

National Centre for Polar & Ocean Research (Ministry of Earth Sciences, Govt. of India) Headland Sada, Vasco-da-Gama, Goa - 403 804.



Invites Nominations from Scientists/Researchers for forthcoming IODP expedition

IODP-India invites nominations <u>in a prescribed format</u> along with detailed bio-data and research experience, from geoscientists/researchers working in established national institutions/organizations and universities, to participate in the forthcoming International Ocean Discovery Program (IODP) **Expedition 396: Mid-Norwegian Continental Margin Magmatism.** NCPOR will provide the requisite financial support to the selected candidates towards their participation in the said expedition. However, it will be the responsibility of the candidates to obtain the necessary Visas / permissions from the countries of embarkation and disembarkation on their own. A scientific plan is mandatory for a successful nomination.

Further details and format can be obtained at <u>www.ncpor.res.in</u> or by email to <u>iodp.india@ncpor.res.in</u>

Last date by which IODP- India/NCPOR receives nominations for 396 : 25th October. 2020.

For and on behalf of NCPOR Group Director (IODP-India)

Complete nominations may kindly be emailed to *iodp.india@ncpor.res.in*

Information on forthcoming IODP Expedition:

Expedition 396 (Mid-Norwegian Continental Margin Magmatism): 6 August to 6 October, 2021

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 hothouse and fresh water incursions into the Atlantic, and (2) carbon capture and storage in basalt provinces.



Important Notes:

- 1. For more information on IODP Expedition 396 please visit <u>www.iodp.org</u> and use the link iodp.tamu.edu/scienceops/
- 2. Applications in prescribed format available on the website <u>www.ncpor.res.in</u> shall be considered.

3. Last date by which IODP- India/ NCPOR receives nomination for IODP Expedition 396 : 25th October, 2020

4. A scientific plan is mandatory for a successful nomination. Once nominated candidates will have to submit a detailed science plan along with sample data request which may also form a basis for collaborative research programs between their host organization and NCPOR.