



First results of the Baltic Sea Expedition

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*ISOLAT and DREAM II Workshops
IODP Proposal ACEX-2 in the Central Arctic
ECORD Medalists at EGU 2014
A new science plan for ICDP*

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The International Ocean Discovery Program (IODP) is an international research programme dedicated to advancing scientific understanding of the Earth through drilling, coring, and monitoring the sub-seafloor. The European Consortium for Ocean Research Drilling (ECORD) supports the participation of European, Canadian and Israeli scientific communities in IODP and provides funding for the implementation of mission-specific platforms expeditions. ECORD is funded by Austria, Belgium, Canada, Denmark, Finland, France, Germany, Iceland, Ireland, Italy, Israel, The Netherlands, Norway, Poland, Portugal, Sweden, Switzerland and The United Kingdom.

IODP is supported by the US National Science Foundation (NSF); Japan's Ministry of Education, Culture, Sports, Science, and Technology (MEXT); the European Consortium for Ocean Research Drilling (ECORD); the Australia-New Zealand IODP Consortium (ANZIC); India's Ministry of Earth Sciences; the People's Republic of China (Ministry of Science and Technology); the Korea Institute of Geoscience and Mineral Resources (KIGAM); and Brazil's Ministry of Education (CAPES).

For more information, visit www.iodp.org.

The ECORD Newsletter is prepared twice a year by the ECORD Outreach and Education Task Force and is published by the ECORD Managing Agency, CRPG-CNRS, BP 20, 5400 Vandoeuvre lès Nancy, France.

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Electronic copy of the ECORD Newsletter is available online at

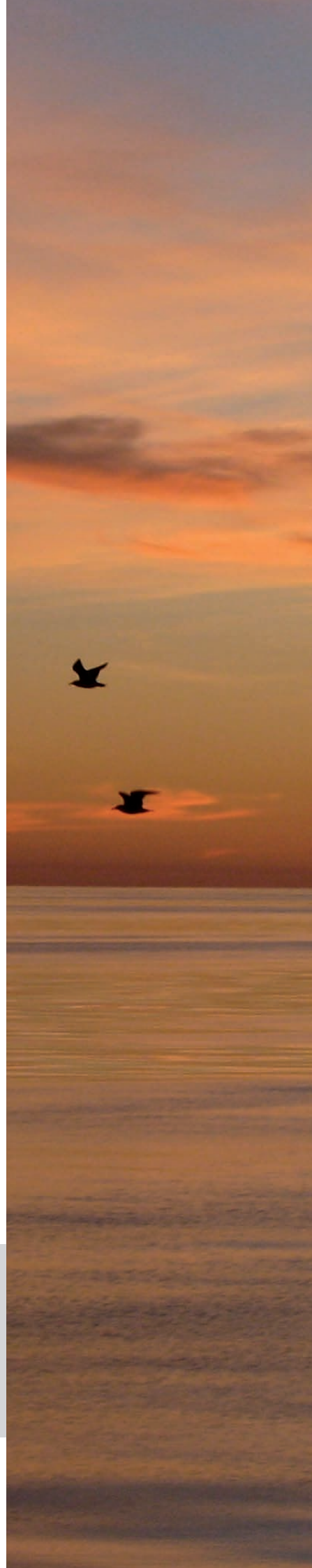
<http://www.ecord.org/pub/nl.html>

Printed by Vagner Graphic in France

Dépôt légal avril 2014 - ISSN 2264-1556

Thanks to all authors and contributors who helped prepare this issue.

Cover: *Outi Hyttinen, University of Oulu, Finland, describes the cores during the Onshore Science Party of Expedition 347 Baltic Sea Paleoenvironment (A. Gerdes ©ECORD/IODP). Photo right: M. Mowat ©ECORD/IODP.*





Gilbert Camoin

An overview of ECORD



Guido Lüniger

The recently published ECORD Annual Report for 2013 highlights the various ECORD activities during a very productive year characterised by the start of the International Ocean Discovery Program (IODP) on 1st October 2013, the successful completion of the fifth mission-specific platform (MSP) Expedition 347 Baltic Sea Paleoenvironment, the participation of sixty-four ECORD scientists in the various IODP expeditions, and the highest contribution of ECORD scientists to IODP proposals ever recorded.

ECORD as an IODP Platform Provider

With the exception of Iceland who will withdraw in 2015 and Spain, all previous member countries have confirmed their participation in ECORD, most for a minimum of five years, or a minimum of three years for the others. The renewal of ECORD's funding for the second part of the programme after FY2018 will be secured on the basis of ECORD's achievements during the first five years. An external evaluation of ECORD activities will be organised within the next three years.

All of the new ECORD entities, the ECORD Facility Board, the ECORD Industry Liaison Panel, the ECORD Vision Task Force and the ECORD Outreach and Education Task Force are now working routinely. As of November 2013, ECORD Council and ESSAC will meet together once a year and the next meeting is scheduled in early October 2014 in Zurich, Switzerland. The ECORD Executive Bureau, in which all ECORD entities are represented, acts as an executive entity during the period between Council meetings.

At the start of the new IODP, ECORD's budget is USD 19 M, a slight decrease (5 to 9 %) compared to the last years of the previous programme. The total ECORD contribution to the Integrated Ocean Drilling Program was USD 173 M, an average of USD 17.3 M per year. At the end of December 2013 the ECORD budget showed a positive balance of USD 1.6 M.

With an annual budget of USD 7.1 M for MSP operations (38% of the ECORD budget, in addition to fixed operational costs of USD 2.5 M), ECORD has



demonstrated its commitment to achieving its major objective to deliver an average of one MSP expedition a year for IODP. This will be achieved by balancing the numbers of low, medium, and high-cost expeditions and by attracting in-kind contributions and external co-funding whenever possible to provide additional funding to support MSP expeditions. The MSP operational budget is therefore significantly higher (38 to 57% increase) than during the previous programme when funds had to be accumulated over several years and carried forward to implement MSP operations.

The possible expansion of the Consortium is foreseen through ongoing discussions with Russia and preliminary contacts with the Czech Republic and Luxembourg. A second visit by an ECORD delegation to Saint Petersburg, Russia, is planned in September 2014.

The number of MSP proposals in the IODP evaluation and operational structures has never been so high and their diversity in terms of science topics (climate and sea-level change, geohazards, hydrogeology, deep biosphere, ocean crust) and geographical distribution demonstrate the great success of the MSP concept. The exploration of polar regions, largely unknown and unsampled, remains a high priority for ECORD in the new IODP. Following the implementation of the Atlantis Massif expedition in late 2015, two "low-cost" MSP expeditions

(e.g. seabed drilling, long-piston coring) are being considered for scheduling in 2016 and 2017, before the possible implementation of an Arctic MSP expedition in 2018, which will complete the MSP operational plans for the first five first years of the new phase of IODP.

ECORD as an IODP partner

The agreements between ECORD and its partners, the USA (NSF) and their associate members, and Japan (JAMSTEC and MEXT), are summarised in two distinct Memoranda of Understanding (MoU). The agreements are based on a combination of significant co-funding along with berth exchanges to provide access to the *JOIDES Resolution (JR)* and the *Chikyu* for ECORD scientists and access to MSP expeditions for scientists from our partner countries. The ECORD-JAMSTEC MoU was signed on 17th February 2014 in Tokyo ([page 4](#)), while the ECORD-NSF MoU should be signed in late spring 2014. ECORD's direct co-funding of the US and Japanese IODP platforms will amount to USD 8 M (42% of the ECORD budget).

We expect that there will be a significant increase in the overall numbers of ECORD berths in the new programme based on the projected berths on all platforms, and the significant number of additional berths provided to ECORD Co-chief Scientists, which will not count towards the berth quotas.

ECORD as a collaborating entity

In addition to its participation in science conferences and meetings organised by potential partner programmes (e.g. the International Continental Scientific Drilling Program - ICDP, International Marine Past Global Changes Studies - IMAGES, Iceland Geosurvey-ÍSOR) and initiatives (European Multidisciplinary Seafloor Observation-EMSO), ECORD has developed close collaboration with their individual member institutes to work towards the establishment of a Distributed European Infrastructure for Subseafloor Sampling and Monitoring (DEISM). European organisations lead the development, innovation and potential commercialisation of many cutting-edge technologies for sub-seafloor investigations, which require further integration, co-

ordination and development to maximise their use. A proposal co-ordinated by the British Geological Survey will be submitted later this year in the frame of the EC Integrated Infrastructure Initiative (*page 7*), which is based on two pre-proposals that were submitted in 2012: the initial DEISM pre-proposal by ECORD and the Distributed European Drilling Infrastructure (DEDI) proposed by the Deep-Sea and Sub-Seafloor Frontiers Initiative (DS3F). The overall objectives of the combined proposal are to integrate and share existing technological resources across Europe, to open up the provision of services (*e.g.* science, education and outreach, data management and legacy issues) to the European science community, and to enhance collaboration in the development of innovative technologies for investigating sub-seafloor environments.

