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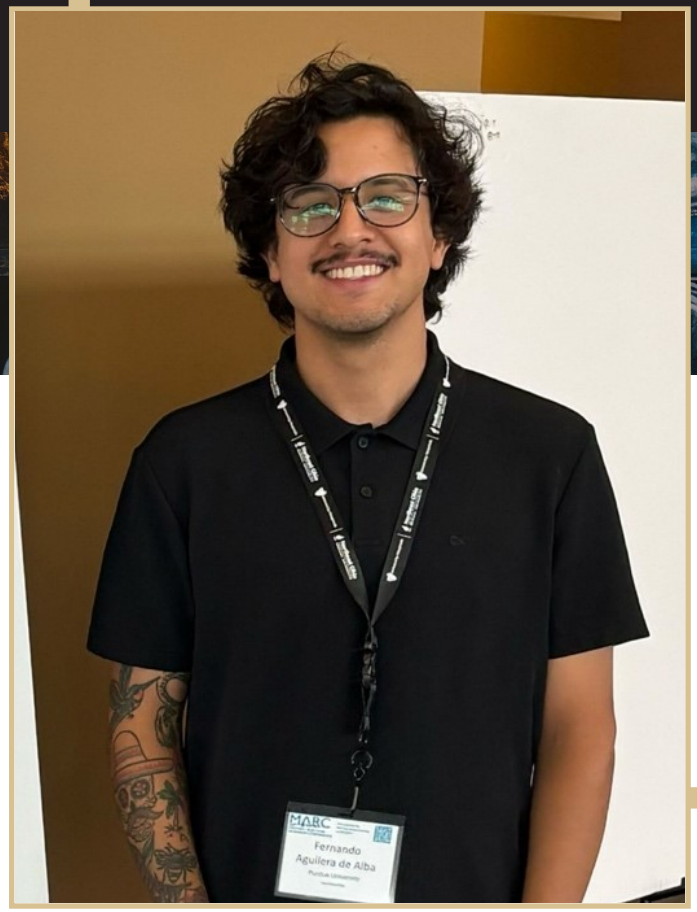

Fernando Aguilera de Alba

PhD Candidate | Weldon School of Biomedical Engineering and

Department of Speech, Language, and Hearing Sciences | Purdue University

"Functional Auditory Deficits Following Occupational Noise or Blast Exposure"

Service members are often exposed to varying harmful acoustic environments—from prolonged noise exposure to brief high-intensity blasts. Understanding how noise- and blast-induced hearing loss affect auditory processing differently is critical for diagnostics and individualized treatment. Using a chinchilla model, we investigated peripheral and subcortical functional auditory deficits following continuous noise exposure at 92.5 dBA (40 hrs/week) or one single blast exposure at 150 kPa (2-3 ms). We employed a multi-metric auditory framework to non-invasively assess auditory function using otoacoustic emissions (OAEs), auditory brainstem responses (ABRs), and envelope following responses (EFRs). Our objective is to discover clinically relevant auditory metrics and gain insight about potential mechanisms of injury combining electrophysiology and histology.

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TUESDAY, DECEMBER 2ND | 12:00 PM | LILY 1-117