CALL FOR APPLICATIONS

For scientists based in ECORD Member Countries to participate in

IODP Expedition 365: NanTroSEIZE Shallow Megasplay Long-Term Borehole Monitoring System (LTBMS)

(26 March – 27 April 2016)

on board the Chikyu

DEADLINE to apply: 31 August 2015

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

The Center for Deep Earth Exploration, CDEX, currently plans to implement IODP Expedition 365: NanTroSEIZE Megasplay Borehole Observatory, beginning on 26 March 2016. The main expedition goal is to install instruments for long-term monitoring of formation pore pressure, temperature, strain, tilt, and seismicity in (non-riser) Hole C0010A.

IODP NanTroSEIZE Complex Drilling Project

The IODP Complex Drilling Project (CDP), known as the Nankai Trough Seismogenic Zone Experiment (NanTroSEIZE) Project, comprises multiple expeditions over a multi-year period aimed at sampling and instrumenting the up-dip edge of the subduction seismogenic zone. Hole C0010A was previously drilled during IODP Expedition 319 as part of a planned array of observatories along the NanTroSEIZE transect. A long-term borehole monitoring system (LTBMS) will be deployed in the cased hole, which intersects the shallow up dip terminus of the megasplay fault at ~400 mbsf. Expedition 365 will follow current IODP guidelines for designation of co-chief scientists, scientific staffing, and will follow the IODP Sample, Data and Obligations Policy, which defines data moratorium, data access and publication responsibilities.

Scientific Objectives of the expedition

The Expedition 365 goals are to:

1. Recover a set of temporary monitoring and geochemical sampling instruments from Hole C0010A that were emplaced in December 2010 at the same level as casing screens spanning the megasplay fault as part of IODP Expedition 332,
2. Drill out the cement at the casing shoe and deepen the hole to ~656 mbsf, and
3. Install a permanent LTBMS that includes geodynamic, hydrologic, and thermal monitoring equipment.

Hole C0010A currently contains a suite of temporary monitoring and sampling instruments termed the “GeniusPlug”, which will be recovered before the permanent observatory is installed. The GeniusPlug includes: sensors monitoring seafloor and formation pressures at 1 min sampling rate; four independent temperature sensors monitoring the fault zone; an osmotic fluid sampling coil (OsmoSampler) that is collecting pore fluids from the fault zone for geochemical analysis; and a flow-through osmotic colonization system for microbiological study.

The planned permanent observatory (LTBMS) consists of an array of sensors designed to monitor slow crustal deformation (e.g., strain, tilt, and pore pressure as a proxy for strain), seismic events including very low frequency earthquakes, hydrologic transients associated with strain events, ambient pore pressure, and temperature. To ensure the long-term and continuous monitoring necessary to capture events occurring over a wide range of timescales, this borehole observatory will be connected to submarine cabled observation network called DONET (http://www.jamstec.go.jp/jamstec-e/maritec/donet), which is currently deployed in and around the NanTroSEIZE study area, and with a node in close proximity to Hole C0010A.

Expedition Schedule

Expedition 365 is tentatively planned for ~30 days of offshore operations, beginning on 26 March 2016, and finishing 27 April. The science party will stay on board for recovery of the GeniusPlug, deepening of the existing hole, and the LTBMS deployment. There will be a short 3-4 day shore-based "writing party" to complete the expedition reports. Updates and the latest information on this expedition will be posted on the J-DESC website: http://j-desc.org/eng/iodp-2/365-nantroltbms

Science Party

Specialties that will be required for the shipboard science party include ***organic and inorganic geochemistry, microbiology, hydrogeology, and observatory scientists.***

Data Sharing

All data collected from the GeniusPlug will be shared between the shipboard science party and the 3rd Party GeniusPlug PI's. The LTBMS data will be publicly shared once it is connected to the DONET network.

The Application Process is open to all ECORD member scientists: Please, download the Apply to Sail general application form from the ESSAC webpage: http://www.essac.ecord.org/flyer/Apply_to_sail_webform_365.doc

Please, fill out all applicable fields and send it as a word document to the ESSAC office by email (essac.office@erdw.ethz.ch) with the following additional documents:

- 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.
- Young researchers must additionally provide a letter of support from their host institution including information on post-cruise science support.

All applications should include 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.essac.ecord.org/flyer/Guidelines_for_Applying_to_sail.pdf

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.essac.ecord.org/index.php?mod=about&page=ESSAC for a list of the national contact persons.

For further information or questions please contact the ESSAC Office:

ECORD Science Support & Advisory Committee
Gretchen Früh-Green (ESSAC Chair)
Julia Gutierrez-Pastor (ESSAC Science Coordinator)
ETH Zurich, Institute of Geochemistry and Petrology
Email: essac.office@erdw.ethz.ch http://www.essac.ecord.org/
Clausiusstrasse 25, NW E 84.2
CH-8092 Zurich, Switzerland
Tel: +41 44 632 8462; +41 44 632 3794
Fax: +41 44 632 1636