ECORD as an outreach and educational entity

The transfer of full responsibility for outreach and educational activities to the Platform Providers since the start of the International

Ocean Discovery Programme last October has provided more flexibility, but has also presented new challenges. The Outreach and Education Task Force has proposed that ECORD increases its presence at major international conferences in 2014, to raise its profile at both the EGU conference in Vienna, Austria and the AGU Fall Meeting in San Francisco, USA. The Task Force will also target more specialised conferences such as the International Sedimentological Congress (ISC) in Geneva, Switzerland. Future conferences at which ECORD propose to have a booth in 2015 include the Goldschmidt Conference in Prague, Czech Republic and the next 3PARctic Conference in St Petersburg, Russia. Several of these events will be jointly organised with ICDP, strengthening the ties between the two scientific drilling programmes.

By increasing its array of activities, ECORD aims to be at the cutting edge of IODP's outreach and education objectives: the ECORD-ICDP MagellanPlus Workshop Series Programme (3 workshops in 2013),

the Distinguished Lecturer Programme (17 universities visited in ECORD countries in 2013), and activities aimed at training the next generation of ECORD scientists such as the ECORD Summer Schools (2 summer schools organised in 2013), the ECORD Scholarships (20 students granted in 2013), as well as the ECORD Research Grants (9 projects funded in 2013). ECORD recently opened its educational programme to its IODP partners with the aim of increasing these activities and creating privileged relationships with other IODP member countries.

At the end of the first six months of the International Ocean Discovery Program, it is satisfying to observe that ECORD has benefited from the opportunities offered by the new programme to develop its scientific, operational, collaborative and educational activities with the promise of a bright future.

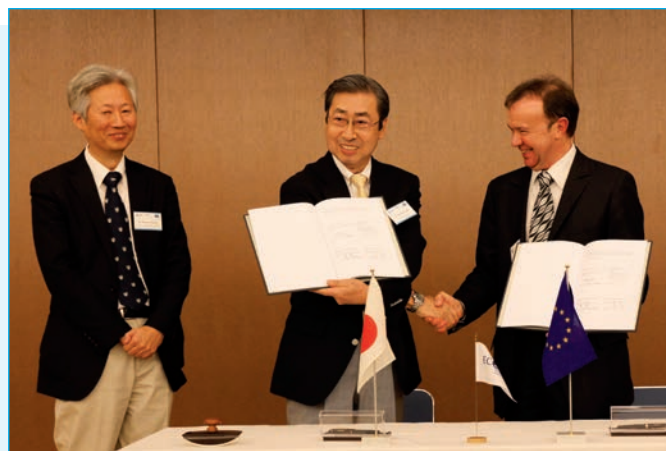
Gilbert Camoin, Director of the ECORD Managing Agency, and Guido Lüniger, Chair of the ECORD Council

The **ECORD-JAMSTEC Memorandum of Understanding (MoU)** was officially signed by Dr A. Taira, JAMSTEC President and Dr G. Camoin, EMA Director (*right*), on 17th February 2014 at the Delegation of the European Union to Japan in Tokyo in the presence of the European Union Ambassador in Japan.

After opening remarks by Dr Taira and a welcoming address by the EU Ambassador, JAMSTEC and the *Chikyū* programme were introduced by Dr W. Azuma, Director General CDEX/JAMSTEC, and ECORD and the MSP programme by Dr G. Lüniger, ECORD Council Chair, and Dr G. Camoin, ECORD Managing Agency Director. Two science talks were given by Dr F. Inagaki (JAMSTEC) and Dr G. Camoin on Expeditions 337 Shimokita Deep Coalbed Biosphere and 310 Tahiti Sea Level respectively. A reception closed this significant day with several congratulatory speeches given by Dr B. Rhode, EU Science & Technology Section Head, Dr H. Hotta, JAMSTEC Executive Director, Dr. K. Suyehiro, Former IODP President, Dr H. Kinoshita, J-DESC and Dr G. Camoin.

The MoU summarises the agreement between ECORD and JAMSTEC concerning the combination of significant co-funding along with berth exchanges to provide access to the *Chikyū* for ECORD scientists and access to MSP expeditions for Japanese scientists.

As a result of the MoU, ECORD is now a Regular Member of the *Chikyū* programme under IODP by providing an annual contribution during the period from 1st October 2013 - 30th



From left to right, Dr Wataru Azuma (CDEX/JAMSTEC), Dr Asabiko Taira (JAMSTEC) and Dr Gilbert Camoin (EMA).

September 2023. The level of funding is defined each year by the ECORD Council, within the limits of available funds, with an agreed minimum contribution of USD 1 M.

ECORD will receive an allocation of 1.5 berths on each *Chikyū* expedition while four Japanese scientists are entitled to sail on each MSP expedition. In addition, several scientists may be added to each science party through consultations between ECORD and JAMSTEC at the actual implementation stage of each expedition.

ECORD could also consider funding the *Chikyū* programme under IODP on a project basis in European/Canadian waters with an order of USD 10 M for the whole expedition.



Karsten Gohl

News from the ECORD Facility Board

The ECORD Facility Board (EFB) held its annual meeting on 5th - 6th March 2014 in Bremen, Germany, to decide on the scheduling of MSP expeditions for the next 4 years. Five proposals had been forwarded to the EFB by the Proposal Evaluation Panel (PEP) at the 2013 meeting: 548 (Chicxulub Crater), 581 (Coralgal Banks), 637 (New England Hydrogeology), 716 (Hawaiian Drowned Reefs), and 758 (Atlantis Massif) (*table below*). This year the EFB were provided with more detailed information on ECORD's budget constraints and the cost estimates for each expedition, which allowed the EFB to reconsider these five proposals and also two new proposals, 708 (Arctic Paleoclimate), 813 (Antarctic Paleoclimate), forwarded by the Science Evaluation Panel (SEP) (*table below*).

#	Short title	Lead Proponent	Area
548	Chicxulub Crater	Morgan	G. of Mexico
581	Coralgal Banks	Droxler	G. of Mexico
637	New England Hydrogeology	Person	N Atlantic
716	Hawaiian Drowned Reefs	Webster	Pacific
758	Atlantis Massif	Früh-Green	N Atlantic
708	Arctic Paleocyanography	Stein	Lomonosov Ridge
813	Antarctic Paleoclimate	Williams	George V Land shelf

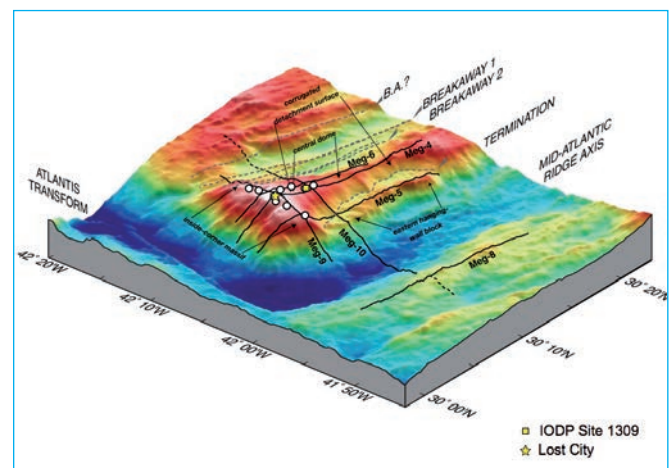
List of proposals considered for scheduling at the EFB meeting in March 2014 - <http://www.iodp.org/active-proposals>.

Given the current ECORD budget and the expected projection until 2018, the EFB developed a strategy for scheduling for the first 5 years of the current IODP phase based on categorising each expedition into low, medium and high-cost categories. The budget constraints allowed the EFB to recommend the scheduling of one high-cost drilling expedition within the first 5-year operational plan. Taking into account that drilling in the Arctic Ocean is a high priority for ECORD, as expressed in the ECORD Memorandum of Understanding and in documents such as "The Future of ECORD: 2013-2023" - <http://www.ecord.org/pub/brochure.html>, and that such an expedition is expected to be in the high-cost category, the EFB recommended the scheduling of an Arctic expedition in 2018, or in 2017 if the budget permits. The decision on whether the EFB will schedule Proposal 708, or another Arctic proposal if successfully evaluated and reviewed, will likely be made at its next meeting in March 2015.

