Title: Distribution and life history processes of *Gobionotothen gibberifrons* around the sub-Antarctic island of South Georgia.

Supervisors: Dr William Reid, Dr Martin Collins* and Dr Phil Hollyman* (*British Antarctic Survey)

Framework: the first semester October-December inclusive is largely taken up with taught modules, however Covid-19 contingency planning means the first three weeks of October in 2020/21 academic year will provide opportunities to begin planning the main project (MST8025). This preparation will be completed by early March (including formal proposal for summative assessment), data gathering and analysis will be in the period March-June, with July to mid-September devoted to writing up. The main outputs are a research paper, a literature review and oral presentation due by mid-September. The research paper is assessed by External and Internal Examiners who are not involved in project supervision.

Duration of Research Project: preparation during October-February, intensive work during January-September 2021.

The Project: Managing marine environments requires a detailed knowledge of life history processes of the species found within the system. The fish community around the sub-Antarctic island of South Georgia has been subject to historical fisheries which have extracted a high biomass of fish. The region is now subject to rapid ocean warming meaning that the polar adapted fish fauna is subject to new environmental and ecological pressures. However, we still do not have a comprehensive understanding of the recruitment and life history processes of some species including the high biomass benthic species *Gobionotothen gibberifrons* (Fig. 1). The objectives of this project are to investigate the spatial distribution of this species on the continental shelf, age structure, growth rates, cohort structure and size at maturity. The project will use data and samples collected on the ground fish surveys around South Georgia over the last 30 years and potentially the more recent larval surveys. The results are expected to feed into the long-term management of the marine environment around South Georgia.

Eligibility: You need at least an upper 2:1 BSc degree in a relevant subject, experience of working within a laboratory environment, a good understanding of statistical analysis, experience of using R and be an independent worker with good organisational skills.

Fig. 1*: Gobionotothen gibberifrons* is a benthic species found in biomass around South Georgia.

To Apply: Admission to the MRes in Marine Ecosystems & Governance is via https://www.ncl.ac.uk/postgraduate/courses/degrees/marine-ecosystems-governance-mres/#profile with a personal statement of your career aspirations and skills you would bring to the work, CV and a proposal (including scientific rationale, objectives, methodology, outline budget, any health, safety or ethical [e.g. animal or human subject analyses] issues and timetable). The proposal needs to be discussed with the supervisors before the application (email: william.reid@ncl.ac.uk).