

Research Associate – Autonomous Shipping

Department	Naval Architecture, Ocean and Marine Engineering (www.strath.ac.uk/naome/)		
Faculty	Faculty of Engineering (www.strath.ac.uk/engineering/)		
Staff Category	Research	Reference No	330894
Reports To	Dr Gerasimos Theotokatos	Grade:	7
Salary Range:	£32817- £35845	Contract Type:	Fixed Term (12 months)
FTE:	1 (35 hours/week)	Closing Date	08/03/2021

Job Advert

The Faculty of Engineering at the University of Strathclyde is one of the largest and most successful engineering faculties in the UK, and the largest in Scotland. As a leading international technological university, Strathclyde University is recognised for its world-class research, knowledge exchange and educational programmes. At the heart of this is the Faculty of Engineering, which boasts a growing research portfolio of nearly £100 million.

The Department of Naval Architecture, Ocean and Marine Engineering is a world-leader in research, whose main interests lie in: Ship Design, Stability and Safety, Marine Hydrodynamics, Marine Structures, Ocean Engineering, Marine Engineering, Emerging Technologies, Offshore Renewable Energy and Alternative Fuels. The Department makes a significant contribution to National, European and International policy-making in Ship and Marine Technology research and its application.

As part of a significant Industry-University partnership involving, in the first instance, the University of Strathclyde – Department of Naval Architecture, Ocean and Marine Engineering (NAOME), Royal Caribbean Cruise Lines and DNV GL Classification Society, the Maritime Safety Research Centre (MSRC) of Excellence has been set up. The MSRC vision is to establish a world-class centre of excellence, a reference and a shaping force of maritime safety. The mission of the centre is to support the development and nurture the implementation of Life-Cycle Risk Management, accounting rationally and formally for all cost-effective measures of risk reduction through the development of a modern regulatory framework, thus leading to sustainable cost-effective safety improvement for new and existing ships and offshore assets.

MSRC seeks to employ a full-time Research Associate to participate in the on-going EU-funded Horizon2020 research project AUTOSHIP (Autonomous Shipping Initiative for European Waters), which aims at “Developing and demonstrating to TRL 7 or above two fully autonomous vessels for Short Ship Shipping and Inland Water Ways services” and will lead to step changes in the way autonomous shipping is currently perceived. As a Research Associate, you will play a key role in this project as part of a team, working under the general supervision of more senior colleagues.

To be considered for the role, you should have a PhD (or be close to completion of a PhD) in autonomous marine systems modelling and analysis or a relevant subject and an MSc/MEng degree (or equivalent) in Maritime Technology/Engineering or a relevant subject. You should have a sufficient knowledge of methods employed for modelling, analysis, design and operation of autonomous shipping systems and to be familiar with advanced marine/ships systems (power generation, propulsion, navigation, shore infrastructure, etc.). You should have knowledge of programming languages and models development skills either through work experience or from previous research. You will conduct literature reviews, develop methods, models/frameworks and perform simulation runs to support the design of autonomous ships as well as employ methods to perform environmental, cost, and supply chain analyses.

You will work under general supervision, and you should have the ability to work within a team environment. You should have the ability to plan, manage, organise and prioritise your own workload and ensure that all activities are completed to deadlines. You will write up the results of your own research and contribute to the production of research reports and high quality journal publications. You will input as a team member to administrative activities and assist, where required, with relevant teaching and knowledge exchange activities.

Your experience should demonstrate that you are capable of working independently under supervision on a technically challenging project and delivering results. You should have proven capability of writing high quality journal publications and research reports, have knowledge of appropriate research methods and have skills on developing research proposals. Excellent interpersonal and communication skills are very essential, with propensity to listen, engage and persuade, and to present complex information in an accessible way to a range of audiences. The appointee will join a multidisciplinary international team with industrial partners from various European countries, which entails that you will be prepared to travel for project meetings or in undertaking specific research activity.

Job Description

Brief Outline of Job:

To undertake a specific research projects under the general guidance of a research leader; to establish a personal research portfolio and plan and prepare research proposals, with assistance from senior colleagues as required; to engage where required in relevant teaching, professional and knowledge exchange activities; and input to administrative activities.

