

## Horizon 2020 Marie

### Skłodowska-Curie Actions

### Individual Fellowships Call – Expression of Interest

<b>Organisation Details</b>	<i>Organisation Name:</i> <i>Centre for Marine and Renewable Energy Ireland (MaREI)</i> <i>University College Cork, Ireland</i> <i>Website <a href="http://www.marei.ie">www.marei.ie</a></i>	
<b>Organisation Type</b>	<input checked="" type="checkbox"/> Academic <input type="checkbox"/> Large Enterprise <input type="checkbox"/> SME <input checked="" type="checkbox"/> Public Research Organisation	<input type="checkbox"/> Public Body <input type="checkbox"/> NGO <input type="checkbox"/> Non-Profit <input type="checkbox"/> Other ( <i>please specify</i> )
<b>Research Field(s)</b>	<input type="checkbox"/> Chemistry CHE <input type="checkbox"/> Social and Human Sciences SOC <input type="checkbox"/> Economic Sciences ECO <input checked="" type="checkbox"/> Information Science and Engineering ENG <input type="checkbox"/> Environment and Geosciences ENV <input type="checkbox"/> Life Sciences LIF <input checked="" type="checkbox"/> Mathematics MAT <input checked="" type="checkbox"/> Physics PHY	<b>Keywords:</b> <b>Hydrodynamics;</b> <b>Interaction of wave-structures,</b> <b>offshore renewable energy; device optimisation;</b> <b>Power take-off optimisation</b>
<b>Short Description of the Organisation and the Faculty/Dept./School/Centre</b>	<i>Please provide a description of the organisation and if applicable, the faculty/department/school/centre that is seeking qualified applicants.</i>  The Centre for Marine and Renewable Energy Ireland (MaREI) is seeking applicants in the field of hydrodynamics, offshore renewable energy and device development and assessment. In particular, the fundamental research and advanced technologies for improving offshore renewable energy conversion and maximising energy conversion efficiency so to make offshore renewable energy production reliable and comparable to other renewable sources, and ultimately to the conventional energy production. Applications are varied and include but not limited to offshore renewable energy harvesting and device developments, etc. There are opportunities in both theoretical and experimental aspects.	
<b>Short Description of the Research Project/Topic</b>	<i>Please provide a short overview of the research area(s) that the applicant can develop a proposal in with the assistance of the organisation.</i>	

	<p>Significant barriers remain in offshore renewable energy (ORE) production on how to extract offshore renewable energy efficiently and reliably. Accordingly, the technologies for improving the device performance and reliability are the largest challenges in offshore renewable energy production. This is especially true in wave energy conversions. Improving and optimising the offshore renewable energy converters and developing the relevant assessment methods is fundamental to ensure that ORE targets can be met.</p> <p>Interaction of wave and structure, device performance, device optimisation, power take-off optimisation, maximisation of offshore renewable energy production, control technologies, experimental hydrodynamics, frequency-domain and time domain analysis, reliability analysis.</p>
<b>Expertise required by the applicant</b>	<p><i>Please specify the research expertise that the applicant should have.</i></p> <ul style="list-style-type: none"> <li>• Training in theory and numerics of hydrodynamics and wave energy conversion;</li> <li>• Experience in numerical modelling technologies of offshore renewable energy converters, including the interactions of multi-bodies with multi-motion modes;</li> <li>• Optimisation of devices and power take-off systems;</li> <li>• <i>Desirable: Experience/Interest in specific aspects of applications of hydrodynamics.</i></li> </ul>
<b>Career development support offered to fellows</b>	<p><i>Please outline the supports offered for learning and development, career planning etc. offered by the organisation. Include links to relevant webpages if applicable.</i></p> <p>Training provided in numerics and experimentation. Software and experimental tools/experience will be provided. Access to existing data and to ocean wave basins for testing of floating devices will be given and assisted. There will be great opportunities in networking. Also, there is dedicated support from the centre and the group to advance the career of the candidate. The candidate will be encouraged to participate in various meetings and conferences and to publish papers in journals and proceedings, to collaborate with researchers throughout the world and within Ireland and also will be given opportunity to participate in, and contribute to, teaching and learning. University College Cork also provides a suite of supports to post-doctorate researchers –details can</p>

	be viewed at <a href="http://www.ucc.ie/en/hrresearch/">www.ucc.ie/en/hrresearch/</a> and <a href="http://www.ucc.ie/en/devhub/">www.ucc.ie/en/devhub/</a> .
<b>Application procedure</b>	<p><i>Please describe what documents (e.g. CV, letter of motivation) the applicant should supply to the host.</i></p> <p>Please supply a CV and a separate letter of motivation outlining a specific area/plan of research. Please include existing training behind pursuing this research and the expectation of the candidate in terms of training required and career development.</p>
<b>Contact Person</b>	<p><i>Name and Email address of the person that interested applicants should contact.</i></p> <p>Dr. Wanan Sheng            Email: <a href="mailto:w.sheng@ucc.ie">w.sheng@ucc.ie</a>            Tel: +353 21 4864378</p>