Only the less expensive expeditions in the low to medium category (*e.g.* with seabed-drilling systems or long-piston coring) are likely to be scheduled for the years from 2015 to 2018. The EFB therefore decided to recommend the scheduling of a **seabed-drilling expedition to Atlantis Massif in 2015**. In 2016, it is likely that a low-cost expedition can be scheduled and possibly

another in 2017. The expeditions that will be recommended will depend on ECORD's priorities and the maturity of proposals, as well as the availability of seabed-drilling systems and suitable research vessels to operate these systems. The EFB could not recommend a specific schedule of low-cost expeditions beyond 2015.

Having completed the Onshore Science Party of MSP Expedition 347 Baltic Sea Paleoenvironment in February this year, ESO is now implementing the Atlantis Massif expedition to the central North Atlantic Ocean for the second half of 2015.



Three-dimensional representation of the Atlantis Massif with locations of proposed drillsites relative to seismic reflection profiles, the LCHF and IODP Site 1309 (modified from Canales et al., 2004). Serpentinites are the dominant rock type along the southern wall (target by the E-W transect of proposed holes), whereas gabbroic rocks make up the central dome (target of the N-S transect).

The expedition aims to drill targets that address the objectives of MSP Proposal 758 "Serpentinization and life: Biogeochemical and tectono-magmatic processes in young mafic and ultramafic seafloor" by G. Früh-Green and Co-proponents - <http://www.ecord.org/pub/newsletter20.pdf>. The Atlantis Massif (*above*) is an oceanic core complex near the Mid-Atlantic Ridge and the Atlantis Fracture Zone in proximity to the serpentinite-hosted, so-called Lost City Hydrothermal Field (LCHF). Exploring the subsurface biosphere and its link to serpentinisation, deformation and alteration processes in lithosphere of different age and rock type will be the main goal of this expedition. Up to 10 holes with penetration up to 70 m are being planned, using the seabed drilling device MeBo, and possibly RockDrill 2, from a research vessel.

Karsten Gohl, Chair of the ECORD Facility Board
<http://www.ecord.org/ecord-fb.html>

Reference

- Canales et al. (2004). EPSL, 222, 543-560



David McInroy



Sarah Davies

ECORD Science Operator News



Ursula Röhl



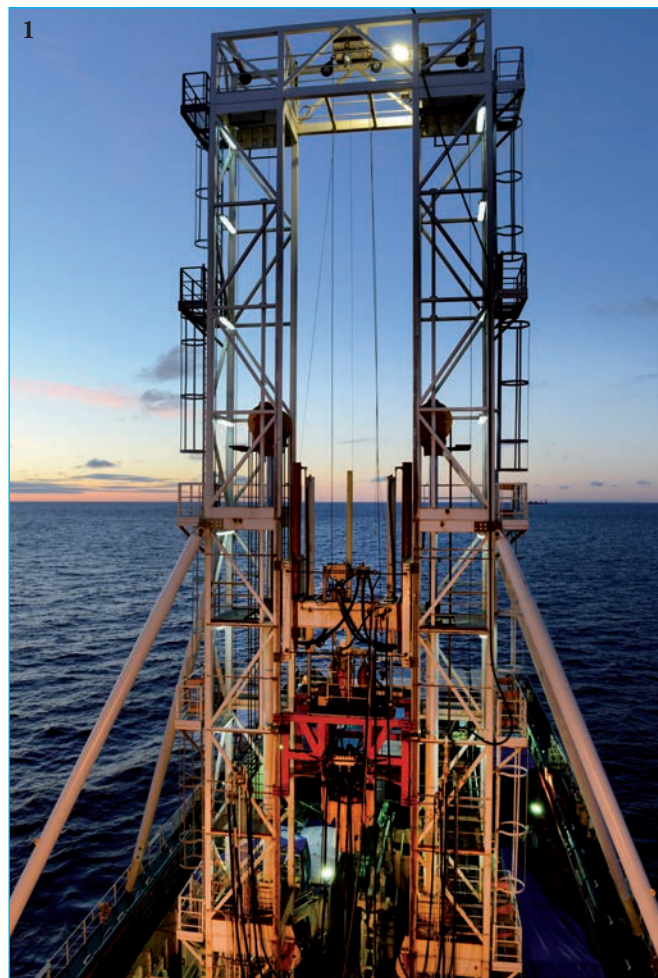
Dave Smith

In the previous ECORD Newsletter (#21), we reported that the IODP Expedition 347 Baltic Sea Paleoenvironment was nearing its conclusion. The offshore phase of the expedition officially ended on 1st November when the *Greatship Manisha* (photo 1) arrived in Kiel, Germany, after spending 50 days coring 30 boreholes across 8 sites offshore Denmark and Sweden. The expedition has been a great success with more than 1,620m of high-quality sediment core collected with an average core recovery of 91.5% (adjusted for core expansion). Cores were primarily recovered by hydraulic piston coring, but where lithologies were stiffer, harder or more friable, push coring, hammer sampling, extended coring and rotary coring were used. Please see the previous ECORD Newsletter article - <http://www.ecord.org/pub/newsletter21.pdf> - for summaries of coring results from several of the sites.

This was the first MSP expedition to include a dedicated microbiology component entailing a complex sampling programme offshore, requiring the use of a temperature-controlled microbiology container, which was conceptualised, purchased and outfitted by ESO-Bremen. In addition to sedimentologists, palaeontologists, petrophysicists, stratigraphic correlators and geochemists, six microbiologists from the Science Party carried out sampling for microbiology studies. This approach required specialist sampling to be undertaken carefully, but also as quickly and cleanly as possible on a drilling vessel (photo 2). In addition to the careful collection, sub-sampling, handling and storage of microbiology samples, a contamination tracing system was used by injecting a perfluorocarbon tracer into the drilling mud. Subsequent tracer analysis of the samples has shown that levels of contamination as a result of the drilling were generally low and acceptable. Fresh microbiology samples stored at +4°C were transported off the drilling vessel soon after microbiology holes had been completed, to minimise the



Nan Xiao (microbiologist) processing samples in the microbiology container (©ECORD/IODP).



The drill rig of the *Greatship Manisha* during coring operations in the Baltic Sea (B. Barker Jørgensen ©ECORD/IODP).

time between sample collection and analysis. The majority of microbiology samples were stored at -80°C during the cruise and shipped to the microbiologists' home labs from the final portcall in Kiel, Germany.

During the expedition, two Geotek Multi Sensor Core Logger (MSCL) systems were used: a "Standard" MSCL, measuring gamma density, P-wave velocity, non-contact resistivity and magnetic susceptibility, and a new "Fast-Track" MSCL system, measuring only magnetic susceptibility (photo 3). Those cores to be sampled for microbiology were logged using the Fast-Track MSCL, prior to sampling, so that the cores from different holes at the same site could be correlated using the magnetic susceptibility profiles. The stratigraphic correlators could also request Fast-Track MSCL core measurements to guide correlation in difficult intervals. With the exception of the Rumohr (gravity) cores, all cores 15 cm or more in length were logged, and by the end of the expedition almost 800 cores were measured successfully.



3
Dual MSCL set up in the ESO Petrophysics container with Anette McGrath (©ECORD/IODP).

Downhole logging was undertaken in 8 holes using Weatherford Wireline's compact tools (*photo 4*). These included the Gamma Ray and Temperature (MCG), Spectral Gamma (SGS), Induction (MAI), Micro Image (CMI) and Sonic (MSS) tools.

Due to generally good weather and faster than expected coring rates, the expedition was able to visit an additional alternative site in the Lille Baelt area before returning to Kiel, finishing 10 days ahead of schedule.

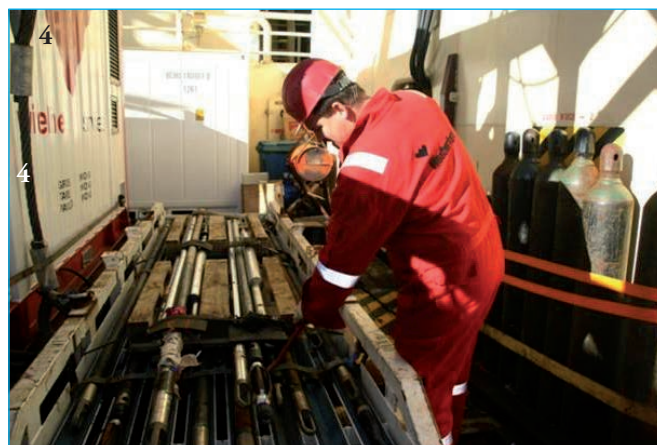
Expedition 347 broke several records for an MSP, including:

- The deepest borehole drilled in the Baltic Sea (230mbsf);
- The greatest length of core recovered (1,623 m);
- The highest number of piston cores (517);
- The highest number of offshore samples (5,849);
- The highest number of onshore samples (26,986).

