**PhD Scholarship Advertisement**

Fully Funded PhD Scholarship in Continuous epilepsy monitoring using low power sensors and embedded Machine Learning at the Discipline of Electrical & Electronic Engineering

Application(s) are invited from suitably qualified candidates for full-time funded PhD scholarship(s) starting in September 2025 or sooner affiliated to the Discipline of Electrical & Electronic Engineering at the University of Galway.

**University of Galway**

Located in the vibrant cultural city of Galway in the west of Ireland, the University of Galway has a distinguished reputation for teaching and [research excellence](https://www.universityofgalway.ie/our-research/)

For information on moving to Ireland please see [www.euraxess.ie](http://www.euraxess.ie)

**Detailed Project Description:** Wearable technologies embedded with multiple intelligent sensors have reached an important cusp where various human factors such as portability, wearability and longer battery life are approaching utility for continuous real-time monitoring in early disease detection and diagnosis, such as epilepsy. The lack of portability and long-term wearability of current commercial wearable devices, as well as their high energy consumption, make it unsuitable and uncomfortable for continuous ambulatory monitoring. The project aims to design high performance ultra-low power analogue front end (AFE) system combined with edge computing ML algorithms that can sense, analyse, process and autonomously act to detect incipient events such as epileptic seizures. It is anticipated that the by the end of the project, the design will be validated through pilot clinical trials.

This project will be undertaken as a 4-year structured PhD programme at the University of Galway, which will involve the completion of 30 ECTS credits of level 9 taught courses. Every PhD student, in addition to a supervisor, has their own Graduate Research Committee (GRC) of three academic staff members. The formal role of the GRC is to review the student’s progress annually and to make a recommendation to the College on progression into the next year of the programme.

**Living allowance (Stipend):** The work is supported and funded for a duration of four years by the College of Science & Engineering, University of Galway. The annual stipend is €25,000 and the tuition fees (EU/Non-EU) are waived in full.

**University fees**: The university fees for 2024/2025 are €5,750 per annum for EU students and €15,000 per annum for Non-EU students. Additionally, there is a student levy of €140 per annum, which is mandatory for all students to pay.

**Start date**: September 2025 or sooner

**Academic Entry Requirements:**

* Bachelor's/Master’s degree in electronic engineering.
* Excellent hands-on experience in PCB prototyping using EAGLE/KiCAD.
* Experience with test measurement equipment, including Power Supplies, Oscilloscope, Signal Generators, DAQ, etc.
* Proficiency in circuit simulation tools such as LTSpice (preferred)/TINA/Multisim.
* Knowledge of low-power biopotential amplifier design and energy harvesting techniques is preferred.
* Candidates with machine learning skills, particularly in embedded ML, is desired.
* Willingness to work on both bioelectronic circuits and embedded ML integration.
* Proficiency in computer programming languages such as Python and C++.
* Experience in peer-reviewed conference/journal publications will be preferred.

**To Apply for the Scholarship:**

Interested candidates should use the Google Form ([LINK](https://docs.google.com/forms/d/e/1FAIpQLSemwmtoWd6XSdlWE6u6QV6ZsHgUDKDJxspI_Z_m8iSvGPmVIA/viewform?usp=preview)) to submit the following required documents. **Please note that no email submissions will be accepted.**

* CV
* Cover Letter detailing how your skills are aligned for this role
* A statement of personal research interests detailing - rationale to pursue higher degree by research (PhD), and attributes that demonstrate their capability to be a good researcher, e.g. motivation (500 words maximum)
* Academic Transcripts
* Contact information for two references

Informal queries regarding the role should be directed to Dr. Soumyajyoti Maji at soumyajyoti.maji@universityofgalway.ie.

**Contact Name:** Dr. Soumyajyoti Maji

**Contact Email:** soumyajyoti.maji@universityofgalway.ie

**Application Deadline:** 14/04/2025 and time 11:00A.M. (Irish time 24hr format)

**Primary Supervisor name**: Dr. Soumyajyoti Maji