PROJECT PROPOSAL FORM

Making the Most of Masters aims to improve collaboration between employers and universities by providing opportunities for postgraduate students to undertake work based projects as an alternative to a traditional university dissertation. Projects should address a real need within the host organisation and be beneficial to both host and student.

The Marine Alliance for Science and Technology for Scotland (MASTS), pools the majority of Scotland's marine research capacity. MASTS members provide Masters courses in a range of marine related disciplines and many of their students are keen to undertake applied projects outside of academia.

Notes on Topic Selection

A relevant academic will work with your organisation to refine your proposed topic and ensure it meets both your needs and the academic requirements of the student. Projects should typically be achievable within a 12–16 week timeframe (including writing the final report).

Your proposed project could be:

- A specific project title or topic for the student to deliver;
- A general idea of a business need which requires further development;
- A core research theme to be developed by the student into a bespoke project;
- An intended outcome for the organisation.

The level of detail you provide will determine the extent to which further discussion may be required with the relevant programme director to ensure suitability.

desk-based/data studies that will easily facilitate remote working and remote supervision are welcome, as well as in person and/or experimental based projects where appropriate.

What's Next?

Please send your completed form to the MASTS Programme Coordinator & Deputy Dean of Grad School, Dr Emma Defew (masts@st-andrews.ac.uk) before the deadline.

Following submission of the form, it will be channeled to the leaders of the various Masters programmes that operate within the MASTS community and a representative from the most relevant programme or department will get in touch to discuss the project scope, delivery and the selection of an appropriate student. If more than one student expresses an interest in your project, you will need to ensure discussions take place to enable the most suitable student to be matched with your project. The projects themselves usually won't start until May or June.

MASTS - Making the Most of Masters – Project Proposal Form

Name and address of Organisation:

Scottish Government, Marine Directorate Science, Marine Laboratory, 375 Victoria Road, AB11 9DB, Aberdeen.

Name of the key contact in Organisation:
Helen Holah
Alex Edridge

Contact e-mail and phone number:
Helen.Holah@gov.scot
Alexius.Edridge@gov.scot

Title of proposed project:
Quantifying crew interactions with catch and bycatch across different electronic monitoring camera perspectives in a pelagic trawl fishery.

Project outline and intended outcomes:
The Scottish Government has mandated the use of Electronic monitoring (EM) systems for all pelagic trawl vessels operating in Scottish waters to provide independent, high-resolution records of catch handling and bycatch events. However, the effectiveness of EM depends strongly on camera placement and field of view. This project will quantify the frequency and type of crew interactions with catch and bycatch across different EM camera perspectives (e.g. hopper, conveyor, sorting area, deck). The student will undertake structured video review to generate a dataset of fishing activity and bycatch events for the pelagic trawl fleet, developing an event classification framework and comparing detection rates among camera views. Statistical analyses will assess how factors such as visual obstructions, lighting conditions, time of day, and vessel layout influence event visibility. The project will identify which camera configurations provide the most complete and reliable record of bycatch handling, with implications for monitoring design, compliance assurance, and scientific data collection. Outcomes will directly inform optimisation of EM deployment in pelagic fisheries and contribute to evidence-based improvements in monitoring protocols.

Reading List:
(1) https://www.fisheries.noaa.gov/feature-story/electronic-monitoring-tech-applications-mid-water-trawl-herring-fishery
(2) Briand, K., et al (2023). An application of electronic monitoring system to optimize onboard observation protocols for estimating tropical tuna purse seine discards. Regional Studies in Marine Science, 68, 103267. doi.org/10.1016/j.rsma.2023.103267
(3) van Helmond, A.T.M. et al. (2019). Electronic monitoring in fisheries: Lessons

from global experiences and future opportunities. Fish and Fisheries, 21, pp162-189. https://doi.org/10.1111/faf.12425

Any additional comments e.g. details of specific disciplines required, methods to be used, travel involved, where the work would take place (i.e. at the host site or at the University), whether you foresee any Intellectual Property or confidentiality issues (and if so, what form might these take?):

Students must demonstrate strong competence in Microsoft Excel and have prior experience using R and RStudio for data manipulation and/ or statistical analysis. Training in species identification, video review techniques, and the use of specialist video review software will be provided as part of the project.

Nature of the project (field, lab, desk): Desk

The project may involve access to confidential fisheries monitoring data, including Remote Electronic Monitoring (REM) footage and associated metadata. Appropriate data protection, confidentiality and information governance arrangements would be required before any access could be granted. No imagery, footage, screenshots or extracts of data would be permitted in publications, presentations or other outputs without prior written permission from the Scottish Government. Any reports, dissertations, publications or public presentations arising from the project would be subject to review and approval by the Scottish Government before publication to ensure compliance with confidentiality, data protection and fisheries governance requirements.

This project requires the student to undertake video analysis to generate their data set, it would be advantageous for them to start this as early as possible.

The university is expected to provide the statistical analysis support.

Supervisory cover will be provided from within the electronic monitoring delivery area during any periods of absence of the primary supervisor for longer than a week.

Maximum number of students on the project: 1