

Job Description

1. Job Details

Job Title:	PDRA in Active Acoustic Monitoring of Offshore Wind Ecosystem Effects	Job Family	Research, Education and Enterprise
Line Manager:	Principal Investigator	Grade and salary range	Grade 5/6 £32,546.00 - £38,249.00 per annum
Full Time/Part Time	Full Time	Duration of appointment	28 months, with extension subject to funding

2. Job Purpose

Active acoustic (multi-frequency scientific echosounder) measurements allow investigation of ecosystem effects of offshore renewables, through quantification of prey (pelagic fish) availability to top predators, revealing the dynamic interactions between predators, prey and offshore wind farms. Current research in the EQUIFy project ([link](#)) is investigating the mechanisms driving elevated fish densities around offshore wind, effects of wind and tide wakes, and differences between fixed and floating offshore wind.

The candidate will lead analysis of existing datasets alongside opportunities for new data collection campaigns from distributed multi-sensor seabed landers and ship-based surveys to build a spatio-temporal understanding of how pelagic fish (prey) availability changes around offshore wind infrastructure. Ship surveys 'downstream' of windfarms can quantify spatial gradients and wake effects, while autonomous multi-sensor seabed landers provide temporal persistence to quantify predictability over tidal and diel cycles.

The role will interact with collaborators across the EQUIFy project, from oceanography through to social science and ecosystem modelling, to develop a robust, transferable framework to quantify and understand ecosystem change across the full lifecycle of offshore wind developments, and how these impacts interact with other pressures such as fishing, shipping, and climate change. The project will translate this understanding into decision-ready evidence and scalable tools to support both policy and industry.

3. Main Responsibilities

<i>Role Description</i>	<i>Approx. % of time</i>
Conduct research including: • Lead design, development and application of processing techniques for active acoustic data from multi-frequency echosounders on autonomous landers and ships to discriminate large zooplankton, individual fish and schools, including investigating differences between species groups. • Investigate the mechanisms affecting prey fish presence and behaviour around offshore wind farms using coincident biophysical measurements. • Contribute to the design and data collection of multi-platform and ship field campaigns, with responsibility for survey design, data collection and equipment. • Contribute to wider projects investigating environmental interactions of offshore renewable energy and advanced monitoring systems.	70%
Present and discuss findings at project partner meetings as well as national and international conferences. Build new collaborations.	5%
Develop a publication strategy, and publish findings in high impact peer-reviewed journals. Assist the Principal Investigator (PI) with areas of enterprise and income-generating activity to support projects and your career development.	25%
Contribute to SAMS education activities, including supervision and/or lecturing of post-graduate and undergraduate students.	Where opportunities arise
Be pro-active in the application of SAMS Health and Safety Procedures	Ongoing

4. Planning and Organising

- Plan the pipeline for active acoustic data analysis from a variety of platforms, converting large datasets into actionable insights and publishable results.
- Support wider projects led by the PI investigating environmental interactions of offshore renewable energy and advanced monitoring systems, developing synergies between projects.
- Assess resource requirements, including equipment and field campaign logistics.
- Supervise students and interns, developing their planning and organisation skills.
- Plan the publication strategy for projects, determining target journals, writing manuscripts and organising their publication in collaboration with co-authors.

5. Problem-Solving

- Solve research questions and problems encountered, including in the field, seeking advice from specialists when needed.
- Work with novel and complex datasets and sensors.
- Present any encountered problems to partners diplomatically, having already discussed and determined a possible appropriate solution with peers.
- Act as a sounding-board to supervisees, helping them to solve problems, either by providing advice or steering them towards the solution.

6. Decision-Making

- Determine best course of action for research within the context of project deliverables – seeking advice from research and industrial peers where appropriate.
- Decide on appropriate data collection and analysis techniques to answer research questions.
- Where appropriate, delegate practical tasks to support scientists, interns and volunteer students.

7. Key Contacts/Relationships

- Discuss findings and new ideas with scientific researchers, collaborators, industry/regulatory stakeholders and policymakers to develop our respective research knowledge, agendas and future collaborations.
- Represent SAMS and projects at formal research and project meetings/conferences involving worldwide peers.
- Work in synchrony with other PDRAs and the wider project team to ensure smooth delivery of the research.
- Interact with students, volunteers and interns to develop their scientific skills.

8. Knowledge, Skills and Experience needed for the Job

- PhD (or equivalent) in relevant subject (marine or environmental science, acoustics, quantitative ecology, engineering, physics, applied mathematics, oceanography etc.).
- A strong background in data analysis and statistics (e.g., R, MATLAB or Python). Experience with predictive modelling techniques is an advantage for interpretation of results and design of future large-scale distributed and coordinated monitoring campaigns.
- An interest in the oceanographic and ecosystem effects of large-scale marine anthropogenic structures and predator-prey interactions – processing oceanographic and ADCP data is an advantage.
- Experience processing echograms into data products, e.g., school detection, quantifying scattering layers, echometrics, fish tracking and single-echo detection is beneficial – experience with broadband data, and using Echoview or alternatives such as Matecho, Echotype, ESP3 or LSSS is an advantage.
- Experience with echosounder survey design, equipment preparation, data collection and calibration is beneficial – experience with moored echosounders is an advantage.

9. Dimensions – Scope of role

- Conduct research to support projects on the environmental interactions of marine renewables, completing project deliverables and identifying new research opportunities.
- Lead-author two 3*/4* publications and others as a co-author over the project cycles.
- Contribute to new research grant proposals, led by PI and in collaboration with wider networks.
- Take ownership of your career trajectory, seeking support from your line manager.
- Support research elements of wider projects with the PI, where time allows.
- Represent SAMS at national/international conferences and workshops.
- Co-supervise interns and student projects, where required.

10. Any other relevant information

We are seeking a candidate to start as soon as possible, including to engage with upcoming fieldwork opportunities.

Please note that responsibilities will be adjusted depending on the grading of the successful candidate.

The post holder may be required to perform duties other than those given in the job description for the post. The particular duties and responsibilities attached to posts may vary from time to time without changing the general character of the duties or the level of

responsibilities entailed. While a large part of the role will be data processing, analysis, interpretation, dissemination and publication, there are data collection and fieldwork opportunities. The applicant must be able to obtain the ENG1 medical certification, complete the STCW 95 Personal Survival Techniques training and security clearance to be able to engage with these.