

PhD Studentship: “Optimisation of the technical and environmental performance of a marine renewable energy system, using LCA and GIS”

Start Date: June 2015

Supervisor: Dr Viktor Kouloumpis

The Graduate student will be based within the Faculty of Health & Science at the University of Cumbria <http://www.cumbria.ac.uk/AboutUs/Faculties/HealthScience.aspx>

The Project:

Scientific background: Renewable energy systems (RES) are vital for achieving the goals of tackling climate change and supporting energy security but dependent on the natural elements and accompanied by considerable environmental impacts during their life cycle. This PhD research focuses on optimising the performance of marine RES from both technical and environmental aspect.

PhD Research Project Description: The project will provide a method to support the design and development of an efficient and environmental friendly marine RES system. To achieve this, following questions should be answered:

- How the specific position of the marine energy devices affect their efficiency and material and energy requirements?
- What are the environmental consequences from the deployment of the marine energy devices in the specific area and globally?
- How can the answers to these questions be combined in order to assess a range of alternatives?

The student will use Geographic Information Systems (GIS), Life Cycle Assessment (LCA) and potentially Environmental Impact Assessment (EIA) and combine their results by developing an integrated assessment model. Downstream applications of this work model could support our collaborating RES developers in the decision making process so that the most efficient and environmental friendly system can be designed and developed in a sustainable manner.

Entry Requirements:

Applicants should preferably have a Master’s degree in a related subject. As well as a First class or at least upper 2:1 Bachelor’s degree or equivalent in STEM (Science, Technology, Engineering and Mathematics) related fields such as engineering, environmental or natural sciences discipline with a focus on energy. Candidates with experience of, or keen ambition to work in the West Coast of Cumbria would be viewed favourably.

Person Specifications:

The successful applicant will be self-starter, highly motivated individual to contribute to the development of marine renewable energy technologies. Prior experience of data collection, modelling and analysis will be a strong point for their selection. Candidates need to demonstrate very good written and verbal English language communication skills, experience or willingness to learn applying existing models and analysing data using Excel, GIS and LCA.

University of Cumbria is committed to equality and valuing diversity. Applications are particularly welcome from women and black and minority ethnic candidates who are under-represented in STEM.

Funding:

This full time PhD covers tuition fees at the **UK/EU** rate and an annual stipend of £13,863. The studentship is only available for **UK/EU** students.

This full time PhD studentship has been supported by [Sir John Fisher Foundation](#), a charitable trust, established in 1980.

Closing Date for Applications: 30th April 2015

How to Apply:

To apply for the Sir John Fisher Foundation funded University of Cumbria Scholarship, you will need to submit a University of Cumbria Graduate School **application form** and a research proposal and email it to rsa@cumbria.ac.uk with “**Sir John Fisher Foundation- University of Cumbria Scholarship**” in the subject line before **17:00 hours on Thursday 30th April 2015**.

The information about the University of Cumbria Graduate School application form can be found at: <http://www.cumbria.ac.uk/AboutUs/Research/GraduateSchool/HowtoApply.aspx>

Candidates would need to prepare a **3000- 5000 word research proposal based on the studentship title and project description listed above**. This studentship is competitive so the proposal needs to be as scientific, critical and articulate as you can make it complete with references cited.

If you have a query regarding the PhD project please contact Dr Viktor Kouloumpis at viktor.kouloumpis@cumbria.ac.uk or the PhD application procedure contact research student admissions at rsa@cumbria.ac.uk.

Please Note:

If you are successful in your application you would be expected to occasionally act as an ambassador for the University of Cumbria and on behalf of [Sir John Fisher Foundation](#) and conduct some outreach and dissemination work in local Further Education Colleges, during the three years of this project.