The Science Party left the vessel on 1st November, and the frozen microbiology samples were transferred to a specialist courier for transport to Science Party member's institutes. The ESO team remained onboard to transit to Falmouth where they demobilised the remainder of the ESO equipment and container laboratories.

Once the cores were delivered to the Bremen Core Repository (BCR) of the MARUM, University of Bremen, natural gamma radiation (NGR) and thermal conductivity measurements were made on the whole rounds before the cores were split at the Onshore Science Party (OSP). The OSP took from 22nd January - to 20th February (*pages 8-9*), where the expedition's cores were split and initial analysis and description carried out by the Science Party.

In parallel with delivering Expedition 347, ESO has been looking to the future and scoping potential MSPs. Scoping work on expeditions to Atlantis Massif in the Central Atlantic (Proposal 758), Hawaii Drowned Reefs (Proposal 716), Chicxulub Impact



4
Weatherford Wireline's Compact tools aboard the Greatship Manisha (©ECORD/IODP).

Crater (Proposal 548), New England Hydrogeology (Proposal 637), Coralgal Banks in the eastern Gulf of Mexico (Proposal 581), George V Land and Adélie Land shelves off Antarctica (Proposal 813), and the Lomonosov Ridge in the Central Arctic (Proposal 708) (*page 16*) was presented to the ECORD Facility Board meeting in Bremen, Germany in March (*page 5*).

The European Commission's Horizon 2020 Research and Innovation programme offers the opportunity for ECORD-related institutes, together with other partners, to win funding to support the creation of a new European infrastructure for scientific drilling, downhole logging, sampling and monitoring. This specific EC call topic was encouraged by two pre-proposals that highlighted the need for a European research infrastructure for ocean drilling, sampling and monitoring: the Distributed European Infrastructure for Subseafloor Sampling and Monitoring (DEISM) by Gilbert Camoin of the ECORD Managing Agency, and the Distributed European Drilling Infrastructure (DEDI) by Achim Kopf representing the Deep-Sea and Sub-Seafloor Frontier project (DS3F) Steering Committee (*page 3*).

ESO and other partners will respond to the H2020 call topic entitled "**Integrating and opening existing national and regional research infrastructures of European interest**", and will make the case for the creation of a new research infrastructure to provide transnational access to new and existing scientific drilling, sampling, logging and monitoring technologies. The new research infrastructure will also assist collaborative efforts to develop and share new technologies that will be offered to the European geoscientific community through a website and online information portal. A proposal is being developed and will be submitted in September 2014.

David McInroy, ESO Science Manager, Sarah Davies, EPC Manager, Ursula Röhl, ESO Curation and Laboratory Manager and Dave Smith, ESO Operations Manager
<http://www.eso.ecord.org>



Ursula Röhl

Onshore Science Party of Expedition 347 Baltic Sea Paleoenvironment

IODP Expedition 347 Baltic Sea Paleoenvironment was the fifth mission-specific platform (MSP) project organised and carried out by ECORD. During the offshore phase of the expedition onboard the *Greatship Manisha*, the team had three primary scientific tasks:

- to measure and/or select samples to preserve for ephemeral properties (pore-water chemistry, microbiology, micropalaeontology, physical properties);
- to carry out core logging and downhole logging;
- to perform near real-time core description on core-catcher samples.

The 1,623 m of recovered cores (with more than 91% recovery) were then sealed and stored in temperature-controlled containers and shipped to the IODP Bremen Core Repository (BCR).

Due to the nature of MSP expeditions, such as space and time restrictions, the cores are not split at sea so the main part of the scientific analysis has to be conducted onshore. The fifth IODP mission-specific platform Onshore Science Party (OSP) was therefore held from 22nd January to 20th February 2014, in the BCR, which is located at the MARUM - Center of Marine Environmental Sciences building on the campus of Bremen University.

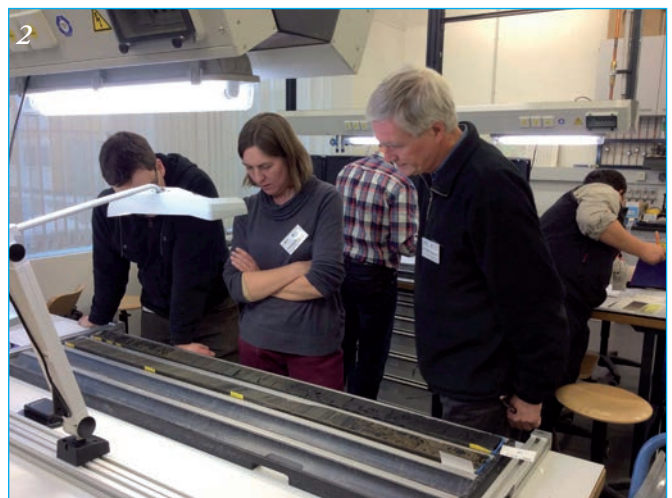
During the evening before the start of the OSP, the Science Party was welcomed at an icebreaker party in their hotel. The first day at the BCR was taken up by science meetings, presentations of offshore results, review of core processing and post-cruise science (including sample requests), and inspection of, and training at, the facilities. In contrast to standard IODP sampling parties, the OSP is a 4-week experience during which the cores are split (*photo 1*) and all the data for the IODP minimum and standard

measurements are acquired. About 65 participants (scientists and operator personnel) worked with great enthusiasm in two shifts to process the IODP Expedition 347 cores. The operation was highly successful and satisfactorily completed to schedule.

The OSP participants used the different labs at MARUM, some of which were devoted to office space and specific laboratories (e.g. report writing, microscopy (*see Sweden, page 24*), and physical properties measurements on discrete samples). The main BCR labs were used for extensive core description of the freshly split cores (*photo 2*) including the CoreWall visualisation system for core images (*photo 3*) and data, digital imaging, color reflectance measurements, split-core logging, petrophysical analyses, and detailed core sampling (*photo 4*). Further analytical laboratories were available at the MARUM, mostly in the same building (i.e. geochemistry *photo 5*) and physical properties (*see Finland page 23*), laboratories and the Department of Geosciences (specifically the paleomagnetism and palynological laboratories) of the University of Bremen. Overall the system functioned very well, and the work flow was smooth and efficient.



Splitting of an Expedition 347 core (Nils Monsees, student assistant, Bremen University (C. Cotterill ©ECORD/IODP).



From left to right, Michael Kenzler (sedimentologist), Sandra Passchier (sedimentologist) and Co-chief Scientist Bo Barker Jørgensen at the core description table (U. Röhl ©ECORD/IODP).

The scientists stayed in a hotel in the city centre, which, in contrast to a ship environment, allowed them to spend their off-shift time enjoying a variety of social and sporting activities as well as excellent Bremen restaurants, all of which offer very good German specialities. The scientists received their samples soon after returning home, and are busy working on their individual analyses. New key results regarding the complexities of the last glacial and deep biosphere responses to glacial-interglacial cycles of the planet will soon be available.

The IODP Bremen Core Repository has been operating for more than 19 years and currently archives a collection of almost 154 km of deep-sea sediment from 87 expeditions. About three thousand scientists have visited the repository since it was established in 1994, often cooperating in week-long sampling meetings of the shipboard investigators. So far more than 800,000 samples have been taken by the visitors and BCR staff and distributed world-wide.

As a partner within the ECORD Science Operator (ESO) Consortium for IODP, the University of Bremen undertakes the curation, database operations, and archiving of collected cores, as well as providing offshore (mobile laboratory containers) and onshore laboratory facilities for systematic sampling and further data gathering according to IODP minimum and standard measurements.

Ursula Röhl, ESO Curation and Laboratory Manager
http://www.marum.de/en/Onshore_Science_Party_OSP.html



Core description table and the CoreWall station at the BCR (U. Röhl ©ECORD/IODP).



Diatom specialist Jonathan Warnock doing high-resolution toothpick sampling for detailed diatom studies (C. Cotterill ©ECORD/IODP).



Inorganic geochemist Dalton Hardisty in the geochemistry lab at MARUM (C. Slomp ©ECORD/IODP).



Discussion of new findings: the Expedition 347 Science Party gathers for the cross-over meeting during a shift change at the BCR (C. Cotterill ©ECORD/IODP).



