



# MQ Health Seminar Series

HEAL. LEARN. DISCOVER *with us*



**MQ Health**  
MACQUARIE UNIVERSITY  
HEALTH SCIENCES CENTRE

## Neurodivergence and the Listening Brain

### Abstract

Many otherwise normal-hearing individuals—autistic people, those diagnosed with attention deficit hyperactive disorder (ADHD), and the increasing number of adults with ‘hidden hearing loss’—struggle to communicate in complex listening environments and have trouble understanding speech in background noise. Although we’ve learned a lot about hearing—Australia ‘hacked the ear’ with the cochlear implant—how we listen remains something of a ‘black box’. Though we are beginning to unpack it, the popular trope ‘you hear with your ears but listen with your brain’ has yet to impact how we design and develop our communication technologies, plan and manage our listening environments, or build and implement policies to support the communication needs of our increasingly diverse populations. Understanding the neural bases of listening offers the chance to develop new technologies and therapeutic approaches to enhance listening performance, reduce listening fatigue, and develop a rich and rewarding communicative life.

### Biography



An acknowledged world-leading researcher in auditory science, David McAlpine is Distinguished Professor of Hearing, Language and the Brain in the Department of Linguistics at Macquarie University and Academic Director of Macquarie University Hearing—the University’s major strategic priority area in hearing. Before joining the University in 2015, David was Director of the Ear Institute at University College London, where he oversaw the transformation of Institute into Europe’s leading centre for discovery science and translational medicine.

His own research interests centre on understanding how the brain deals with the complexity of our listening environments in order to make sense of sound. Recognised as a key opinion leader by commercial, clinical, media, and third-sector organizations and entities, he works to ensure the benefits of research are realised as tangible outcomes that benefit individuals, the economy, and broader society.