

**Catapult Researchers in Residence (RiR) Programme:
Opportunity Description**

The use of autonomous vehicles for the maritime sector

Name of the Catapult(s)	Satellite Applications and Offshore Renewable Energy Catapult (ORE)
Location(s)	Harwell, Oxford and Blyth or Glasgow offices
Description of the Catapult(s)	<p>The Catapult centres are a network of not for profit world-leading centres designed to transform the UK’s capability for innovation in specific areas and help drive future economic growth.</p> <p>ORE is the leading technology innovation and research centre for offshore renewable energy. We aim to deliver the largest clean growth opportunity by accelerating the creation and growth of UK companies in offshore renewable energy. We enable and support the development of a vibrant indigenous supply chain, provide a clear route to market for innovative new companies and technologies, and direct and pull through applied research from the UK’s world-leading academic base. We will use our unique facilities and research and engineering capabilities to bring together industry and academia and drive innovation in renewable energy. (https://ore.catapult.org.uk/)</p> <p>The Satellite Applications Catapult fosters growth across the UK industry through the exploitation of satellite services such as Remote Sensing, Position & Navigation and Telecommunications by enabling businesses, energising new and existing markets as well as empowering new terrestrial and satellite technologies. https://sa.catapult.org.uk/</p>

<p>Description of the Challenge</p>	<p>This challenge is aimed towards researchers interested in, or who want to understand, the crossover between the Satellite Applications Catapult and ORE Catapult interests, to create a paradigm shift in the areas of overlapping interest including Transport, marine and environmental (Satellite Applications Catapult) and Offshore Operation and Performance (ORE Catapult).</p> <p>Context</p> <p>Manned vessels currently account for up to 60% of an offshore wind farm’s operating costs, which in themselves make up almost one quarter of the total lifecycle costs of an offshore wind turbine. These could be significantly reduced through the introduction of Robotics and Artificial intelligence such as Autonomous Surface Vehicles (ASVs).</p> <p>The use of autonomous vehicles has cross sector benefit and can be utilised throughout the maritime sector including offshore wind, search and rescue, oil and gas, environmental monitoring and border force.</p> <p>Challenges</p> <ul style="list-style-type: none"> • Using Satellite GPS and other positioning techniques to track and control ASVs to prevent collisions. • Optimisation of logistics of maritime vessels such as ASVs during operation and maintenance work on offshore wind farms. • Command & Control of multiple vessels • Transmission, collation and use of sensor data for situational awareness • Environmental monitoring <p>Please contact us to discuss your project idea before you submit your application. This will ensure that it will be within the focus areas of both Catapults.</p> <p>derek.craig@ore.catapult.org.uk</p> <p>nafeesa.dajda@sa.catapult.org.uk</p>
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<p>Researcher Specification</p>	<p>The researcher will have some experience or interest in one or more: Robotics and Artificial Intelligence, Offshore Wind Energy, maritime monitoring or operational scheduling. Experience with robotics or autonomy could have been gained in other disciplines such as security, environment or industrial applications.</p> <p>The candidate should possess an enhanced understanding of the subject area to develop the existing work within the current academic work on the topic.</p> <p>For this call, we are following the EPSRC Eligibility Criteria, if you have any queries about satisfying this criteria please contact us or EPSRC directly prior to submission.</p>
<p>Other Details</p>	<p>The aims of the Researchers in Residence (RiR) programme are to build connections, support pathways to impact, and knowledge exchange between academia and the Catapult centres.</p> <p>The output of this residency would include a report, and depending on the project, could include a prototype system to demonstrate the principles of a larger project.</p>
<p>Closing Date for Applications</p>	<p>17:00 (GMT) Friday, 21 September 2018</p>