.m., Room 7102

Dr. Rachel Scheperle
Montclair State University

“Longitudinal Changes in Auditory Status for Cochlear Implant Users with Preserved Acoustic Hearing.”

Abstract:
This presentation will provide an overview of hearing preservation following cochlear implantation, including the modification of surgical techniques and implant designs, candidacy criteria, benefits of hearing with combined acoustic and electric hearing, and risks. The primary risk is loss of residual hearing: occurring immediately or with a delayed onset. Several etiologies have been proposed. Longitudinal data from a sample of cochlear implant recipients seen at the University of Iowa were reviewed to more fully characterize delayed/progressive loss of residual hearing and to explore possible mechanisms. Outcome measures included unaided behavioral audiometric thresholds, electrode impedance, and electrically evoked compound action potentials. The primary finding was an abrupt/transient increase in electrode impedance for many individuals with delayed onset hearing loss. The timing of the impedance change was related to the timing of the change in behavioral thresholds. Changes in ECAP measures were not correlated with changes in behavioral thresholds. Further exploration into etiology of delayed-onset hearing loss post implantation is needed. There is particular interest in exploring changes in the intracochlear environment, but it is unlikely that the underlying mechanism is the same for all patients.

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