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Graduate studies in acoustics,
speech and hearing at the USF
Dept. of Communication
Sciences and Disorders.



Catherine L. Rogers and colleagues.
<http://www.usf.edu/cbcs/csd/>

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Gail Donaldson: Adult Cochlear Implant Lab

Research foci and current/potential projects:

- Psychophysical assessment of sound perception in CI users
 - Evaluation of static and dynamic spectral acuity in CI users
 - Relationship between psychophysical measures and speech perception
- Speech perception in CI users
 - Vowel and consonant perception in CI users
 - Effects of speech processing strategy and mapping parameters on speech perception outcomes
 - Cognitive factors influencing speech perception outcomes in CI users
- Bimodal benefit in CI users with residual low-frequency hearing (NIH funded project with Ying-Yee Kong, Northeastern Univ)
 - Role of top-down processing in bimodal benefit
 - Contributions of specific low-frequency cues to bimodal benefit
 - Bimodal benefit as measured by listening effort

Joseph Walton: Auditory Neural Engineering Laboratory

Dr. Walton's Research areas of expertise:

- Neurophysiological assessment of the auditory system in humans and animal models
- Behavioral methods of assessing auditory perception in mouse models
- Neural correlates of temporal processing deficits in aging
- Neural plasticity following the induction of tinnitus and after exposure to enriched acoustic environments.
- Central auditory neural processing in the auditory midbrain and cortex.
- Modulation of the BK channel and the effects on auditory processing

Ongoing Projects in Dr. Walton's Lab with potential for student involvement:

- Behavioral and neural manifestations of tinnitus in animal models (currently being investigated using ABRs, ASSR and behavior)
- Evoked potential assessment of temporal processing in animal models of aging and hearing loss (planned - using ASSR and currently – using the gap-in-noise paradigm)
- Role of BK channels in auditory processing (current PhD thesis)
- Auditory midbrain (IC) and cortex plasticity following the induction of tinnitus and the effects of therapeutic intervention
- Auditory midbrain (IC) and cortex plasticity following exposure to enriched acoustic environments.
- Auditory midbrain (IC) and cortex plasticity following NIHL with and without stress, as an animal model of PTSD

Auditory Neural Engineering Laboratory



Research- David A. Eddins

Auditory & Speech Sciences Laboratory

(assl.cbcs.usf.edu)

Currently looking for motivated and qualified Ph.D. students
(deddins@usf.edu)

Exciting, busy, supportive research and learning environment
with world-class facilities

Perception

Effects of aging on spatial, temporal, spectral processing

Cortical signatures of auditory perception

Leveraging neural plasticity to mitigate tinnitus and
hyperacusis

Speech perception and hearing impairment

Measurement and modeling of voice quality perception

Hearing instrument technology

Development of hardware and software systems and
algorithms

Development and evaluation of hearing aid fitting/signal
processing strategies

Using hearing instruments to steer neural plasticity

Ongoing projects funded by NIH (R01, P01, F32, SBIR) , NSF
(1), and Industry(2)



Dr. Jennifer J. Lister: Psychoacoustics and Cognitive Aging

Psychoacoustics Laboratory

Ongoing projects with potential for student involvement:
Age-related changes in perception of timing cues,
auditory processing speed

Neurophysiology of Aging Laboratory

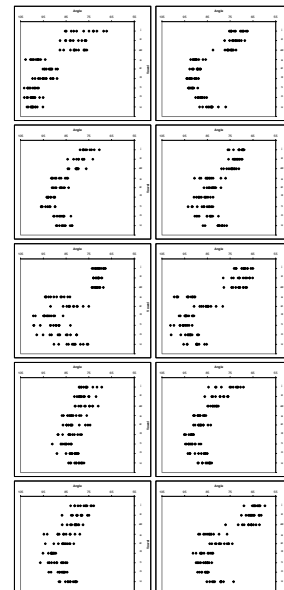
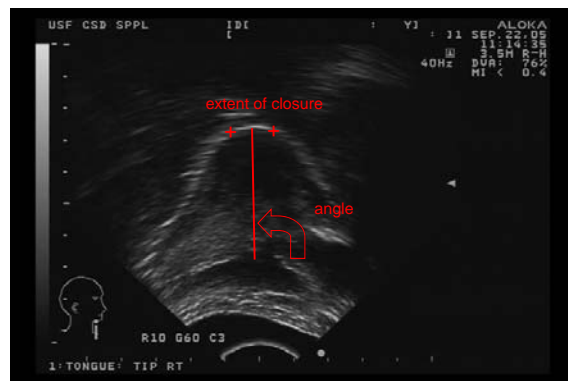
Ongoing projects with potential for student involvement:
Electrophysiological and behavioral indicators of early
cognitive decline.

Cognitive Aging Laboratory

Innovative treatments for auditory and cognitive
disorders.

Frisch research

- Speech articulation
 - Coarticulation processes
 - Speech errors
 - Tongue movement in production of /t/ and /k/ in particular



Ruth Huntley Bahr, Professor
Dept. of Communication Sciences and Disorders

Ongoing projects with potential for student involvement:

- Development of linguistic knowledge in school-age children: Interactions among writing, spelling, reading and vocabulary, including children who are culturally and linguistically different.
- Assessment of gesture and speech production in children with Angelman syndrome.
- Intra- and inter-speaker variability in voice production
- Voice production in individuals with spasmodic dysphonia

Catherine L. Rogers: Speech Perception and Production Lab

Overarching Research goal: To understand vowel perception and production across under conditions of “cognitive-linguistic challenge” (broadly defined)

Particular focus on second-language learning, but interested in other “challenges” as well (e.g. aging, processing of speech through a cochlear implant).

Interest in clear speech processing: Clear speech poses a linguistic challenge that can be applied to both speech perception and production.

Ongoing projects with potential for student involvement: speech perception and production by native and non-native English speakers in challenging conditions (e.g., task demand, divided attention, memory, etc).