Albert Gerdes



Alan Stevenson

ECORD Outreach & Education News and Activities



Patricia Maruéjol



Julia Gutiérrez Pastor

News from the Outreach team

Since November 2013, the ECORD Outreach Team have organised a media day related to Expedition 347 ([pages 11-12](#)), produced and distributed the ECORD Annual Report for 2013 ([page 3](#)), supported the MagellanPlus Workshops and opened education calls ([page 14](#)). The fifth ECORD Outreach and Education Task Force meeting was held in Bremen, Germany, on 4th-5th February 2014 ([below](#)), to co-ordinate the programme's outreach and education activities that will take place during this spring and summer of 2014. Matt Wright, Communications Manager at the Consortium for Ocean Leadership/USIO, and Thomas Wiersberg, Outreach and Education Manager at ICDP, attended the meeting to enhance co-ordination between ECORD, IODP partners and other scientific drilling programmes. This meeting was also an opportunity to meet IODP scientists taking part in the Onshore Science Party of Expedition 347 Baltic Sea Paleoenvironment held in the MARUM labs.



From left to right, Albert Gerdes, Alan Stevenson, Milena Borissova (EMA Assistant Director), Julia Gutiérrez Pastor, Patricia Maruéjol, Matt Wright (COL/USIO), Gretchen Früh-Green (ESSAC Chair) and Thomas Wiersberg (ICDP) (photo Voelker Diekamp, MARUM).

Four of the **ODP/IODP core replicas** - <http://www.ecord.org/pi/core-replicas.html> - were distributed to ECORD countries. The K/T boundary core replica was used during classes and workshops at the Universidade do Algarve, Portugal ([page 11](#)) and at the International High School in Valbonne, France, where the oceanic crust core replica was also used. The ACEX and PETM replicas were displayed at a public event during the IODP-ICDP Colloquium organised in Erlangen, Germany, by IODP-Germany.

Upcoming Events and Activities

In 2014, members of the Outreach Team will be involved in activities at several international conferences.

- **EGU 2014** - <http://www.ecord.org/pi/egu14.html> - 27th April to 2nd May, Vienna (Austria). Joint ECORD/IODP-ICDP exhibit booth (#55-56-57) and Townhall Meeting and media conference "Looking into the past to predict future climate: new

results from the IODP Baltic Expedition" in co-ordination with the EGU press team ([page 11](#)).

- **19th International Sedimentological Congress (ISC)** - <http://www.sedimentologists.org/meetings/isc> - 18th to 22nd August 2014, Geneva (Switzerland). Joint exhibition booth (#12) in conjunction with IODP and ICDP science sessions.
- **2014 AGU Fall Meeting** - <http://fallmeeting.agu.org/2014> - 15th to 19th December 2014, San Francisco (USA). For the first time a joint ECORD/IODP-ICDP booth (#2412) will be co-organised. Plans for a joint Townhall Meeting are ongoing

ECORD materials will be provided for display in IODP booths organised by CDEX/JAMSTEC at JpGU (28th April - 2nd May, Yokohama, Japan) and AOGS (28th July-1st August, Sapporo, Japan) and by ANZIC at the Australian Earth Sciences Convention 2014 (7th - 10th July, Newcastle, Australia).

Education

Two ECORD teachers, Lesley Allen (UK) and Markus Fingerle (Germany) have been invited to sail as Education Officers during Expeditions 350 and 351 ([table page 13](#)) onboard the *JOIDES Resolution*.

ECORD also supported Jean-Luc Bérenguer during the preparation of the first ECORD-IODP workshop for teachers on 9th - 11th April 2014 in Sophia Antipolis (France) - <https://geoazur.oca.eu/spip.php?article1390>. The French Ministry of Education sponsors this initiative and about 30 teachers are expected to attend. ECORD teachers Helder Pereira and Susan Gebbels who sailed with Jean-Luc onboard the *JOIDES Resolution* were also invited to take part in the workshop and it is hoped that not only will educational experiences be shared by teachers but new educational opportunities will be developed across ECORD countries.

Helder, Susan and Jean-Luc also contributed to a new video about their experiences as Education Officers prepared by the Deep Earth Academy, Consortium for Ocean Leadership (Washington, D.C.) in collaboration with Dan Brinkhuis of Science Media (The Netherlands) - <https://www.youtube.com/watch?v=PJTmfh7IW0>.

ECORD Outreach team: Albert Gerdes and Alan Stevenson, ESO, Patricia Maruéjol, EMA, and Julia Gutiérrez-Pastor, ESSAC - <http://www.ecord.org/pi/promo.html>

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<http://www.ecord.org/RSS/ecord-rss.php>

ECORD/IODP - ICDP at EGU 2014



Exhibition booth: Mo 28th - Thu 1st May, #55-56-57 (entrance hall)

Townhall Meeting: Tu 29th April: 19-20:00, Room B5

IODP-ICDP session: Tu 29th April, 8:30-12:30, Room Y9 & Yellow Posters until 19:00

Press conference: Tu 29th April, 14:00, Press centre, Yellow level

<http://www.ecord.org/pi/egu14.html>

The **K/T core replica** was provided on loan to the University of Algarve (Southern Portugal) for the month of November 2013.

A small exhibition open to the entire academic community was held in the atrium of the CIMA centre, which included the K/T core replica and educational information. The core replica was also used in classes: first in a laboratory class on "Paleoceanography and Global Changes", included in the Marine Sciences Undergraduate programme of the University, and then in a Geology course at a local high school to demonstrate an example of scientific marine geology study.

During the laboratory class, students had to link their own core observations into a core log description, for which a spectrophotometry analysis was also used. This helped to introduce the students to the different sedimentological analyses that are conducted onboard research vessels such as the IODP platforms. The students' core descriptions were then compared to those from the cruise report and interpreted



based on a number of clues and proxies that were provided. Finally, each student had to do an oral presentation based on a published article on mass extinction sediment core studies, followed by a discussion on the diverse range of techniques and proxies that are being used in such studies, as well as the diversity of responses to similar studies. The students demonstrated a high level of interest and excitement when they realised what the K/T core represented and that paleoceanography was indeed frontier science that required a systemic approach.

See online: Extinção dos dinossauros: A prova que a Geologia Marinha encontrou, em exposição no átrio do CIMA

<https://www.facebook.com/notes/cima/extin%C3%A7%C3%A3o-dos-dinossauros-a-prova-que-a-geologia-marinha-encontrou-em-exposi%C3%A7%C3%A3o-n/547854418620865>

Prof. Cristina Veiga-Pires, Universidade do Algarve, Portugal

Media activities during Expedition 347 Baltic Sea Paleoenvironment

Following on from the media conference held in Copenhagen at the start of the offshore phase of Expedition 347, a similar event was organised during the Onshore Science Party (OSP) at the IODP Bremen Core Repository. The media day was held on 13th February and aimed at communicating the first results of the OSP investigations. Ursula Röhl, ESO Laboratory and Curation Manager, Carol Cotterill, Expedition Project Manager, and Thomas André and Bo Barker Jørgensen, Co-chief Scientists, gave short presentations followed by a guided tour of the OSP and interviews with the scientists working in the labs (*right*).

The event was attended by 19 journalists, and others who could not attend received a media pack containing an expedition factsheet and media release. A week after the media day, 127 articles had been published in German media outlets, mainly due to an article published by a journalist and a photographer from the biggest German news agency (DPA), which was referred to in many newspapers. Radio and TV reports, especially on public



Co-chief Scientist Thomas André is interviewed by TV journalists (A. Gerdes ©ECORD/IODP).

German television programmes, were broadcast both regionally and nation-wide. Another TV report is currently in production.

After the media day a media release was distributed internationally both within the IODP community and to media contacts of the universities and institutes of scientists involved in the OSP. Public-relations colleagues at Aarhus University and Södertörn University adapted the media release according to their specific needs and distributed it in their respective countries. The German version of the media release was also distributed to a few news outlets in Austria and Switzerland.

TV journalists attending the media day were provided with video footage of the offshore phase of the expedition. A six-minute long version of the video can be viewed on the ECORDESO channel on YouTube at www.youtube.com/watch?v=kZ5PkbCyp_0

The Onshore Science Party was also covered by social media activities. Caroline Slomp blogged on <http://geoblog.weebly.com/expedition-baltic-sea.html>, Aarno Kotilainen on <http://syvakairaus.wordpress.com/> and tweets were regularly posted by @strangeisotopes, @schroed_microbe, @marum_de and @ecord.outreach.

A press conference to present the first results of Expedition 347 will be held on 29th April at the EGU 2014 Conference in Vienna, Austria - <http://www.ecord.org/pi/egu14.html>.

