Development and evaluation of a multimodal brain-imaging protocol for the Nottingham Hearing Bioresource

Supervisors: Primary supervisor: Dr Ian Wiggins, Hearing Sciences

Collaborators (precise supervisory arrangements TBC):
Dr Katrin Krumbholz (Hearing Sciences)
Prof Sue Francis (SPMIC)
Dr Stam Sotiropoulos (Precision Imaging)
Prof Dorothee Auer (Precision Imaging)
Prof Tom Dening (Institute of Mental Health)

Theme: Brain and mental health imaging

Project description: The Hearing Sciences group at the University of Nottingham is developing ambitious plans to establish a bioresource focussed on phenotyping, genotyping and imaging individuals with hearing loss and hearing-related problems (e.g. tinnitus, hyperacusis). Under this studentship, your role will be to develop and evaluate a multi-modal brain-imaging protocol and automated analysis pipeline for use in the bioresource. Making use of the University's world-class MRI facilities, you will acquire comprehensive structural, diffusion and functional imaging data, augmented by specialised scans designed to capture the physiological status of the central auditory system and to characterise brain activity during a variety of listening tasks. This will be a highly collaborative project providing an opportunity to work with researchers from across hearing sciences, computational neuroimaging and medical physics, as well as with patients and the public. Your work will make a major contribution to furthering understanding of the neural underpinnings of hearing-related problems, the complex interplay between hearing and cognitive health, and the potential for precision imaging to transform diagnosis and treatment in the next generation of hearing healthcare.
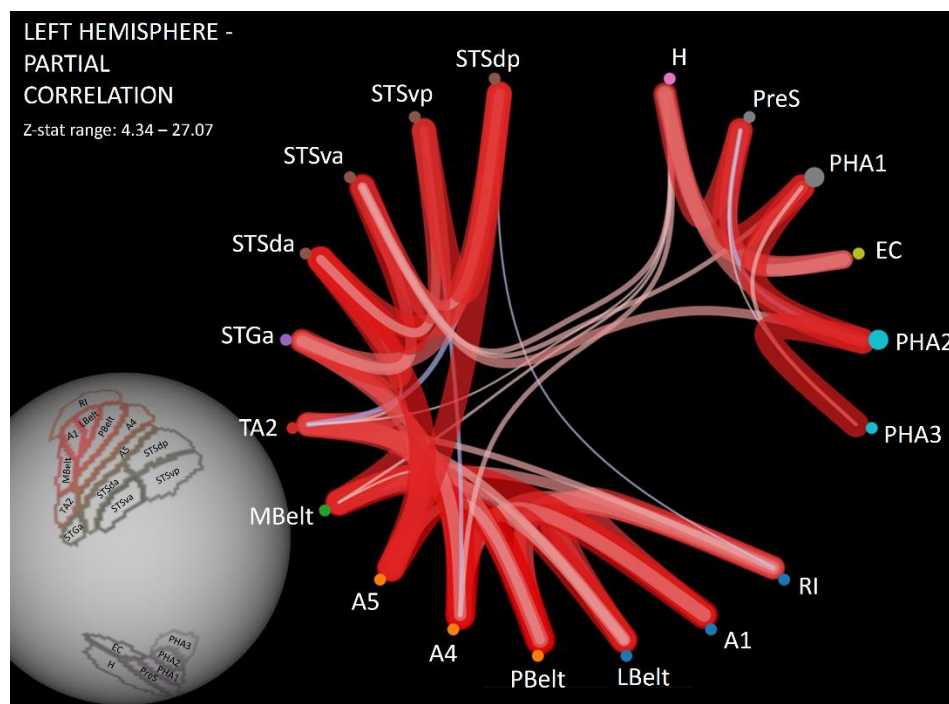
Lead school: School of Medicine

To apply for a place on the programme you will need to:

1. join the open day on **9 January** or contact a potential supervisor. If you wish to join the open day, please e-mail PI-Beacon@nottingham.ac.uk

2. apply online here by **17 January**

3. on submission send an email to PI-Beacon@nottingham.ac.uk stating your preferred project, application ref number and enclose a CV

For any enquiries please email PI-Beacon@nottingham.ac.uk