

PhD Project title - Use of non-invasive brain stimulation for tinnitus management

Applications are invited for a fully funded full-time PhD studentship at the UCL Ear Institute

Stipend: Year 1 = £17280, Year 2 = £17799, Year 3 = £18333

Tuition Fees paid

Supplement for teaching hours = £3600pa

Supervision: Primary supervisor – Associate Professor Giriraj Singh Shekhawat (Raj)

Co-supervisor – Associate Professor Roland Schaette

Background: Tinnitus is the phantom perception of sound. It is commonly described as a ringing, buzzing, hissing sound in the absence of its external source. Tinnitus is thought to affect 15 to 20% of the world's population. Its prevalence is estimated to be double by 2050. Tinnitus can have a profoundly negative effect on attention, sleep, and overall quality of life. The perception of tinnitus is thought to be the by-product of disturbances in several overlapping, parallel and simultaneously active neural networks in the brain. Non-invasive neuromodulation techniques (High definition/transcranial direct current stimulation – HD/tDCS), have been proposed as a potential treatment for tinnitus by inducing beneficial neural plasticity and by counteracting the pathological neural network reorganization responsible for tinnitus.

Proposed PhD project will investigate optimization of non-invasive brain stimulation techniques (HD/tDCS) and novel ways to manage tinnitus by conducting studies using audiological and brain functioning evaluations. The goal of this project is to enhance our understanding of how neuromodulation works for tinnitus suppression and developing novel protocols for tinnitus management.

Key requirements: The successful PhD candidate will be involved in planning/programming of experiments, recruiting and testing subjects, collecting and analysing data, reporting the results for publication and writing a thesis. The student will be expected to act as a demonstrator for our degree programmes in Audiology for 180 hours a year. Knowledge and background in Audiology, brain imaging, quantitative research methods and excellent communication skills will be suitable for this project.

Candidates must have a first or upper-second class UK Bachelor's degree or a Master degree in Audiology, Neuroscience, Psychology, Computer Science, Biomedical Engineering or a closely related field, or an overseas qualification of an equivalent standard from a recognised higher education institution. Non-UK students will be expected to hold an equivalent qualification and demonstrate mastery of the English language at 'Standard' level (as described by the UCL Graduate English Language Requirements)

To apply: Please send a covering letter (detailing why you would like to apply, motivation, interest and suitability for the PhD research programme) and CV to Associate Professor Giriraj Singh Shekhawat g.shekhawat@ucl.ac.uk Informal inquires can be directed here as well.

The deadline for applications is Tuesday 6th August, with interviews taking place in mid-August.

NIHR UCL/H BRC Deafness and Hearing Problems Theme

The Deafness and Hearing Problems Theme was established within the NIHR UCL/H BRC in 2017 <http://www.uclhospitals.brc.nihr.ac.uk/deafness-and-hearing> . The BRC Deafness and Hearing Problems Theme builds on the unique partnership of the UCL Ear Institute and the Royal National Throat, Nose and Ear Hospital, which provides the infrastructure and excellence to deliver world-

leading translational research in the field of hearing loss. Researchers within the Theme collaborate across four main areas to develop and deliver targeted and transformative therapies to prevent or alleviate deafness and hearing problems and to regenerate the hearing system.

UCL Ear Institute

The UCL Ear Institute, a state-of-the-art research institute within UCL's Faculty of Brain Sciences, brings exceptional discovery scientists and excellent clinicians together on one site with a unified goal of understanding hearing and fighting hearing loss <https://www.ucl.ac.uk/ear/>. Research at the Ear Institute is truly interdisciplinary and collaborative enabling individual researchers to pool their expertise. In addition, partnerships with other departments, centres and institutes both at UCL and across the world ensure that research at the Ear Institute is world-leading and at the cutting edge.