



CALL
for scientists based in Europe and Canada
EXP 331 -DEEP HOT BIOSPHERE-
with the Chikyu drilling vessel
(September 01 – October 03, 2010)



DEADLINE
June 20, 2010

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

Scientific Aims CDEX plans to implement Expedition 331 -DEEP HOT BIOSPHERE- in Okinawa Trough during FY10. The plan consists of drilling two sites on hydrothermal mounds, to 50 mbsf. These mounds are around 30 m tall with top diameters around 10 m, likely consisting of massive deposits of metal sulfides and sulfates. In addition, deeper holes (TD 100 mbsf) are planned in a local discharge-recharge zone.

For the mound sites, we will be coring to 50 mbsf or refusal, using an industry-standard coring system (4-inch diameter cores, aluminum core liner) with a 30 m pipe stack. For the other site, coring operations consist of HPCS to refusal. For all cored sites, adjacent holes will be drilled with the industry system and cased for future monitoring. Measurement strategy includes the standard IODP measurements. Due to expected hole stability issues, neither logging nor downhole measurement will take place.

Science Objectives The goal of IODP Exp 331 is to directly sample hydrothermally active mounds in the Okinawa Trough, with the aim of obtaining direct evidence for a functionally active, metabolically diverse subvent biosphere in relation to these mounds. If such a deep biosphere is found, further goals include clarification of the architecture, and function and impact of such active seafloor microbial ecosystems. To these ends we seek to characterize variations in biomass, diversity, structure and function of microbial communities laterally and with depth. Also, we seek to characterize the vertical and horizontal extent as well as compositional and isotopic variability of fluid and mineral chemistry, which may be influenced by microbial and hydrothermal activity.

The science contingency plans include coring at a second discharge-recharge zone site, a drilled and cased hole adjacent to that site, as well as coring at alternative mound sites if the primary sites are unsuitable.

Scientific Background A scientific prospectus will be available soon. Please check our website <http://www.essac.ecord.org/> and RSS News feeds <http://www.essac.ecord.org/index.php?mod=education&page=rss>.

Timing The expedition is scheduled to commence by 01 September 2010. However, the exact schedule including details of expedition operations, is liable to change at short notice, a situation which we are sure complicates your own arrangements. We will update you regularly on the progress and status of expedition planning and in the meantime please do not hesitate to contact us with any questions you may have.

Application Process Scientists interested in participating, please consult the ESSAC webpage <http://www.essac.ecord.org/index.php?mod=user>.

Required documents (PDF only) are: **1)** a CV **2)** a letter of interest including your specific expertise, previous involvement in DSDP/ ODP/ IODP expeditions, research interest **3)** a publication list.

Young researchers must additionally provide a letter of support from their host institution including information on the post-cruise science support: How to achieve the proposed scientific objectives in the future (funding scheme and support from host institution).

Please send a copy of your application documents to your national office/delegate in order they can help to support your application, see <http://www.essac.ecord.org/index.php?mod=about&page=ESSAC>.



For further information or questions please contact:

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