



TUS

**Technological University of the Shannon
Midlands Midwest**

Ollscoil Teicneolaíochta na Sionainne:
Lár Tíre Iarthar Láir

**POSTGRADUATE RESEARCH
OPPORTUNITY**

Project Title: Swallowing and Treatment Assessment Through Electrical Impedance Tomography and Ultrasound Imaging

Short Project Description:

This project is a translational research project to develop an EIT-EMG and US-based system to assess dysphagia. EIT-EMG is based on electrical conductivity, currently used in the monitoring of lung function, and ultrasound is used clinically for soft tissue assessment. In the project, we adapt EIT and US for swallowing assessment, with applications ranging from initial screening at the bedside and as a wearable device for remotely tracking patient swallowing. We aim to democratise patient diagnostics in dysphagia, lowering risk to the patients, shortened recovery time, and repeatability of assessment translates into reduced cost of patient stay.

Type of Degree Offered: PhD

Duration of Project: 4 years

Funding Agency: Strategic Research Fund TUS €17,000 per year Stipend, Fees Waived & consumables €1,500 per year

Minimum Qualifications/Experience Necessary/Any Other Requirements:

The candidates must have a primary degree in a field related to Electronics, computer engineering or applied Physics

Minimum classification of *2.1 honours or equivalent*.

IELTS [International English Testing System] Applicants must have a minimum of 6.5 with no component score less than 6.0.

Project Lead Supervisor: Dr Niall Colgan

For further information, please contact: Niall.Colgan@tus.ie

Closing date for receipt of completed application form is 8th November 2026. Interviews will take place shortly afterwards online.

Download TUS Scholarship application form below, put project title in the subject line and email pro@tus.ie:

<https://tus.ie/rdi/research/office/funded-research/>