2019 - Aberdeen Curtin Alliance PhD Scholarship

Status: Closed
Applications open: 11/04/2019
Applications close: 12/05/2019

About this scholarship

Description/Applicant information
The Aberdeen-Curtin Alliance was established in early 2017, combining 500 years of academic strength, history and tradition at Scotland’s University of Aberdeen with the ambition and innovation of the rapidly growing Curtin University, based in Perth, Western Australia. The alliance offers students the opportunity to undertake a collaborative PhD in projects across a broad range of focus areas including energy and engineering, health and medicine, and business.

The PhD scholarship for 2019 is available with following details:

**Theme: Energy**
Research Area: Civil and Mechanical Engineering
Curtin Supervisor: Prof Ian Howard and Dr Andrew King
Aberdeen Supervisor: Prof Marian Wiercigroch and Dr Peter Dunning

Student type
- Future Students

Faculty
- Faculty of Science & Engineering
  - Engineering courses

Course type
- Higher Degree by Research

Citizenship
- Australian Citizen
- Australian Permanent Resident
- New Zealand Citizen
- Permanent Humanitarian Visa
- International Student

Scholarship base
- Merit Based

Value
Students undertaking a collaborative PhD under the alliance are offered a seamless international experience as well as a fully funded scholarship with living stipend. You will spend time at each institution and will be supervised by both Aberdeen and Curtin research staff.

Living stipends will be awarded to the successful applicants. The living stipend is paid by the home institution when the student is studying at the home institution, and then by the host when the student is offshore at the host institution. The stipend rates are payable at the rate for each country. Curtin University will pay it’s stipend at the Australian Government RTP scholarship base rate of AUS27,596.00 (2019) per annum. The University of Aberdeen will pay the UK Research and Innovation National Minimum Doctoral Stipend for 2018/19 of £14,777 per annum.

Scholarship Details

Maximum number awarded
1
Eligible courses
PhD programs only

Eligibility criteria
Meet the standard PhD course entry requirements for both institutions. If English is not your first language, please visit the following link for details of the requirements

Enrolment requirements

Changes to Enrolment

How to apply

Application process
Provide an Expression of Interest (EOI) reflecting your academic background in the area of study, and why you are interested in pursuing a PhD in this field. The EOI should be a maximum of 500 words that must include your name, your project of interest in addition to your academic background and suitability. It would be great to attach your CV/Resume with your EOI and send these two files in PDF format on email to ac-alliance@curtin.edu.au

Students will be expected to commence by June 2019.

Need more information?

Enquiries

Further information
The main aim of this research project is to create theoretical foundations for a new generation of wave energy converters by developing a novel concept of extracting energy from random sea waves using the principle of a parametrically excited pendulum. In particular, the project will focus on development of a new method of energy extraction based on conversion of three-dimensional oscillatory motion of sea waves into rotational motion of the energy generator using a nonlinear pendulum. The natural dynamic response of the pendulum to the vertically oscillating base is a wide range of oscillatory motions, from simple periodic to complex chaotic. However, if the system is appropriately tuned and excited, a stable rotational mode can occur in one of the nonlinear resonance zones being the central point of the proposed scheme.

The research consists of three strongly interwoven themes: (i) mathematical modelling, analysis and control of various parametric pendulum systems with a view to energy extraction; (ii) design and testing of physical models; and (iii) integration of these themes into design principles for a new generation of wave energy extraction devices. In theme one, more complex systems and forcing scenarios will be thoroughly investigated. The second theme will provide experimental verification of the developed mathematical models and assist in understanding the efficiency of the designs when excited by sea waves. The third theme will outline design principles for new energy converters, linking the project with the next, applied, step in developing this technology.