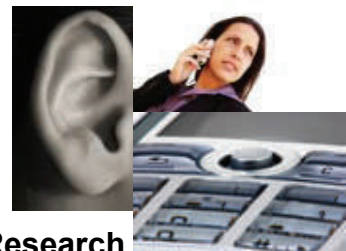


Research Directions

Office of Research Services

A Computational Auditory Model

Dr Jörg Buchholz from MARCS Auditory Laboratories is undertaking research that aims to further understand fundamental auditory mechanisms essential for human beings to communicate successfully in natural environments. This Discovery Project Grant was awarded by the Australian Research Council Discovery.



‘When a sound is made in an enclosed space, the original (direct) sound is accompanied by a large number of echoes or reflections’ explained Dr Buchholz. ‘Our auditory system has developed mechanisms that partly suppress these reflections and help the listener to function in such environments’.

A series of psychoacoustic experiments will be conducted to help understand these processes. A computational auditory model will be created, aiming to mimic the suppression effects that use differences between the left and right ear’s input signals.

The results will be important for use in refining various speech processing applications such as telephones, hearing aids and Automatic Speech Recognizers that currently experience severe difficulties functioning in such natural environments.

Funding has been set at: \$150,000.

Project Title: *A computational auditory model based on (human) binaural suppression of reflections in complex environments*

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