Albert Gerdes, ESO Media Relations
<http://www.eso.ecord.org/expeditions/347/mediapack.php>

Ocean and Time: History of a Science

An exhibition "Ocean and Time: History of a Science" was held at the Palace of Archbishop Fonseca, at the University of Salamanca, Spain during the summer of 2013. The event was organised by the Cultural Activities department of the University of Salamanca and the Marine Geosciences Research Group in collaboration with ECORD, the Department of Geology at the University of Salamanca, the Historical Library of the University of Salamanca, IODP Spain, the National Museum of Natural History of Spain and SCAR Spain.



The aim of the exhibition was to show to a wide audience the history of the Ocean from two seemingly disparate points of view: the evolution of ocean-climate, from its origin through the Precambrian, Palaeozoic, Mesozoic and Cainozoic to the present time, and a review of marine science and scientific expeditions. It was possible to observe real fossils and sedimentary rocks, featuring the ODP/IODP replicas provided by ECORD. Meanwhile, taking advantage of the rich bibliographic collection of the Historical Library, several relevant examples were chosen to summarise the history of navigation from a scientific point of view, marine cartography, and the construction of vessels.

Cambrian stromatolites, trilobites, stromatoporids, ammonites, corals, brachiopods, several types of mollusks, together with foraminifers and calcareous microfossils living at the same time as hyperthermic sequences, or the manifestation of K/T impact, were displayed along with original editions of atlases by Apianus (1575), Waghenaeer, (1585), Ptolemy (1605), Mercator (1607), or unique treatises in hydrography or shipbuilding: Fernández de Enciso (1519), Albácar Cortés (1551), Falero (1535), Andrés de Poza (1585), Carneiro (1655), and first editions of books written by J. Cook, J. Juan and A. de Ulloa or V. Tofiño.



Along with the technical information displayed in glass cases, a team of designers produced a magnificent collection of posters showing the history of some of the most relevant older scientific expeditions. Maps about global circumnavigation from Ferdinand Magellan to the voyages of *HMS Beagle* or *Challenger* were explained and illustrated with fragments of literary or scientific references.

All this information was included in a section in which the achievements of modern marine geology were described,



including the DSDP, ODP and IODP programmes. Attendees could touch a drill bit from the *JOIDES Resolution*, or see a model of the *BIO Hesperides*. They could also compare the *Glomar Challenger* and the *Chikyū* and stop at points where information about climate reconstruction based on the materials recovered from these vessels was displayed.

The exhibition had more than 5,000 visitors, not only from the city of Salamanca but also by tourists from 30 countries who came to visit the city in the summer. The activities were supplemented by seminars and talks to various groups, from university to primary and secondary schools, as well as for elderly people.

In summary, the exhibition was a combination of miscellaneous material posed to present a challenge to the visitors and to provoke thought, which ultimately made it successful, both in the media and in the didactic and outreach aspects.

Prof. José-Abel Flores, University of Salamanca, Grupo de Geociencias Oceánicas (GGO) - flores@usal.es



Gretchen Früh-Green

News from



Julia Gutiérrez Pastor

The start of the International Ocean Discovery Program “Exploring the Earth under the Sea” was accompanied by the move of the ESSAC Office from Granada to the ETH Zurich, Switzerland. Gretchen Früh-Green has taken over as ESSAC Chair and Julia Gutiérrez Pastor will continue on as Science Coordinator in Zurich. We look forward to serving the ECORD science community for the next two years and have already been busy issuing a number of calls and nominating members for various ECORD and ESSAC activities.

The start of the new programme saw the successful completion of both the offshore and onshore phases of Expedition 347 Baltic Sea Paleoenvironment - <http://www.eso.ecord.org/expeditions/347/347.php> - with Thomas André (Sweden) and Bo Barker Jørgensen (Denmark) as Co-chief Scientists (pages 6-9). Thirty-one scientists (17 ECORD Scientists) from twelve countries, as well as two ESO Expedition Project Managers, participated in the Onshore Science Party from 22nd January to 20th February 2014 at the Bremen Core Repository. An impressive total of 1,623 m of core were measured and described and 32,835 samples were taken.

IODP Expeditions in 2014 started with the *JOIDES Resolution* Expedition 349 South China Sea (a Complementary Project Proposal: CPP), with three ECORD scientists on board, and which was completed on 30th March. Staffing has been completed for the three Izu Bonin Mariana (IBM) Expeditions: 350 IBM Rear Arc, 351 IBM Arc Origins, and 352 IBM Forearc, which will investigate the genesis and evolution of continental crust in the Izu-Bonin-Mariana convergent margin. In preparation for future expeditions in 2015, ESSAC is in the process of nominating ECORD scientists to participate in the *JOIDES Resolution* Expedition 353 Indian Monsoon Rainfall and Expedition 354 Bengal Fan. These expeditions will include three ECORD Co-chief

Scientists. Calls have also been issued to apply for Expedition 355 Arabian Sea (CPP) and Expedition 356 Indonesian Throughflow (deadline for applications on both expeditions is 8th May 2014). It is important to note that the *JOIDES Resolution* expeditions in 2015 are contingent upon availability of funds. More information about the scientific objectives and dates of all expeditions can be found in the table below and online at <http://www.iodp.org/expeditions/>.

As reported in the last newsletter, the **IODP advisory panels** have been greatly simplified. The Science Evaluation Panel (SEP) reports to the *JOIDES Resolution* Facility Board (JRFB) and is responsible for evaluation of all proposals. SEP currently consists of a sub-group of scientists who evaluate the proposals at all stages in terms of scientific excellence. A second sub-group reviews the site-survey data packages and verifies completeness and adequacy of the site-survey data submitted by proponents to the IODP Site Survey Data Bank. The responsibility of the Environmental Protection and Safety Panel (EPSP) is to review all prospective drilling by the IODP drilling platforms and to advise on safety requirements and appropriate technology needed to meet these requirements. ESSAC has nominated one new member each on SEP (site-survey sub-group) and EPSP to replace members rotating off these panels (table page 17).

The **ECORD Distinguished Lecturer Programme (DLP)** is designed to promote the scientific achievements of ocean drilling to a large audience within institutions in ECORD member countries and the second phase will run until June 2014 - <http://www.essac.ecord.org/index.php?mod=education&page=dlp>. The three ECORD Distinguished Lecturers, Claude Hillaire-Marcel, Benoît Ildefonse and Roger Urgeles, have given a total of 35 lectures in ECORD countries, presenting exciting ocean drilling discoveries on three of the main scientific themes of the IODP

IODP Expedition Drilling Schedule

Expedition	Exp #	Drillship	Dates	Co-chief Scientists
Izu Bonin Mariana: Rear Arc	350	JR	30 th March - 30 th May 2014	Y. Tamura - C. Busby
Izu Bonin Mariana: Arc Origins	351	JR	30 th May - 30 th July 2014	R. Arculus - O. Ishizuka
Izu Bonin Mariana: Fore Arc	352	JR	30 th July - 29 th Sept. 2014	J. Pearce - M. Reagan
Indian Monsoon Rainfall	353	JR	29 th Nov. 2014 - 19 th Jan. 2015	S. Clemens - W. Kuhnt
Bengal Fan	354	JR	29 th Jan. - 31 st March 2015	C. France-Lanord - T. Schwenk
Arabian Sea Monsoon	355	JR	31 st March - 31 st May 2015	D. Pandey - P. Clift
Indonesian Throughflow	356	JR	31 st July - 30 th Sept. 2015	S. Gallagher - C. Fulthorpe
Atlantis Massif	357	MSP	autumn 2015	G. Früh-Green - B. Orcutt



JR: *JOIDES Resolution*, MSP: mission-specific platform - <http://www.iodp.org/expeditions>. ECORD Co-chief Scientists are marked in blue. The photo shows Chikyuu drill crews connecting the 17" drill bit at the rig floor (©JAMSTEC/IODP).

Science Plan (2013-2023). The DLP will continue for the next two years and a call for the third phase of DLP lecturers was issued by ESSAC (application deadline 31st March 2014). Once the new group of Distinguished Lecturers has been selected, ESSAC will issue a call for institutions to host the lectures.

As part of the ECORD educational programmes, young scientists once again have the opportunity to participate in two **ECORD Summer Schools** related to marine science research and ocean drilling in 2014:

- The ECORD-Urbino Summer School in Paleoclimatology (USSP) on Past Global Change Reconstruction and Modelling Techniques. University of Urbino, Italy, 9th to 24th July 2014 - <http://www.urbinossip.it/>.
- ECORD Bremen Summer School - Sub-seafloor Biosphere: Current Advances and Future Challenges. MARUM, University of Bremen, Germany, 22nd September to 3rd October 2014 - http://www.marum.de/en/ECORD_Summer_School_2014.html.

As in past years, ESSAC has issued a call for **ECORD Scholarships** to allow young scientists to attend one of these summer schools (application deadline 2nd April 2014).

