

**Department of Communication Sciences and Disorders  
COLLEGE OF ALLIED HEALTH SCIENCES**

**SUMMER RESEARCH OPPORTUNITIES  
FOR UNDERGRADUATE WOMEN**

**APPLICATION DEADLINE: March 2, 2009**

*The Department of Communication Sciences and Disorders is pleased to offer the following research project for the summer of 2009. Interested students are urged to contact the faculty member(s) directing the project that most interests them. By contacting the faculty member, you can discover more about the project, learn what your responsibilities will be and, if possible, develop a timetable for the twelve-week research period.*

**TITLE: PUBLIC ACCESS TO IMAGES OF VOCAL TRACT DURING  
PRODUCTION OF /R/ AND /L/**

**TITLE: INTELLIGIBILITY OF SPEECH IN VARIOUS HEALTH CONDITIONS**

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Communication Sciences and Disorders (also Faculty Advisor to the Dean for Research)  
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**PROJECT DESCRIPTION**

**Dr. Boyce's research involves acoustic modeling of the vocal tract and automatic detection of information in the acoustic signal that affects intelligibility of speech, to normal-hearing individuals, hearing-impaired individuals, and/or to normal, healthy individuals under conditions of sleep deprivation. Undergraduates may be asked to put together a website allowing the public to download magnetic resonance and ultrasound images of the vocal tract during speech. Alternatively, undergraduates may be asked to run experiments asking listeners (normal-hearing, hearing impaired and non-native speaker) to identify important content words in degraded speech stimuli, or to make acoustic measurements of the speech signal that signal differences in the intelligibility of speech. If a pending grant application is funded, undergraduates may be asked to work with speech produced by individuals who have sustained traumatic brain injury from explosive blasts.**