

Project title: Rapid diagnostic evaluation of hearing impairment in newborn infants using the Auditory Brainstem Response

Degrees on offer: MSc (research 1 year) or MPhil (2 years)

Institute: Department of Electronic and Telecommunication Engineering, University of Moratuwa

Supervisor: Dr. Anjula C. De Silva

Collaborators: Dr. A.D.K.S.N Yasawardene (Lady Ridgeway Hospital, Colombo 8)
Dr. Mark Schier (Swinburne University of Technology, Australia)

Degree starting date: any preferred time

Abstract:

It is an international standard to perform a hearing screening test on every infant born, under the Universal Neonatal Hearing Screening (UNHS) program. Such tests will allow early diagnosis of hearing impairments enabling early treatment which will result in enhancing the future of the child.

The test of choice in the UNHS program is the automated auditory brainstem response (AABR). But it is limited by prolonged test times and the underuse of the rich information present in the AABRs. The proposed project will investigate the development of an efficient AABR extraction algorithm, integrate a fast stimulus delivery method, design the acquisition and stimulation hardware and perform a clinical study to validate the device. Successful completion of this project will produce a portable fast AABR 'advanced screening' device that will significantly benefit the implementation of the UNHS program in Sri Lanka.

The candidate will benefit from being a part of a cohort of students in the Department of Electronic and Telecommunication Engineering, have the opportunity to work in a clinical environment and establish valuable collaboration with a foreign university. Also, the candidate will have the opportunity to use state-of-the-art electroencephalographic recording devices and receive training in specific audiology diagnostic methods.

Stipend: Rs. 480,000 per annum + teaching assistant.

Eligibility: Enthusiastic and self-motivated candidate with a strong interest in biomedical engineering.

Minimum entry qualification: An honours degree specialised in an electronic, electrical or computer engineering disciplines. Other related fields of specialisations can also be considered.

Funding: Senate Research Council of University of Moratuwa grant - Rs. 4.7 million

To apply: Please send a copy of your CV to anjula@ent.mrt.ac.lk or call +94 777 291737