

Candidate Information

Position:	Research Fellow in Wave Power
School/Department:	School of Natural and Built Environment
Reference:	24/112147
Closing Date:	Monday 9 September 2024
Salary:	£39,922 - £47,631 per annum
Anticipated Interview Date:	Thursday 19 September 2024
Duration:	24 months

JOB PURPOSE:

To be a highly productive, ambitious and collaborative member of the ONDEP (ONdas DE Peniche) team. ONDEP is an EU funded project aiming to build a full scale wave power array and scheduled to start 1 October 2024.

This position will be crucial to support the design and construction of the world's first field scale oscillating wave surge energy converter array.

The post is a critical role, and as such, successful applicants will have responsibilities in independent research, day to day lab management, supervision, planning, collaborations, and outreach.

MAJOR DUTIES:

1. Undertake research as a member of the research team to support addressing all hydrodynamic issues which may arise during the project.
2. As a crucial part of the project, we will design, build and test a fully instrumented WEC (Wave Energy Converter) array to optimise the array layout and control systems.
3. Experimental seakeeping analysis of the WEC prototype during transport, wet storage and installation procedures.
4. Carry out analyses, critical evaluations, and interpretations of experimental data and the literature using methodologies and other techniques appropriate to area of research for example:
 - Design, manufacturing and instrumentation of small scale tank models;
 - Experimental seakeeping analysis using Qualysis motion tracking systems;
 - Planning and execution of test plans;
 - Implementation of control algorithms for WEC power take-off systems at device and array level.
5. Produce high quality research outputs consistent with project aims and commensurate with career stage. This will include collaborating and co-authoring with PI and project team (as appropriate) on outputs.
6. In consultation with the project team, promote research milestones and outputs at national and international conferences and through social media (where applicable).
7. Assist grant holder in the preparation of funding proposals and applications to external bodies.
8. Carry out occasional educational supervision, demonstrating or lecturing duties within the post holder's area of expertise and under the direct guidance of a member of academic staff.
9. Undertake supplementary duties relevant to the success of the project including administrative duties and additional training and development activities as required.

ESSENTIAL CRITERIA:

1. Normally have or be about to obtain a *relevant PhD. (*marine or coastal engineering or related fields)
(NB 'About to obtain' is normally defined as within 3 months of application date).

2. Specific, relevant* research experience to include:
 - Undertaking research in the area of experimental testing of wave energy converters (or similar offshore structures)
 - A proven track record of using model scale tank testing to carry out analyses, critical evaluations, and interpretations of WEC designs (or similar offshore structures)
 - Working effectively as part of a research team in the development and promotion of the research theme.
3. Strong publication record commensurate with stage of career.
4. Ability to contribute to broader management and administrative processes.
5. Contribute to the School's outreach programme by links with industry, community groups etc.
6. Practical problem solving skills, independence of thought and initiative.
7. Ability to assess and organise resources.
8. Ability to communicate complex information in English effectively in oral and written format.
9. Ability to build relationships to develop internal and external networks.
10. Commitment to continuous professional development

DESIRABLE CRITERIA:

1. Proven track record in
 - Use of linear drives
 - Design, implementation and experimental testing of WEC control systems
 - Seakeeping
 - Motion tracking
 - Numerical modelling of wave energy converters.

ADDITIONAL INFORMATION:

Informal Enquiries to Dr Carwyn Frost: C.Frost@qub.ac.uk