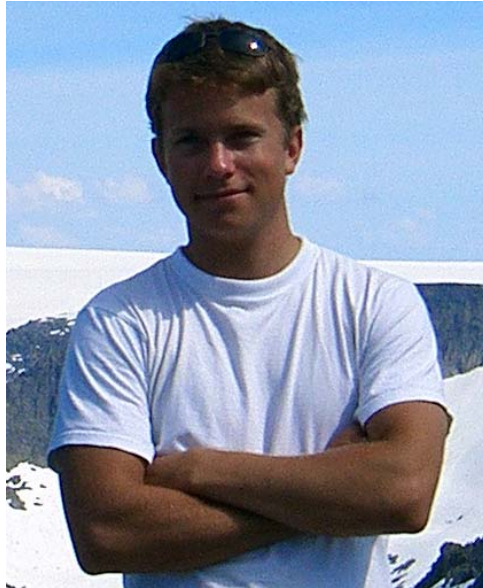


Presentation of MAR-ECO Students

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Degree: PhD in Marine Biology

Working title of project: Zooplankton communities of the Charlie-Gibbs Fracture Zone of the mid-Atlantic ridge.

Supervisors: Dr Andrew Brierley

Summary of Project:

The CGFZ, although surmounted by highly productive waters and high planktic biomass, should be biologically diverse due to the presence of the SPF and, because of the interactions between different climatic water masses, should harbour both temperate, sub Arctic, and subtropical planktic species brought up with the Gulf Stream. Work on Euphausiids in the Irminger Sea has detected species not normally associated with high latitude. The SPF also marks the intersection between three different biogeographic biomes, which are distinct in their magnitude of biomass and their dominant species of phytoplankton. Additionally the sub-polar waters north of the Sub polar front on the MAR are characteristic of high latitude waters: low temperature, high salinity and oxygen content, and highly productive during the summer months. This presents us with an unusual environment in pelagic terms: highly diverse, yet highly productive, and with no terrigenous input of nutrient.

My work will attempt to describe the zooplankton community of the CGFZ in taxonomic term, but also using molecular techniques such as stable isotope analysis and fatty acid analysis. This enables the comparison of a highly productive ecosystem with other systems. By looking at DNA sequence variation in species at different location I also aim to quantify pelagic gene flow across the ridge and the subpolar front.