



Department of Biomedical Engineering
Graduate Seminar

Date
Friday, February 7th

Location
Central King Building (CKB 217)

Time
11:30 AM



Jamie Undurraga, PhD
Post – Doctoral Researcher
Department of Linguistics
Macquarie University, NSW, Australia

Subject-The use of neurophysiological measures to assess spatial hearing in human listeners

Abstract:

It is well established that hearing capabilities decline with ageing and/or following noise exposure. Traditionally, hearing abilities are assessed by pure-tone audiometry thresholds. However, some normal hearing listeners report great difficulties in understanding speech, particularly, in environments with background noise despite having normal audiometric thresholds, and so their problem remains untreated - Hidden Hearing Loss (HHL). One factor deemed to be associated with HHL is selective damage to high-threshold auditory nerve fibres which can reduce the ability to encode the fine temporal fluctuations conveyed by sounds. Fine temporal fluctuations are critical to spatially segregate and group auditory objects and so to understand speech in the presence of noise.

In this presentation, Dr. Undurraga will discuss the basic mechanisms to encode and process temporal and binaural information in the auditory system. He will provide an overview of different techniques to objectively assess binaural processing in humans and how these relate to behavioral performance.

Light refreshments will be served.