

# MagellanPlus Workshop Series Programme

## Carbon Cycling at the Ultraslow Arctic Spreading Ridge System

6 - 8 September 2017, Bergen, Norway

The workshop will bring together scientists from multiple disciplines, ranging from geophysics to petrology to biogeochemistry and microbiology, to plan and draft an IODP proposal for drilling a series of holes on and off axis of the Southern Knipovich Ridge to assess the cycling of carbon and consequences for life in sediments and shallow basement.

We hypothesize that the different thermal states and tectonic/magmatic processes at the Southern Knipovich Ridge and its flanks strongly affect thermogenic, biogenic, and abiotic cycling of carbon, with profound consequences for deep life.

The Arctic Ocean stores a significant amount of carbon in form of sedimentary organic carbon and methane hydrates beneath the ocean floor. Our current understanding of the sources and sinks of carbon in this marine setting as well as their sensitivity to external forcing, such as volcanic/tectonic activity or climate change, is inadequate. A number of recent findings suggest that the sedimentary carbon pool is strongly affected by tectonic and hydrothermal processes. However, the relative roles of microbial, thermogenic, and abiotic carbon reactions and methane generation remain unknown. In addition, it remains unclear how much of the generated methane is stored as gas hydrates and how much is oxidized to carbon dioxide.

We propose to start a new drilling initiative aimed at investigating the relative importance of abiotic and biotic cycling of carbon at the sediment-covered and ultraslow-spreading Southern Knipovich Ridge and its flanks in the Norwegian-Greenland Sea.

### Registration:

Members of the scientific community interested in contributing to the workshop are invited to submit an expression of interest with a short CV by **15 August 2017** to [steffen.jorgensen@uib.no](mailto:steffen.jorgensen@uib.no). Researchers will be accepted based on their research interest related to the scientific goals of the workshop. Applicants will be informed on the outcome immediately after deadline.

### Organizers:

Steffen Leth Jørgensen, UiB, KGJ DeepSeaResearch, Norway  
Desiree Roerdink, UiB, KGJ DeepSeaResearch, Norway  
Eoghan Reeves, UiB, KGJ DeepSeaResearch, Norway  
Tamara Baumberger, NOAA, USA