

Call for Graduate Research Assistant (MSc)

Project Title: Stochastic Modelling of Micro Energy Harvesting System for Wireless Sensor Networks

Source of Funding: Fundamental Research Grant Scheme FRGS (Ministry of Education, Malaysia)

Project Duration: 2 years

Monthly Allowance: RM 1800.00 with extra top up allowance up to RM700.00 (giving a total monthly allowance of up to RM 2,500.00) from Universiti Teknologi PETRONAS subject to meeting certain criteria and requirements

Location: Department of Electrical & Electronic Engineering, Universiti Teknologi PETRONAS, Bandar Seri Iskandar, Tronoh, Perak.

Project Summary

The emergence of WSN has enabled applications in many diverse areas. It is often desirable to extend the network lifetime of WSN. However, WSN nodes are typically powered by small batteries, which is a finite energy source. Therefore, energy harvesting WSN (EH-WSN), is a very promising solution for perpetual operations. Although WSN has received widespread attention, the adoption of EH-WSN is still lacking due to the lack of accurate models of micro energy harvesting system (uEHS) for WSN. The objectives of this project are to accurately model the energy harvester, energy storage and power management subsystems and integrate them to provide a comprehensive stochastic model of the uEHS for WSN. The final objective is to verify the accuracy of the stochastic model of uEHS by comparing with actual behaviour of real-life energy harvesting WSN.

Project Research Area: Wireless Sensor Networks, Energy Harvesting, Stochastic Modelling

Benefits of the project include but are not limited to:

Enrolment for On Campus Full Time mode in MSc by Research programme under the Department of Electrical & Electronic Engineering at UTP.

Tuition fee waiver under the UTP Tuition Fee Assistantship Scheme¹.

Full or partial funding for attending local conferences.

Funding to cover publication fees in ISI/SCOPUS-indexed journals.

Requirements:

Malaysian national.

Bachelor's degree in Electronic Engineering/Telecommunication Engineering/Computer Engineering or equivalent with a CGPA of 3.0 and above.

Proficiency in Matlab/C++ languages.

Excellent command in written and oral English.

Proactive and able to carry out research independently.

Interested applicants can contact Dr. Micheal Driberg by email: mdriberg@petronas.com.my
Please use the subject: **FRGS GRA Application** and include your resume/CV. Shortlisted candidates will be contacted for interview.

¹Candidate will be assigned 3-4 hours of academic activities per week in the form of tutorials or laboratory demonstration or any other related academic activities in lieu of the tuition fee waived.