

Candidate Information

Position: Postdoctoral Research Fellow (MOSAIC Project)
School/Department: School of Biological Sciences
Reference: 26/113152
Closing Date: Monday 9 March 2026
Salary: £41,519 - £49,536 per annum.
Anticipated Interview Date: Week commencing 30 March 2026
Duration: 36 months

JOB PURPOSE:

To deliver the spatial and statistical modelling components of the PEACEPLUS funded, managed by Special EU Programmes Body (SEUPB), MOSAIC Project (Multi-disciplinary Ocean Sensing for Adaptive International Conservation), leading the AUV survey design and developing habitat association models for OSPAR-listed elasmobranchs using BRUV and AUV datasets collected along the Northern Ireland–Donegal Bay coastline. The role will combine advanced GIS, multivariate, and machine-learning techniques to map species–habitat relationships, identify critical areas such as flapper skate egg-laying sites, and generate geospatial products to support marine spatial planning and conservation policy.

MOSAIC is a project supported by PEACEPLUS, a programme managed by the Special EU Programmes Body.

MAJOR DUTIES:

1. Lead the AUV survey design, defining transect geometry, sensor configurations, and sampling parameters to optimise data capture and ensure robust habitat modelling outcomes.
2. Manage and process BRUV and AUV datasets delivered by the contracted survey provider, ensuring spatial accuracy, metadata integrity, and full quality control.
3. Apply advanced statistical and machine-learning approaches (e.g. Random Forest, Boosted Regression Trees, GAMs, ordination) to quantify and predict elasmobranch–habitat relationships.
4. Integrate biological observations with environmental covariates (substrate, depth, temperature, current velocity, etc.) within a GIS-based analytical framework to enhance predictive accuracy.
5. Produce high-resolution habitat suitability maps and predictive distribution layers to inform the management and protection of critical habitats for OSPAR-listed elasmobranchs.
6. Develop reproducible spatial workflows (ArcGIS Pro / QGIS / R / Python) to ensure that all outputs comply with EMODnet, GBIF, and INSPIRE data standards.
7. Liaise with the Loughs Agency and partner institutions to align model outputs with project objectives and cross-border marine management frameworks.
8. Prepare technical reports, metadata records, and peer-reviewed publications to document methodologies and communicate.
9. Contribute to project meetings, data-sharing workshops, and supervision of postgraduate students to support knowledge transfer and project coordination.
10. Uphold the highest standards of research integrity, reproducibility, and data governance throughout all project activities.

ESSENTIAL CRITERIA:

1. PhD (or equivalent) in Marine Science, or a related quantitative discipline with a focus on elasmobranchs.
2. Proven experience in marine spatial and multivariate modelling of ecological or environmental data; coding proficiency (R / Python / Matlab); track record of peer-reviewed publications.
3. Experience analysing AUV, BRUV, or other marine video datasets.
4. Advanced GIS capability (ArcGIS Pro, QGIS); strong quantitative skills in Random Forest, GAMs, or other machine-learning frameworks; understanding of benthic habitat mapping and spatial data standards (EMODnet, INSPIRE).
5. Familiarity with OSPAR species ecology or JNCC/EUNIS habitat classification systems.

6. Excellent ability to communicate geospatial analyses and model outputs to scientific, policy, and stakeholder audiences through clear maps, graphics, and reports.
7. Analytical, organised, and self-motivated; capable of both independent and collaborative work; effective time- and data-management skills.
8. Willingness to travel to coastal field sites and partner meetings across Northern Ireland and Donegal Bay.

DESIRABLE CRITERIA:

1. Postgraduate training in geospatial analysis, machine learning, or remote sensing.
2. Experience leading quantitative components of multi-institutional projects.
3. Record of invited presentations at scientific or policy fora.
4. Experience mentoring analysts or students in spatial modelling.
5. Offshore survival or marine safety training.

ADDITIONAL INFORMATION:

Informal enquiries can be directed to: Paulo Prodohl - P.Prodohl@qub.ac.uk.