Furthermore, the ESSAC Office has issued a call to host new ECORD-sponsored Summer Schools in 2015. The deadline for these applications is 5th May 2014 - <http://www.essac.ecord.org/index.php?mod=education&page=summer-school>.

A call for applications for **ECORD Research Grants** was issued with a deadline on 5th May 2014. These are merit-based awards for outstanding graduate students to conduct research related to IODP. These consist of small and short-term grants to contribute to travel and lab expenses. Preference will be given to studies conducted in a laboratory/institution other than the applicant's home institution and to studies that promote new collaborations and/or the acquisition of new scientific expertise. Reports of previously awarded grants are posted on the ESSAC webpage - <http://www.essac.ecord.org/index.php?mod=education&page=grants>.

As part of the "Teachers at Sea" Program, an initiative of the Consortium for Ocean Leadership, ESSAC offered the unique opportunity for teachers and educators from ECORD countries to sail on one of the three Izu Bonin-Mariana IODP Expeditions. Two ECORD teachers were selected: Lesley Allen (UK) will sail on Expedition 350 (Rear Arc) and Markus Fingerle (Germany) will sail on Expedition 351 (Arc Origins). We are looking forward to hearing about their experiences!

The **ECORD/ICDP MagellanPlus Workshop Series Programme** continues to be a success and is designed to support ECORD member scientists in developing new and innovative

science proposals for submission to IODP and ICDP - <http://www.ecord.org/magellanplus.html>. Currently, there are two upcoming MagellanPlus workshops related to IODP science scheduled in 2014:

- Advancing Subsurface Biosphere and Paleoclimate Research, 21st-23rd August 2014, Seoul, South Korea;
- Newfoundland Drilling for Miocene Climate Dynamics - Filling the Oligo-Miocene gap in the North Atlantic, 15th-17th September 2014, Heidelberg, Germany.

Further upcoming activities include the EGU 2014 General Assembly Meeting (28th April - 2nd May 2014), where we will hold the **EuroForum 2014: "Major achievements and future perspectives in scientific ocean and continental drilling"** session (*below*). This session aims to highlight scientific achievements in deep earth sampling and monitoring through ocean and continental drilling and to outline perspectives and visions for future drilling projects. We are also pleased to be able to host an Arne Richter Award for Outstanding Young Scientists Lecture given by Peter Bijl (*page 15*). As has now become traditional at the EGU Meeting, more information about the new programme and possibilities to get involved will be available at the joint ECORD/IODP-ICDP exhibit booth and Townhall Meeting. We look forward to seeing you there!

Past and future IODP-related research will also be a major component of two upcoming international conferences: (1) the 19th International Sedimentological Congress: Sedimentology at the Crossroads of New Frontiers, which will be held from 18th to 22nd August 2014 in Geneva, Switzerland; and (2) the 2nd Deep-Water Circulation Congress: the 'Contourite Log-book', which will be held from 10th to 12th September 2014 in Ghent, Belgium.

In summary, ESSAC remains active in science support and outreach activities and in shaping the future of ocean research. I am pleased to take part in the start of this new phase of scientific ocean drilling and look forward to seeing exciting workshops, new science proposals and active participation by the science community. In the name of all ESSAC delegates and ECORD scientists, I would particularly like to thank Carlota Escutia for her tremendous efforts, guidance and humour as past ESSAC Chair and host of the ESSAC Office in Granada and thank Julia Gutiérrez Pastor for her continued dedication and hard work as Science Co-ordinator. We would also like to thank the ESSAC Delegates, the ECORD Council and the scientific community for their active involvement and input, all of which continue to contribute to the success of ESSAC as the science advisory body of ECORD.

Gretchen Früh-Green, ESSAC Chair, and Julia Gutiérrez-Pastor, ESSAC Science Co-ordinator - <http://www.essac.ecord.org>



EuroForum 2014: Major achievements and perspectives in scientific ocean and continental drilling

Convenor: G. Früh-Green - Co-Convenors: C. Escutia, U. Röhl, U. Harms, T. Wiersberg and R. Stein

Talks: Tuesday 29th April, 8:30-10:00 - 10:30-12:30 / Room Y9

Posters: Tuesday 29th April, 17:30-19:00 / Yellow Posters

<http://meetingorganizer.copernicus.org/EGU2014/session/114118>

ECORD scientists awarded medals at EGU 2014

EGU Jean-Baptiste Lamarck Medal 2014 to Isabella Premoli Silva

Isabella Premoli Silva has been one of the world's leading researchers in micropaleontology for over 50 years and her research has resulted in some of the most important discoveries in the last several decades. The EGU Jean-Baptiste Lamarck Medal 2014 to Isabella is a most-deserved recognition of her vast contributions to Mesozoic and Cainozoic foraminiferal micropaleontology, stratigraphy, paleoceanography, as well as for her role as a graduate advisor and mentor for young geoscientists.

Undoubtedly DSDP-ODP-IODP has been instrumental for Isabella's scientific carrier. Following the tradition of Earth Sciences at Milan University, Isabella was trained as an alpine geologist, with a specialisation in stratigraphy. Her curiosity and profound passion for geosciences was the vehicle to a number of experiences in European (Basel and Utrecht) and US (Woods Hole) institutions in the late 60s and 70s. Those were the roaring years of early DSDP expeditions and Isabella was literally "struck on her way" by marine geology. And she was ideally prepared to sail, so soon started her long-lasting and extremely productive participation in DSDP-ODP-IODP. She was paleontologist onboard DSDP Legs 15, 61, 76, 77, 89 and ODP Leg 132, Co-chief Scientist on ODP Legs 144 and 198 and



Isabella at the famous Cretaceous/Paleogene boundary in Gubbio.

shore-based paleontologist for DSDP Legs 39, 47B and ODP Legs 114, 115, 130, 183, 185.

Isabella's amazing mixture of rigor, curiosity and passion has resulted in variegated and outstanding DSDP-ODP-IODP research activity, which has had a major impact on the paleoceanographic community. She also became extremely active in the science advisory structure in the early 1970s and served as a Member of the DSDP Ocean Paleoenvironment Panel, ODP Caribbean

Working Group, ODP Atlantic Regional Panel and the ODP Sediments and Ocean History Panel.

Very soon Isabella became an enthusiastic supporter and promoter of DSDP-ODP-IODP in Italy and in Europe and served as President of the ODP-Italy Committee (1995-2003) and Italian Delegate in ESCO (1998-2003).

I had the fortune and honour to be a student of Isabella's and to share daily in her knowledge and passion: I do feel privileged for the incredible years of special collaboration and our ongoing relationship. Although in principle she retired in 2010, Isabella is still most active in research and her "heart" remains closest to IODP.

Many European graduate students, young and senior scientists have benefitted from Isabella's mentoring, knowledge, and collaboration. The award of the EGU Lamarck Medal 2014 to her is a great joy for the entire ECORD "family" who, I'm sure, will happily toast this award with sincere gratitude.

Many thanks and congratulations Isabella!

Elisabetta Erba, Dipartimento di Scienze della Terra "A. Desio", Univ. Milano, Italy

EGU 2014 medal lecture: Mo 28, 16:00-17:00, room B5

EGU Arne Richter Award for Outstanding Young Scientists Medal 2014 to Peter Bjil

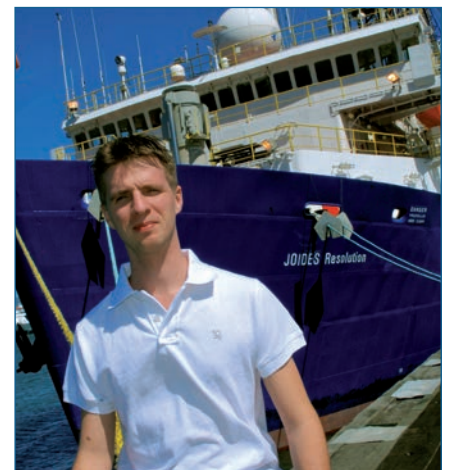
It is for me a pleasure to introduce Peter Bjil, who will receive the 2014 EGU Arne Richter Award for Outstanding Young Scientists. I met Peter as a young PhD scientist during the IODP Expedition 318 to the Antarctic Wilkes Land margin (January - March 2010).

From the start, I was impressed by his active participation in scientific discussions and he soon made relevant contributions, from his field of expertise, to the science of the expedition. In particular he has contributed to understanding changing environmental conditions across one of the most important climate transitions on Earth, the Eocene-Oligocene transition, when

our climate transitioned from a warm ice-free Eocene into icehouse climates. In addition, Peter has also contributed to the debate about the role of carbon dioxide versus ocean gateway opening in forcing this transition. At such an early stage in his career, the relevance of Peter's contributions is evidenced by a large number of high-impact papers.

