

## CATSS Invited Speaker:

Christopher J. Plack, PhD  
University of Manchester



3pm, Thursday, February 8, 2024

Elliott Hall N219

### The Effects of Recreational Noise Exposure on Hearing

There is much concern regarding the impact of recreational noise exposure on hearing health. The World Health Organisation estimates that over 1 billion young people could be at risk of hearing damage, through attendance at loud music events and use of personal listening devices in particular. However, the evidence for an association between typical recreational exposure and hearing loss is actually rather weak. Previous research has often been based on pure tone audiometry (PTA), but PTA is relatively insensitive to hair cell loss, and has very little sensitivity to the neural damage that is associated with noise exposure in animal models. More sensitive markers are needed to establish the true impact of noise exposure, and to provide early indicators of damage for hearing health monitoring. These markers may include otoacoustic emissions, extended high-frequency audiometry (above the standard clinical range), and measures of neural function. In this talk I will describe previous research findings using these markers from our laboratory and others. I will also introduce our ongoing longitudinal study (the “Hearing in Teens” study), in which 220 teenagers (16-17 years old at start) perform an extensive test battery, before and after a 3-year period associated with high recreational exposure. The design of the study and preliminary outcomes from the first timepoint will be presented.

#### Chris Plack Bio

**Chris Plack** was educated at the University of Cambridge, where he obtained a BA in Natural Sciences in 1987 and a PhD in 1990. He worked as a postdoctoral research fellow for two years at the University of Minnesota and for two years at the University of Sussex before being awarded a Royal Society University Research Fellowship in 1994. He moved to the University of Essex in 1998 and was promoted to Chair in 2001. He moved again to Lancaster University in 2005 before obtaining his present position of Ellis Llwyd Jones Professor of Audiology at the University of Manchester in 2008. Chris currently divides his time between Manchester and Lancaster, where he has a part-time position as Professor of Auditory Neuroscience. Chris has published over 160 peer-reviewed journal articles, 14 book chapters, an introductory textbook on hearing, and two edited volumes. In 2003 he was elected a Fellow of the Acoustical Society of America. Chris has broad expertise in psychophysical and electrophysiological measures of normal and impaired human hearing, and currently is investigating the impact of noise exposure on hearing, and the relation between hearing loss and diseases such as diabetes, Parkinson’s, and dementia.

