

SPECIAL CALL FOR APPLICATIONS

(paleomagnetism and physical properties)

Expedition 393: South Atlantic Transect 2
7 June to 7 August 2022

DEADLINE to apply: 21 February 2022

The European Consortium for Ocean Research Drilling (ECORD) offers you the unique opportunity to sail on Expedition 393 on-board the JOIDES Resolution in the framework of the International Ocean Discovery Program (IODP), an international research program for drilling at sea.

South Atlantic Transect Expeditions 390 and 393 (IODP Proposals 853-Full2 and 853-Add) are a multidisciplinary and joint scientific drilling project that aims to recover complete sedimentary sections and ~200 m of oceanic crust at sites along a crustal age transect at ~31°S across the South Atlantic to (1) investigate the history of the low-temperature hydrothermal interactions between the aging ocean crust and the evolving South Atlantic Ocean; (2) quantify past hydrothermal contributions to global geochemical cycles; (3) investigate the sediment and basement-hosted microbial community in the low energy South Atlantic Gyre seafloor biosphere; and (4) investigate the response of subtropical biota and ocean circulation in the core of the global conveyor belt and the subtropical gyre in the South Atlantic Ocean as a result of the opening of the Drake Passage.

The South Atlantic Transect expeditions will target six primary sites on 7, 15, 31, 49, and 61 Ma ocean crust. The proposed transect, which follows a Mid-Atlantic Ridge crustal flow-line, will fill critical gaps in our sampling of intact in-situ ocean crust with regards to crustal age, spreading rate, and sediment thickness. The transect traverses the previously unexplored sediment- and basalt-hosted deep biosphere beneath the South Atlantic gyre, samples of which are essential to refine global biomass estimates and investigate microbial ecosystems' responses to variable conditions in a low energy gyre and aging ocean crust. The transect is located near World Ocean Circulation Experiment (WOCE) line A10, providing present-day carbonate chemistry and deep-water mass properties across the western South Atlantic for comparison to records of key Cenozoic intervals of elevated atmospheric CO₂ and rapid climate change. Reconstruction of the history of the deep western boundary current and deep-water formation in the Atlantic basins will yield crucial data to test hypotheses regarding the role of evolving thermohaline circulation patterns in climate change, and the effects of tectonic gateways and climate on ocean acidification.

General expedition information:

http://iodp.tamu.edu/scienceops/expeditions/south_atlantic_transect.html

Scientific Prospectus link: http://publications.iodp.org/scientific_prospectus/390_393/

Who Should Apply: We encourage applications from all qualified scientists (including graduate students) in **paleomagnetism** and **physical properties**.

The JOIDES Resolution Science Operator (JRSO) is committed to a policy of broad participation and inclusion, and to providing a safe and welcoming environment for all participants. Good working knowledge of the English language is required.

COVID-19 Protocol: The JRSO has created a protocol to safely operate during the COVID-19 pandemic. If pandemic conditions have not improved by early-mid 2022, one or both expeditions 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.pdf.

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@inogs.it) with the following additional documents by the deadline of **21 February 2022**:

- A letter of interest outlining your specific expertise, previous involvement in DSDP/ ODP/ IODP expeditions, research interests, primary research goals of your proposed participation.
- CV and publication list.
- 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.

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

ECORD Science Support & Advisory Committee

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