

**Department of Communication Sciences & Disorders
Colloquium Series &
Distinguished Lecture in Audiology**

Pamela Souza

**Professor
Communication Sciences and Disorders
Northwestern University
Evanston, IL**

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PCD 1147**

**Individualized hearing treatment:
the path from laboratory studies to clinical services**

Abstract

Hearing loss is one of our most pervasive health problems, but the only treatment option for most of those with hearing loss is a hearing aid. The standard approach to selecting signal processing is based on the pure-tone audiogram and does not consider differences in individual auditory abilities. Following the concepts of personalized medicine, we aim to design individualized or “profile-directed” signal processing that can improve speech communication in a variety of listening environments. This talk will review foundational work toward this effort, including data that hearing-impaired listeners asked to categorize the phonemes they hear vary in their use of temporal and spectral cues. Discrimination results show that adults with temporal cue profiles are unable to discriminate fine spectral detail, while adults with spectral cue profiles are able to discriminate both temporal and spectral cues. The talk will include a description of our ongoing work to select signal processing amplification that supports these individual profiles. [Work supported by NIH.]



Biography

Pamela Souza directs an active laboratory whose members study aspects of aging, cognition, and speech perception. Her research interests include use of signal-processing amplification which affects acoustic speech cues, how those changes interact with listener age and cognitive status, and how research findings in this area can direct clinical practice. Recent collaborative research includes how age and working memory influence response to hearing aid signal processing; consequences of loss of spectral (pitch) selectivity; and how traumatic brain injury affects speech and sound perception. Dr. Souza is a Fellow of the American Speech-Language-Hearing Association and serves on the Psychoacoustic and Perception Technical Committee of the ASA. Her work is supported by the National Institutes of Deafness and Communication Disorders. She is also a practicing clinical audiologist who has worked with patients ranging from pediatric to geriatric populations, including nearly 15 years as a VA audiologist.