

## CALL FOR APPLICATIONS

### Apply to participate in *JOIDES Resolution Expedition 400: NW Greenland Glaciated Margin*

12 August to 12 October 2023

The sea-level consequences of anthropogenic climate forcing hinge on how the polar ice sheets respond to global warming. If fully melted the Greenland Ice Sheet has the potential to raise sea-level by >7 m. We know very little of its long-term responses to past climate warming or its role in Earth's climate system. IODP Expedition 400 seeks to address current knowledge gaps in the evolution and variability of the northern Greenland Ice Sheet (NGrIS). The key science objectives are:

(1) to determine maximum and minimum NGrIS configurations during the Pleistocene, from shelf edge glaciation to hypothesized complete ice loss, e.g. during super-interglacials; (2) test the glacial response to  $p\text{CO}_2$  across the early ice house stage of the middle Cenozoic; (3) unravel NGrIS erosion history and sedimentary response across major transitions, e.g. Mid-Miocene Transition and Mid-Pleistocene Transition; and (4) reconstruct the Pliocene ocean circulation and northward heat advection through Baffin Bay and potential Arctic ocean gateways.

These objectives will be accomplished by transect-drilling at seven sites to depths of 300-1000 m across the northwest Greenland margin into Baffin Bay. The seven sites will provide a composite stratigraphic succession from Oligocene through the Quaternary. The key targets are: (a) a continuous Pleistocene succession representing a deep water channel-drift that forms the distal part of the Melville Bay Trough Mouth Fan; (b) multiple intervals of potential interglacial deposits preserved within intra-shelf depressions; (c) contourite deposits of likely Pliocene age, accessible below a thin glacial cover; and (d) a hemi-pelagic basin succession of likely Miocene age exposed by glacial erosion on the inner shelf. Downhole wireline logging is planned for several sites.

**For more information on the expedition science objectives and the *JOIDES Resolution* schedule** see <http://iodp.tamu.edu/scienceops/>. This page includes links to the individual expedition web pages with the original IODP proposals and expedition planning information.

**APPLICATION DEADLINE:** 1 June 2022

**WHO SHOULD APPLY:** 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 many shipboard specialties, including sedimentologists, biostratigraphers (microfossil and palynomorph), organic geochemists (including biomarkers and sedDNA), inorganic geochemists, microbiologists, physical properties specialists/borehole geophysicists (including downhole measurements and stratigraphic correlation), and paleomagnetists. We are especially interested in recruiting scientists keen to engage in multidisciplinary research. Good working knowledge of the English language is required.