



## CALL FOR APPLICATIONS

# *JOIDES Resolution Expedition 402:* **Tyrrhenian Continent-Ocean Transition**

**9 February – 8 April 2024**

**DEADLINE to apply: 1 December 2022**

The **European Consortium for Ocean Research Drilling (ECORD)** offers you the unique opportunity to sail on Expedition 402 on-board the *JOIDES Resolution* in the framework of the International Ocean Discovery Program (IODP), an international research program for drilling at sea.

**Expedition 402** will investigate the temporal and spatial evolution of a continent-ocean transition (COT), from breakup to robust magmatism and subsequent mantle exhumation with closely time-related magmatism. The Tyrrhenian basin is the youngest basin of the Western Mediterranean, forming in the late Miocene to recent by continental extension related to rollback of the ESE-SE migrating Apennine subduction system. The basement of the Tyrrhenian basin has been dredged along bathymetric highs and the stratigraphy is reasonably well known from three prior drilling expeditions (DSHP Legs 13 and 42 and ODP Leg 107). Recent geophysical and seismic data support the presence of magmatic rocks formed during the early COT phase, and of subsequently exhumed mantle. The youth of the basin results in a modest sediment cover which facilitates sampling of the peridotitic and magmatic basement across the conjugated COT of the basin with unprecedented spatial resolution. Six sites are selected to core into the basement of the basin, followed by downhole logging. The recovered material and data will address the cruise objectives, which include the kinematics of the opening, the crust and mantle deformation mechanisms, and the relationship of melting products to the exhumed mantle.

The drilling program of Expedition 402 is designed to target six sites along a west-east and north-south transect. Drill cores will recover peridotitic basement at each site, followed by downhole logging. The recovered material and data will address the five primary scientific objectives:

- (1) Determine the kinematics and geometry in space and time of the extensional deformation in the basin.
- (2) Establish the timing and origin of the associated magmatism.
- (3) Establish the rheology, deformation patterns and timing of mantle exhumation.
- (4) Determine the compositional evolution and heterogeneity of the mantle source.
- (5) Test current models of continental lithosphere rifting and of COT formation.

For more information on Expeditions 402 refer to the Expedition website:

[https://iodp.tamu.edu/scienceops/expeditions/tyrrhenian\\_continent\\_ocean\\_transition.html](https://iodp.tamu.edu/scienceops/expeditions/tyrrhenian_continent_ocean_transition.html)

**WHO SHOULD APPLY:** We encourage applications from all qualified scientists. ECORD 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 all shipboard specialties, including micropaleontologists, sedimentologists, petrologists, igneous geochemists, inorganic and organic geochemists, microbiologists, paleomagnetists, physical properties specialists, and borehole geophysicists. 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 summer 2023, 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.pdf](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 form from the ESSAC webpage:

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

Please, fill out all applicable fields and send the form to the ESSAC office by email ([essac@ogs.it](mailto:essac@ogs.it)) with the following additional documents by the deadline of **1 December 2022**:

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.

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

**ECORD Science Support & Advisory Committee**

Angelo Camerlenghi (ESSAC Chair)

Hanno Kinkel (ESSAC Science Coordinator)

Istituto Nazionale di Oceanografia e di Geofisica Sperimentale - OGS

via Beirut n. 2

34151 Trieste - Italia

e-mail: [essac@ogs.it](mailto:essac@ogs.it)

website: [www.ecord.org](http://www.ecord.org)

