

CALL FOR APPLICATIONS

for scientists based in ECORD Member Countries to participate in
in *JOIDES* Resolution Expeditions

Application deadline: 15 October 2017

Amundsen Sea West Antarctic Ice Sheet History Expedition (379)

18 January to 20 March 2019

The West Antarctic Ice Sheet (WAIS) is largely marine-based, highly sensitive to climatic and oceanographic changes, has had a dynamic history over the last several million years, and if completely melted, could result in a global sea-level rise of 3.3-4.3 m. Expedition 379 will obtain records from the continental shelf and rise of the Amundsen Sea to document WAIS dynamics in an area unaffected by other ice sheets as well and that currently experiences the largest ice loss in Antarctica.

The primary objectives include (a) reconstructing the Paleogene to Holocene glacial history of West Antarctica, (b) correlating the Amundsen Sea WAIS-proximal records with global records of ice volume changes and air/seawater temperature proxy records, (c) constraining the relationship between incursions of warm water masses onto the continental shelf and the stability of marine-based ice sheet margins, and (d) reconstructing major WAIS advances onto the middle and outer shelf, including the first ice sheet expansion onto the continental shelf of the Amundsen Sea Embayment and its possible control by the uplift of Marie Byrd Land.

Iceberg Alley Paleooceanography and South Falkland Slope Drift Expedition (382)

20 March to ~20 May 2019

Expedition 382 aims to recover 600 m long Late Neogene sedimentary sequences from the Scotia Sea to reconstruct past variability in Antarctic Ice Sheet (AIS) mass loss, oceanic and atmospheric circulation and to provide the first spatially integrated record of variability in iceberg flux from Iceberg Alley, where a substantial number of Antarctic icebergs exit into the warmer Antarctic Circumpolar Current (ACC). This will (a) constrain iceberg flux during key times of AIS evolution since the Middle Miocene glacial intensification of the East Antarctic Ice Sheet, (b) provide material to determine regional sources of AIS mass loss, address interhemispheric phasing of ice-sheet and climate events, and the relation of AIS variability to sea level, (c) provide information on Drake Passage throughflow, meridional overturning in the Southern Ocean, water-mass changes, CO₂ transfer via wind-induced upwelling, sea-ice variability, bottom water outflow from the Weddell Sea, Antarctic weathering inputs, and changes in oceanic and atmospheric fronts in the vicinity of the ACC, and (d) provide dust proxy records to reconstruct changes in the Southern Hemisphere westerlies to evaluate climate-dust coupling since the Pliocene, its potential role in iron fertilization and atmospheric CO₂ drawdown during glacials. Expedition 382 will also core a sediment drift on the Falkland slope to obtain subantarctic multi-proxy intermediate water depth records of millennial to orbital scale variability in the ocean, atmosphere, nutrients, productivity and ice-sheet dynamics in the SW Atlantic through at least the last 1 Ma.

For more information about the expedition science objectives and the JOIDES Resolution Expedition Schedule see <http://iodp.tamu.edu/scienceops/> -

this includes links to the individual expedition web pages with the original IODP proposal and expedition planning information.

WHO SHOULD APPLY: Opportunities exist for researchers (including graduate students) in all shipboard specialties – including but not limited to sedimentologists, micropaleontologists, paleomagnetists, inorganic/organic geochemists, petrologists, petrophysicists, microbiologists, and borehole geophysicists.

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:

- Form Expedition 379: <http://www.ecord.org/expeditions/apply-to-sail/>
- Form Expedition 382: <http://www.ecord.org/expeditions/apply-to-sail/>

Please, fill out all applicable fields and send it to the ESSAC office by email (essac@geomar.de) with the following additional documents until **15 October 2017**:

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. **Young 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 the 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 a copy of the 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.

