Issue 11, 23 December, 2015

Australia and New Zealand form the Australia-New Zealand IODP Consortium (ANZIC), and the two countries have access to all IODP activities. This bulletin provides current news, job opportunities, scholarships and events relating to both national and international scientific communities.

For more information contact:
Website: www.iodp.org.au
Website: drill.gns.cri.nz

Wishing all our members and supporters a

MERRY CHRISTMAS

AND A HAPPY NEW YEAR.

News from the ANZIC Office

This has been a very good year for ANZIC and we look forward to drilling in our region for several years, in exciting expeditions largely inspired by Australians and New Zealanders, and in which we will be well represented. Many thanks to all of you who have contributed to this success.

Remember that there will be an IODP Session and Booth at the Australian Earth Sciences Convention in Adelaide from 26 to 30 June next year, convened by Neville Exon and Richard Arculus. Abstract submissions opened on November 3 and close on February 15, so please get one in soon. Early bird registrations close on 15 April, after you will have heard about your abstract. This is our major chance to report to the geoscience community on the various IODP expeditions of the recent past and plans for the future. We already have two excellent Keynote Speakers from overseas: Brad Clement talking about the *JOIDES Resolution* program, and Jamie Austin (IODP Forum chair) talking about IODP's future plans.

Shipboard scientists' opportunity: In the Bulletin of 21st October (check application arrangements there) we called for applications for *JOIDES Resolution* South China Sea Rifted Margin Expeditions 367 & 368, which aim to understand the mechanisms of lithosphere extension during continental breakup at a non-volcanic rifted margin. Our deadline for applications is 15th January, so potential applicants should be thinking about applying soon. The two-month expeditions will be in the periods 7 February - 9 April 2017 and 9 April - 9 June 2017. Opportunities exist for researchers (including graduate students) in many specialities – one on each expedition.

The *JOIDES Resolution* Southwest Indian Ridge Moho Expedition 360 departed from Colombo on 30 November and headed westward for the long transit at about 11 knots; the first core was on deck on 20 December. Mark Kendrick of ANU is aboard as an igneous petrologist. This is the first leg of the SloMo Project, which seeks to use a tectonic window into the lower crust to recover the full lower section of the ocean crust, core through the igneous crust–mantle transition, determine if Moho represents a serpentinization front and, ultimately, core through the Moho (~5.5 km at an ultraslow-spreading ocean ridge). SloMo has two phases. Phase I (two *JOIDES Resolution* expeditions) will drill 3 km deep to reach the crust–mantle transition zone. Expedition 360 will need to properly establish the borehole for Leg 2 and thereafter drill as deep as possible. Given optimal conditions, a depth of at least 1300 m below sea floor, with continuous coring, should be achievable. There are four education and outreach personnel aboard the ship and their reports can be seen on http://www.joidesresolution.org/.

The *JOIDES Resolution* Western Pacific Warm Pool Expedition 363 is now finalizing its shipboard scientific group for the period October-November 2016. Brad Opdyke of ANU will be sailing as a sedimentologist, and we expect to have another Australian aboard. The expedition aims to understand the interaction between climate and the WPWP from the middle Miocene to Holocene. A series of sites will be drilled in the western equatorial Pacific and eastern Indian Ocean to investigate (1) the role and response of the WPWP to millennial climate variability during the late Quaternary, (2) changes in the WPWP and relation to monsoon activity on orbital timescales during the Pliocene-Pleistocene, (3) changes in the Indonesian Throughflow during the Pliocene-Pleistocene, and (4) the long-term evolution of WPWP sea surface (SST) and intermediate water temperatures (IWT) and water chemistry since the middle Miocene.

A book celebrating ANZIC's achievements in the first phase of IODP is well advanced, and the plan is to print it and put it up on the web in February/March. Its title is *Exploring the Earth under the Sea* with the subtitle *Australian and New Zealand achievements in the first phase of IODP Scientific Ocean Drilling, 2008-2013*. It follows the lead provided by the excellent *Full Fathom Five: 15 years of Australian involvement in the Ocean Drilling Program*, published by the Australian ODP Secretariat in 2003. Virtually all sections have now been written by Neville Exon and many others, and edited by professional editor Michelle Burgess. It will be a high-quality legacy document, perhaps 100 pages long, interesting reading for people with a scientific background, with some exciting science and personal anecdotes covered in special sections within it. A valuable inclusion is a bibliography of all major publications arising from all the shipboard and science party scientists, listed by expedition, until the end of 2013, up-to-date to the end of 2015.

We wish you all a very Happy Christmas and a most enjoyable 2016!

Neville Exon and Catherine Beasley

Senior Research Scientist - Geo/thermochronology & Sedimentary Petrology

The Position

CSIRO Energy has established a world-class argon geo/thermochronology facility with a focus on illite dating directed primarily at petroleum exploration activities. The laboratory has state of the art clay separation and characterisation facilities combined with modern mass spectrometers. CSIRO is seeking an innovative research scientist to lead the laboratory and undertake strategic and applied research relevant to petroleum exploration and appraisal for both conventional and unconventional resources. The candidate is expected to have expertise in in K-Ar geo/thermochronology and sedimentary petrology with an emphasis on diagenesis and clay mineralogy.

As a senior research scientist you will be engaging and participating in government-funded and industry funded projects largely occurring within CSIRO Energy. You will work as part of a team, involving inorganic and organic geochemistry/petrology and microbiology, interact with industry, and you will play a key part in the integration and delivery of the science into both focussed geo/thermochronology studies and larger, multidisciplinary projects.

https://jobs.csiro.au/job/Perth%2C-WA-Senior-Research-Scientist-Geothermochronology-&-Sedimentary-Petrology/312533600/

Postdoctoral Fellowship - Indo-Pacific climate variability in a changing climate

The Position

CSIRO offers PhD graduates an opportunity to launch their scientific careers through our Postdoctoral Fellowships Scheme. Successful applicants will work with leaders in a field of science and receive personal development and learning opportunities.

CSIRO Postdoctoral Fellows are appointed for up to three years and will work closely with a leading Research Scientist or Engineer in their respective field. They carry out innovative, impactful research of strategic importance to CSIRO with the possibility of novel and important scientific outcomes. They present the findings in appropriate publications and at conferences.

The successful candidate will examine how tropical variability will change under greenhouse warming. What are the mechanisms for interactions between extreme positive Indian Ocean Dipole (IOD) and extreme El Niño, and how it may respond to greenhouse warming?

https://jobs.csiro.au/job/Melbourne%2C-VIC-Postdoctoral-Fellowship-in-Indo-Pacific-climate-variability-in-a-changing-climat/311104600/