

Call for Proposals for Research Projects in Wave & Tidal Energy

Background

The Supergen Marine energy research consortium was established in October 2003. In October 2016 the marine hub was renewed by EPSRC in a fourth phase with funding that included a modest flexible element to support a competitive call for new research projects. These projects must align with the objectives of the UK Centre for Marine Energy Research (UKCMER) and deliver research in wave, tidal and floating offshore wind energy with aims that include: increasing the ability to predict and deliver performance; improving the design, manufacture and installation of components, subsystems and technologies; improving device survival and durability under extreme loadings and increasing availability through improved operability, maintainability and reliability under fatigue loadings. Wave Energy Scotland (WES) has contributed equally to the fund to support wave energy-specific research projects, or those that benefit both the wave and tidal sectors. WES is driving the search for innovative solutions to the technical challenges facing the wave energy sector. It supports a range of projects focused on the key systems and sub-systems of Wave Energy Converters, aiming to produce reliable technology which will result in cost effective wave energy generation. Approximately £0.5M is available, in total, to sponsor research costs and travel and subsistence expenses across three to five projects. Additionally 4 one-week-long experimental or test campaigns in the FloWave Ocean Energy Research Facility are available from the Phase 4 flex-fund.

Areas of Research

The UKCMER Phase 4 and WES programmes seek to address the significant common needs for fundamental to applied research spanning wave, tidal and floating offshore wind energy technologies. Proposals are sought that complement ongoing work, specifically in:

- Numerical and physical modelling of wave-current flow interactions acting on devices;
- Novel control methods to improve performance and durability in arrays;
- New design and test processes to predict and reduce risk and improve reliability;
- Development of design and analysis tools to predict extreme responses and increase survivability;
- Exploration of materials and processes, new to the sector, that increase service and operational life;
- Disruptive technologies for devices, subsystems and components including those offering scalability.

Eligibility

The call is open to staff of any UK university engaged in wave or tidal energy research who are eligible for EPSRC support. PIs or CIs funded under the Supergen Marine Phase 4 award, or any of its current Grand Challenge awards are not eligible to apply. You may only apply once, either as PI or CI, for research support. You may apply once for time in FloWave. You must express interest in applying via the Call for EoIs. Proposals will be expected to demonstrate tangible industry engagement.

Research Call Arrangements

Stage 1 – The on-line Expression of Interest will consist of a brief track record, statement of research challenge, description of novelty, timeliness and fit to the scope of the Call. A maximum of 15 applications will be requested to submit a full proposal. Expressions of Interest may be made at

<https://edinburgh.onlinesurveys.ac.uk/ukcmer-expression-of-interest>

Stage 2 – The full proposal will be a .pdf document and consist of: track record and capacity to deliver (1 page); case for support (3 pages), including research challenge, novelty and timeliness, aims and objectives, programme of work including methodology, tasks and deliverables; pathways to impact and outreach (1 page), management, work-plan and budget (1 page). Submission instructions will be provided on invitation.

Research Call Arrangements

The call, procurement and delivery process will operate to the following timetable.

Release of call document: Friday 30th June 2017.

Deadline for submission of on-line expressions of interest: Friday 28th July 2017 at 16:00.

Invitations to submit full proposal: Monday 14th August 2017

Deadline for submission of proposals: Friday 8th September at 16:00.

Notification of successful applicants: Monday 25th September 2017.

Completion of work: Friday 28th September 2018.

Review Process and Selection Criteria

Expressions of Interest will be reviewed internally by staff of UKCMER and WES. Proposals will be peer reviewed by an expert panel, consisting of staff of UKCMER, representatives of WES and the UKCMER Industry Advisory Board with an EPSRC observer present. Panel members will not themselves participate in any submissions to the competition, and those conflicted in proposals received will take no part in their assessment. The criteria against which proposals will be assessed will include, but not be limited to:

- Demonstrated excellence and ability to deliver;
- Novelty and quality of the proposed research;
- Complementary fit to the current programme and additionality;
- Industry and additional engagement;
- Potential for impact.

Research Project Arrangements

The expectation is to fund three to five research projects that deliver outcomes of benefit to one or more of the wave, tidal or floating offshore wind energy sectors. Each project will have a duration of up to 12 months within the completion window and can support research staff time, probably from within existing complements. Industry participation and support will be expected to further strengthen applications. While the projects will deliver individual and novel outcomes they will also be expected to be collaborative with work ongoing in the hub. Each new project partner will be expected to participate in coordination and outreach meetings and to report regularly to the UKCMER.

Tank-time Arrangements

The expectation is to fund up to four separate weeks of testing in FloWave. Test campaigns will be selected based on aims that drive new scientific knowledge and/or have outcomes that impact on technology development. Successful applicants will enter a standard contract and be able to engage with FloWave engineering staff beforehand to ensure the viability of tests.

Financial Arrangements

The University of Edinburgh holds the UKCMER grant and will make flex-funds available via a contract agreed between Edinburgh and the successful universities and potential industry partners. Flex-funded projects will be subject to EPSRC and WES procurement rules and will require successful universities to enter the existing UKCMER Collaboration Agreement. The research project funds are intended to support post-doctoral research staff with an allowance for travel to meetings and conference participation. Investigator, research staff, infrastructure technicians, estates, other directly allocated and indirect costs must be shown (in a manner similar to JeS) in the application submitted. Applications must be based on full FEC and show the contribution to be made by the grant (80% FEC). The awards made for testing in FloWave will not involve financial transaction. They will be directly contracted with FloWave but sponsored, through UKCMER, by EPSRC and WES.

Enquiries

Questions or enquiries about this Call for Proposals should only be made by email to

supergen.enquiries@see.ed.ac.uk

Replies will be posted in a list of FAQs on the UKCMER website at

www.SuperGen-marine.org.uk