



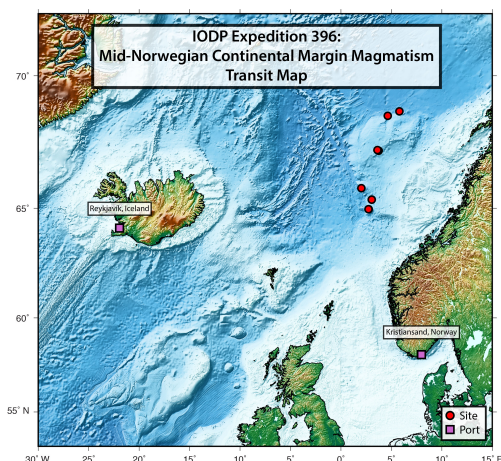
## CALL FOR APPLICATIONS

for scientists based in ECORD member countries to participate in

# IODP EXPEDITION 396: Norwegian Continental Margin Magmatism 6 August - 6 October 2021

**DEADLINE 11 October 2020**

The European Consortium for Ocean Research Drilling (ECORD) offers you the unique opportunity to sail on Expedition 396 on-board the *JOIDES Resolution* in the framework of the International Ocean Discovery Program (IODP), an international research program for drilling at sea.



## Background and Objectives

Mid-Norwegian Continental Margin Magmatism Expedition 396 is a scientific ocean drilling project that seeks to understand the nature, cause and climate implications of excess magmatism during the northeast Atlantic continental breakup. Competing geodynamic end-member hypotheses exist for the formation of this excess magmatism, but their relative importance remains unresolved: (1) elevated mantle potential temperatures associated with mantle plume processes, (2) enhanced material flux through the melt window during rifting caused by small-scale convection at the base of the lithosphere, and (3) mantle source heterogeneity that may contribute to anomalously high melt production during continental breakup. Voluminous magmatism also coincides with the global greenhouse climate in the early Paleogene and has been proposed as a driver of both short-term (Paleocene-Eocene Thermal Maximum) and long-term (early Eocene Climate Optimum) global warming. However, the timing of the magmatism is not sufficiently constrained. Improved constraints on melting conditions, timing of magmatism, magmatic fluxes in time and space, eruption environment, sedimentary proxy data, and relative timing of climate events are required to resolve these linked controversies. Expedition 396 is based on IODP Proposals 944-Full2 and 944-Add2 and will target volcanic and sedimentary sequences at nine primary sites along and across the mid-Norwegian margin.

This expedition will address five primary objectives: (1) determine the conditions of mantle melting; (2) determine spatial and temporal variations in along axis volcanic fluxes to test predictions made by fundamentally different geodynamic models for volcanic rifted margin formation including segmentation; (3) determine variations in the depositional environment (sub-aerial vs sub-marine) of inner and outer lava flows to test correlations between magma genesis and dynamic thermal support during late syn-rift, break-up, and early post-rift oceanic spreading; (4) assess the temporal evolution of the styles of volcanic and magmatic activity in relation to paleoclimate proxies to test the relationship between large-scale volcanism and climate change events; and (5) investigate the relative importance of environmental consequences of two key processes during the initial opening of the North Atlantic: direct volcanic degassing and explosive thermogenic gas release through hydrothermal vent complexes that expel fluids derived from contact metamorphism. The expedition will also address two important secondary objectives: (1) early Eocene hot-house and fresh water incursions into the Atlantic, and (2) carbon capture and storage in basalt provinces.

**For more information about the expedition science objectives and the JOIDES Resolution expedition schedule**, please see <http://iodp.tamu.edu/scienceops/>. This site includes links to individual expedition web pages with the original IODP proposal(s) and expedition planning information.

## Expertise sought

We encourage applications from all qualified scientists. The JOIDES Resolution Science Operator (JRSO) is committed to a policy of broad participation and inclusion, and to providing a safe, productive, and welcoming environment for all program participants. Opportunities exist for researchers (including graduate students) in most shipboard specialties, including but not limited to sedimentologists, volcanologists, petrologists, igneous geochemists, inorganic and organic geochemists, micropaleontologists, paleomagnetists, physical properties specialists, and borehole geophysicists. Good working knowledge of the English language is required.

**The Application Process** is open to scientists in all ECORD member countries. Please download the Apply to Sail general application forms from the ESSAC webpage:

<http://www.ecord.org/expeditions/apply-to-sail/>

Please, fill out all applicable fields and send it to the ESSAC office by email ([essac@plymouth.ac.uk](mailto:essac@plymouth.ac.uk)) with the following additional documents by the deadline of **11 October 2020**:

1. **A letter of interest** outlining your specific expertise, previous involvement in DSDP/ ODP/ IODP expeditions, research interests, primary research goals of your proposed participation.
2. **CV and publication list.**
3. Early career researchers must additionally provide a **letter of support** from their host institution, including information on post-cruise science support.

All applications should state how you intend to achieve your proposed scientific objectives, with information on the funding scheme and support from your institution or national funding agencies. More information can be found under: <http://www.ecord.org/expeditions/apply-to-sail/>

In addition to the ESSAC application, all applicants must inform their national office or national delegate and send them a copy of their application documents. The national offices or national delegates can also provide information regarding travel support, post-cruise funding opportunities, etc.

See <http://www.ecord.org/about-ecord/about-us/> for a list of the national contact persons.

**COVID-19 PROTOCOL:** The JRSO has created a protocol to safely operate during the COVID-19 pandemic. If pandemic conditions have not improved by mid-2021, the expedition may need to sail with a reduced shipboard contingent. However, all participants will maintain their designation as science party members regardless of whether they sail or not, and will have equal access to all expedition data and core materials.

The protocol is available here:

[http://iodp.tamu.edu/scienceops/JR\\_COVID-Mitigation-Protocols-2020-07-02.pdf](http://iodp.tamu.edu/scienceops/JR_COVID-Mitigation-Protocols-2020-07-02.pdf) .

**For further information or questions, please contact the ESSAC Office:**

**ECORD Science Support & Advisory Committee**

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