

Job Description

1. Job Details

Job Title:	PDRA Marine Mammal Bioacoustics	Department/Team:	Science Marine Mammal Team
Line Manager:	Senior Principal Investigator/Acoustician	Grade	Grade 5 £32,546-£34,132
Full Time/Part Time	Full Time – 37 hours per week.	Duration of appointment	Funding available for appx 2 years - until 31 st December 2028 (end date will be dependent on new employee start date).

2. Job Purpose

- This post will support the MOSIAC project. A project supported by PLEACEPLUS, a programme managed by the Special EU Programmes Body (SEUPB).
- To lead on the analysis of bioacoustics data, develop and test new analytical frameworks and acoustic detection and classification tools, using artificial intelligence and machine learning approaches.
- To apply and further develop approaches for sound propagation modelling to be used in the context of marine mammal acoustic monitoring.
- To model marine mammal habitat preferences and abundance using passive acoustic and visual survey data.
- To conduct fieldwork for visual and acoustic marine mammal surveys as required by the MOSAIC project (e.g., towed array surveys, static and drifting passive acoustics).
- To be involved (at a low level) in teaching topic related courses at SAMS (e.g., Marine Mammal Module and IDCORE).

See project announcement here: [LA_MOSAIC](#) as well as the PEACEPLUS website [PEACEPLUS | SEUPB](#)

3. Main Responsibilities

Key Responsibility Areas	Appx % of time
Research: Display competency using passive acoustic equipment and analysing resulting data. Use existing knowledge and skills for modelling species distribution and habitats using passive acoustic data to support species conservation. The postholder will be particularly trained and skilled in developing new acoustic detection and classification tools for long-term passive acoustic data, with a focus on marine mammal detection and classification. Skills in applying artificial intelligence and machine learning approaches to acoustic data analysis will be essential. Integrate acoustic, environmental, and spatial datasets within modelling and analytical workflows. Plan and write scientific research reports, papers with a focus on classification of marine mammals in long-term passive acoustic monitoring data. Write and contribute to technical documentation and project deliverables. Contribute to future income stream bids. Collaborate with acousticians, marine ecologists, software engineers, and external stakeholders. Demonstrate skills and experience building, deploying, maintaining and calibrating underwater acoustic recording equipment. Demonstrate fieldwork competency for both onshore and boat-based marine mammal surveys.	35%
Teaching: Support SMMRT in preparing and delivering marine mammal related content within the SAMS BSc programme where appropriate (e.g., IDCORE and Marine Mammal Module delivery).	5%
Data Analysis: Handle, process and analyse PAM datasets relevant to marine mammal acoustic monitoring. Technical experience is needed for developing tools to analyse passive acoustic data for a wide range of marine mammal species (with a focus on the North Atlantic), using AI-based tools. Process large geostatistical datasets (e.g., AIS vessel tracking data) and integration with underwater noise measurements and sound propagation modelling. Statistical modelling proficiency (e.g., Generalised Additive Models, habitat and species distribution modelling, and population impact modelling) is also required.	55%
Field Work: Undertake field work including but not limited to helping prepare passive acoustic moorings, calibrate and maintain acoustic equipment, and carry out offshore field work activities to deploy/recover acoustic moorings, conduct visual and acoustic surveys using towed and drifting arrays of acoustic recorders.	5%
Be pro-active in the application of SAMS Health and Safety Procedures.	Ongoing

Key Experience and Skills

Qualification and knowledge base:

- Post-Graduate qualification with focus on marine mammal bioacoustics, tool development and species distribution modelling (essential; PhD degree essential).
- Experience applying machine learning or artificial intelligence to acoustic classification problems (essential).
- Experience processing and analysing large acoustic datasets (essential).
- Ability to analyse complex temporal and spatial, visual/acoustic datasets and write up results in research papers and share knowledge in reports, workshops and at conferences (essential).
- Experience working in the academic sector, a consultancy or regulatory environment (essential).
- Track record of peer-reviewed scientific publications (essential).
- Strong analytical, problem-solving, and communication skills (essential).
- Ability to work independently and as part of multidisciplinary teams (essential).
- Knowledge of marine mammal ecology and behaviour (desirable).
- Experience supporting offshore renewable energy, environmental impact assessment, or marine conservation projects (desirable).

Technical delivery:

- Contribute to scientific delivery of research work as part of the SAMS marine mammal research team (essential).
- Technically lead research projects within area of expertise; i.e. passive acoustic monitoring tool development using machine learning and AI-based approaches (essential).
- Technical knowledge and expertise in sound propagation modelling (essential).
- Stay abreast of developments in artificial intelligence, bioacoustics, and marine monitoring technologies (essential).
- Experience with GIS and spatial analysis (desirable).
- Statistical analysis experience for various data types and long-term data sets (essential).
- Expertise in acoustic data analysis using other acoustic analysis software (e.g., PAMGuard, RavenPro, Triton) (essential).
- Experience with programming in Matlab and/or Python (essential).
- Familiarity with cloud computing and high-performance computing environments (desirable).
- Experience developing user-facing software tools or applications (desirable).
- Experience with calibration, data quality control and data validation processes (desirable).

Field work:

- Experience in offshore vessel-based survey organisation, execution and management (relating to deployment and retrieval of PAM equipment; essential).
- Experience operating, calibrating and maintaining passive acoustic monitoring equipment (e.g.; Soundtraps, RTSYS EA-SDA14 & Sylence, vertical and towed hydrophone arrays; essential).

- Experience with mooring design and acoustic mooring preparation, including use of acoustic release mechanisms (essential).
- ENG1 and PST certificates (or equivalent/higher; desirable).
- Experience in operating small power boats (desirable).

Planning and Organising:

- Good knowledge, experience and practice of project management to successfully and timely deliver advanced research projects (essential).
- Demonstrated previous experience of successful project delivery and the ability to apply that experience in a research environment (essential).
- Good understanding and application of project management principles, including the different components required to ensure successful delivery of projects (e.g. some knowledge of costing/estimating, finance and time management; desirable).

Decision-Making:

- Display leadership to ensure assigned projects move forward towards successful delivery (essential).
- Collaboratively develop and deliver scientifically robust analyses using appropriate methodologies, considering recent scientific progress (essential).
- Be proactive in terms of on-going prioritization of projects and resources (essential).
- Provide high-quality deliverables for timely submission of research project reports (essential).
- Respond effectively to problems during the project lifetime as and when they arise (e.g. weather delays, resource unavailability, external supplier issues; essential).

Key Contacts/Relationships:

- Support SAMS Research team to timely deliver project work and write up of key scientific results (essential).
- Create and maintain a good relationship internally and externally for a successful delivery of the project (essential).