



IODP
INTERNATIONAL OCEAN
DISCOVERY PROGRAM

ECORD
Science Operator

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CALL FOR APPLICATIONS

IODP Expedition 364: Chicxulub Impact Crater A Joint IODP-ICDP Mission Specific Platform Expedition

Organised by the
ECORD Science Operator (ESO)

The European Consortium for Ocean Research Drilling (ECORD) Science Support and Advisory Committee (ESSAC) is accepting applications from scientists in ECORD member countries to join the Science Party for **IODP Expedition 364: Chicxulub Impact Crater**. **DEADLINE to apply: 8 May 2015**

Background and objectives: IODP Expedition 364 will address several questions related to large impact crater formation on Earth and other planets, and the effects of large impacts on the Earth's environment and ecology. The expedition target is the unique Chicxulub impact crater, Mexico, which is the only known terrestrial impact structure that has been directly linked to a mass extinction event (the K-Pg mass extinction). Of the three largest impact structures on Earth, it is the best-preserved, and is the only terrestrial crater with a global ejecta layer. Additionally, it is the only known terrestrial impact structure with an unequivocal topographic "peak ring."

This expedition aims to drill and core into the Chicxulub impact structure to recover cores from, and above, the peak ring. The target of drilling will be a single 1500 m deep borehole at a site about 30km northwest of Progreso, Mexico, on the Yucatan shelf, Gulf of Mexico. This expedition aims to address several questions, including: 1) what rocks comprise a topographic peak ring and how are peak rings formed; 2) how are rocks weakened during large impacts to allow them to collapse and form relatively wide, flat craters; 3) what caused the environmental changes that led to a mass extinction and what insights arise from biologic recovery in the Paleogene; and 4) what effect does a large impact have on the deep subsurface biosphere and can impacts generate habitats for chemosynthetic life?

The Co-chief Scientists for this Expedition are Prof. Joanna Morgan, Earth Science and Engineering, Imperial College London, UK, and Prof. Sean Gulick, Institute for Geophysics, the University of Texas at Austin, USA.

Expedition Information: <http://www.eso.ecord.org/expeditions/364/364.php>.

Timing: It is anticipated that the offshore phase of the expedition will last up to 70 days in the period April to June 2016 (exact duration and dates to be confirmed), with only a subset of the Science Party participating. Offshore activities will focus on core recovery, curation, sampling for ephemeral properties including microbiological sampling, and downhole logging. The cores will not be split at sea. Please see <http://www.eso.ecord.org/expeditions/msp.php>.

Subsequently, an Onshore Science Party (OSP) will be held at the MARUM, University of Bremen, in Summer/Fall 2016 (exact dates to be confirmed), where the cores will be split, described and sampled. The OSP is expected to be up to 4 weeks long, the exact length dependent on core

recovery. All members of the Science Party must attend for the whole duration of the Onshore Science Party. Please see <http://www.eso.ecord.org/expeditions/osp.php>. Successful applicants will be invited either as an offshore-onshore participant, or as an onshore-only participant.

Expertise sought: While other expertise may be considered, specialists in the following fields are required: paleontology, sedimentology, microbiology, organic geochemistry, inorganic geochemistry, structural geology, impact petrology, metamorphic petrology, paleomagnetism, physical properties, geophysics and petrophysics/downhole logging.

Information webinar: To learn more about the scientific objectives of this expedition, life at sea, and how to apply to sail, please join us for a web-based seminar on **Tuesday 21st April 2015** at 2pm BST (1pm GMT).

To participate in the webinar, you will need access to the internet with a computer equipped with a microphone and speaker. To register, please visit <https://www.surveymonkey.com/s/IODP364>.

Application Process for all ECORD member scientists: *Please send the ESSAC Office by email (essac.office@erdw.ethz.ch) the following documents:*

The Apply to Sail general information form, which should be downloaded from the ESSAC webpage http://www.essac.ecord.org/flyer/Apply_to_sail_webform_364.doc

- Please fill out all applicable fields (word file);
- A letter of interest outlining your specific expertise, previous involvement in DSDP/ ODP/ IODP expeditions, research interests, primary research goals of your proposed participation, and funding scheme/support from your institution or national funding agencies (pdf);
- CV and publication list (pdf).

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

In addition to the ESSAC application, all applicants *are required to inform their national office/ delegate* and send a copy of the application documents. The national offices/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 national contact information.

Applications should reach the ESSAC Office no later than **8 May 2015**; shortlisted candidates will be considered by ESO in June 2015.

How to apply for Non-ECORD scientists: please visit your IODP Program Member Offices websites <http://www.iodp.org/program-member-offices>

For further details from ESO, please contact: David McInroy, ESO Science Manager, dbm@bgs.ac.uk

ESSAC Office:

essac.office@erdw.ethz.ch <http://www.essac.ecord.org/>

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