Main Activities/Responsibilities:

1.	As part of a wider research group or programme, contribute to research objectives and proposals for own or joint research and play a lead role in relation to specific projects or part of a broader project, with guidance from senior colleagues, as required.
2.	Plan and manage own workload, with guidance from colleagues as required.
3.	Conduct individual and/or collaborative research, including determining appropriate research methods and contributing to the development of new research methods.
4.	Identify sources of funding and contribute to the securing of funds for research, including drafting grant proposals and planning for future proposals.
5.	Write up research work for publication, individually or in collaboration with colleagues and PhD students, and disseminate results as appropriate to the discipline in peer reviewed journals and presentations at conferences.
6.	Join external networks to share information and ideas, inform the development of research objectives and to identify potential sources of funding.
7.	Collaborate with colleagues to ensure that research advances inform departmental teaching effort.
8.	Collaborate with colleagues on the development of knowledge exchange activities by, for example, participating in initiatives which establish research links with industry and influence public policy and the professions.
9.	Supervise student projects, provide advice to students and contribute to teaching as required by, for example, running tutorials and supervising practical work.
10.	Contribute in a developing capacity to Department/School, Faculty and/or University administrative and management functions and committees.
11.	Engage in continuous professional development activities.

Person Specification

Educational and/or Professional Qualifications

(E=Essential, i.e. a candidate must meet all essential criteria to be considered for selection, D=Desirable)

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| E1 | PhD degree in Autonomous Marine Systems or a relevant discipline / or close to PhD completion |
| E2 | MEng or equivalent degree in Naval Architecture & Marine Engineering, Mechanical Engineering, Electrical Engineering or a relevant discipline |

Experience

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| E3 | Sufficient breadth and depth of knowledge in the relevant discipline/s to contribute to research programmes and to the development of research activities. |
| E4 | Research experience on modelling of marine systems |

E5	Relevant work experience in hybrid/electric ships systems and autonomous ships systems
D1	Experience of knowledge exchange related activities
Job Related Skills and Achievements	
E6	Ability to conduct individual research work, to disseminate results and to prepare research proposals.
E7	Ability to develop and use mathematical modelling and simulation tools for predicting performance/emissions/reliability/safety metrics
E8	Programming languages and programming in open simulation platforms (MATLAB/Simulink, FMI, etc.).
E9	Journal publications in the scientific area of marine systems
E10	Software packages for modelling marine power plants/systems
Personal Attributes	
E11	Excellent organisational, interpersonal, verbal and technical writing skills
E12	Ability to work both independently and within a team environment, prioritise time and balance multiple projects simultaneously
E13	Excellent problem solving and decision making skills
E14	Excellent interpersonal and communication skills, with the ability to listen, engage and persuade, and to present complex information in an accessible way to a range of audiences
E15	Ability to apply initiative, creativity and judgement in identifying areas for research

Application Procedure

Applicants are required to complete an application form including the name of three referees who will be contacted before interview without further permission, unless you indicate that you would prefer otherwise. Applicants should also submit a Curriculum Vitae and a covering letter detailing the knowledge, skills and experience you think make you the right candidate for the job. Applicants should also complete the Equal Opportunities Monitoring Form.

Other Information

Further information on the application process and working at Strathclyde can be found on our website (<http://www.strath.ac.uk/hr/workforus>).

Informal enquiries about the post can be directed to Dr Gerasimos Theotokatos, DNV GL Reader of Safety of Marine Systems (gerasimos.theotokatos@strath.ac.uk / 0141 548 3462).

Conditions of Employment

Conditions of employment relating to the Research staff category can be found at: [Conditions of Employment](#).

Rewards and Benefits

Our staff have access to a wide range of outstanding benefits that include financial rewards, family friendly and wellbeing benefits and career development opportunities, details of which can be found [here](#).

Probation

Where applicable, the successful applicant will be required to serve a 9 month probationary period.

Pension

The successful applicant will be eligible to join the Universities' Superannuation Scheme. Further information regarding this scheme is available from [Payroll and Pensions](#).

Relocation

Where applicable, the University offers a relocation package to support new employees who meet the eligibility criteria. The relocation package is offered as a contribution towards costs incurred, and is designed to be flexible, allowing staff to use the financial support available in the way that will be most helpful to them. Further details are outlined in the Relocation Policy.

Equality and Diversity

We value diversity and welcome applications from all sections of the community.

The University currently holds a Bronze Athena SWAN award, recognising our commitment to advancing women's careers in science, technology, engineering, maths and medicine (STEMM) employment in academia.

University Values

The University's Values capture what we're all about: who we are, what we believe in and what we stand for. [Our Values](#) have been derived from how we act and how we expect to be treated as part of Strathclyde.