Peter is now enjoying a NWO-sponsored VENI postdoctoral fellowship and he is focusing his work on the Paleocene paleoclimate evolution using sediments recovered through ocean drilling.

Carlota Escutia, Instituto Andaluz de Ciencias de la Tierra, Granada, Spain



Peter about to board the JOIDES Resolution, Expedition 318 Wilkes Land (D. Brinkhuis & IODP).

EGU 2014 medal lecture: Tu 29, 10:30-11:00, room Y9

Highlights of IODP Proposal 708 Central Arctic Paleoceanography: Towards a Continuous Cenozoic Climate Record (ACEX-2)

Rüdiger Stein*

With the successful completion of Expedition 302 Arctic Coring (ACEX), the first mission-specific platform (MSP) expedition within IODP in 2004, a new era in Arctic research began. For the first time, scientific drilling in the permanently ice-covered central Arctic Ocean was carried out, penetrating 428 metres of Quaternary, Neogene, Paleogene and Campanian sediments on the crest of Lomonosov Ridge between 87 and 88°N

higher-resolution reconstruction of Arctic rapid climate change during Neogene to Pleistocene times could not be reached during ACEX in 2004. We believe this justifies a return to the Lomonosov Ridge for a second MSP-type drilling expedition within IODP to fill these major gaps in our knowledge on Arctic Ocean paleoenvironmental history through Cainozoic times and its relationship to the global climate history.

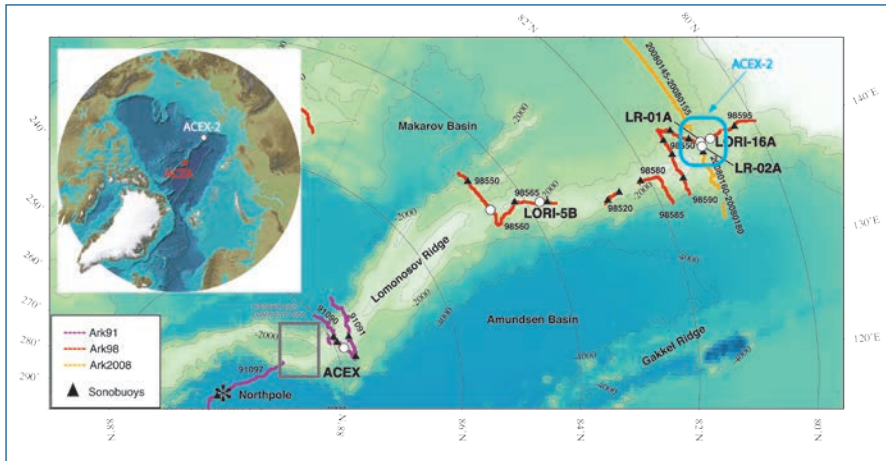


Figure 1: Map indicating seismic profiles (bold numbers AWI lines) and location of IODP Expedition 302 (ACEX) drillsite and the new proposed (ACEX-2) drillsites on the Lomonosov Ridge (primary site LR-01A and alternate sites LR-02A, LORI-5B, and LORI-16A). Gray box shows HOTRAX study area (for references see Proposal 708).

(Moran *et al.*, 2006; Backman *et al.*, 2008). This record provided a unique glimpse into the early Arctic Ocean history and its long-term change through Cainozoic times. To date, the ACEX sites remain the only drill holes in the central Arctic Ocean.

While highly successful, the ACEX record also has some important limitations. Based on the original age model (Backman, *et al.*, 2008), the ACEX sequence contains a large hiatus spanning the time interval from late Eocene to middle Miocene, *i.e.* 44.4 to 18.2 Ma. Recently, this hiatus was challenged by osmium-isotope data, which suggest a condensed interval of very limited sedimentation (Poirier and Hillaire-Marcel, 2011). Together with the generally poor core recovery, this prevents a detailed and continuous reconstruction of the Cainozoic climate history. Finally, a

The overall goal of the proposed drilling expedition ACEX-2 is the recovery of a complete stratigraphic sedimentary record on the southern Lomonosov Ridge to meet our highest priority paleoceanographic objective, the continuous long-term Cainozoic Arctic Ocean climate history with its transition from the early Cainozoic Greenhouse world to the late Cainozoic Icehouse world. Furthermore, sedimentation rates two to four times higher than those revealed by ACEX cores permit higher-resolution studies of Arctic climate change in the Pleistocene and Neogene. Key objectives are related to the reconstruction of the history of circum-Arctic ice-sheets, sea-ice cover, Siberian river discharge, and deep-water circulation and ventilation and its significance within the global climate system. These objectives are key elements in the IODP Science Plan (2013-2023),

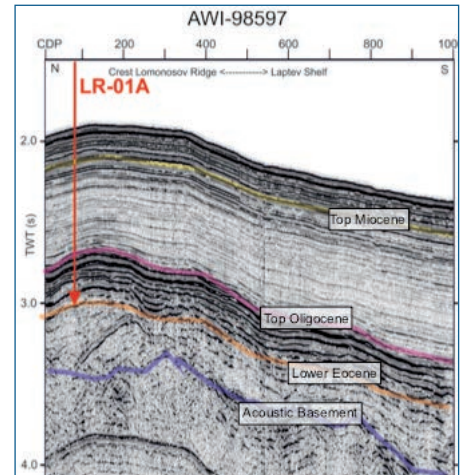


Figure 2: Seismic profile across Site LR-01A with main seismic units. Unit thicknesses (Quaternary-Pliocene: ca. 175 m; Miocene: ca. 650 m; Oligocene: ca. 300 m) were calculated using velocities from sonobuoys; see Figure 1 for locations (for references see 708 Proposal).

Theme 1 Climate and Ocean Change. As demonstrated in the proposal, this goal can be achieved by careful site selection, appropriate drilling technology, and applying multi-proxy approaches to paleoceanographic, paleoclimatic, and age-model reconstructions. We propose one primary drill site with three APC/XCB/RCB holes down to about 1,220 metres below seafloor to recover multiple sections of the sediment sequence to ensure complete recovery for construction of a composite Cainozoic section.

IODP Proposal 708 Proponents: R. Stein, W. Jokat, H. Brinkhuis, L. Clarke, B. Coakley, M. Jakobsson, A. Krylov, J. Matthiessen, M. O'Regan, C. Stickley, K. St. John and E. Weigelt.

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References

- Backman *et al.* (2008). *J. Paleoclimatology* 23, PA1503, doi:10.1029/2007PA001476
- Moran, *et al.* (2006). *Nature*, 441, 601-605
- Poirier & Hillaire-Marcel (2011). *Geophys. Res. Lett.* 38(14), L14607

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NB: Approval of the new ECORD representative on SEP (site-survey sub-group) is ongoing.

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Calendar of Workshops and Conferences

<p>2014</p> <p>20th-23rd January MagellanPlus Workshop Deep-sea Record of Mediterranean Messinian Events (DREAM) II Paris, France www.ecord.org/magellanplus.html</p> <p>11th-14th February MagellanPlus Workshop Corinth Rift Athens, Greece www.ecord.org/magellanplus.html</p> <p>27th-28th February MagellanPlus Workshop BLACKSINK Utrecht, The Netherlands www.ecord.org/magellanplus.html</p> <p>24th-26th March Deep Drilling of the Amazon Continental Margin Buzios, Brazil usssp-iodp.org/workshop/amazon/</p>	<p>27th April - 2nd May EGU General Assembly 2014 Vienna, Austria www.egu2014.eu</p> <p>28th April - 2nd May Japan Geosciences Union 2014 Yokohama, Japan www.jpogu.org/meeting_c/</p> <p>9th-13th June Goldschmidt 2014 Sacramento, CA, USA www.goldschmidt.info/2014</p> <p>28th July - 1st August AOGS Sapporo, Japan www.asiaoceania.org</p> <p>21st-23rd August MagellanPlus Workshop Advancing Sub-surface Biosphere and Paleoclimate Research Seoul, South Korea www.ecord.org/magellanplus.html</p>	<p>22nd-28th August ISC 2014 Sedimentology Geneva, Switzerland www.sedimentologists.org/meetings/isc</p> <p>24th-29th August 15th ISME Seoul, South Korea www.isme-microbes.org/isme15</p> <p>10th-12th September 2nd DWC Congress Ghent, Belgium www.2dwc.ugent.be/</p> <p>15th-17th September MagellanPlus Workshop N Atlantic drilling for climate dynamics Heidelberg, Germany www.ecord.org/magellanplus.html</p> <p>7th-9th October 2014 EurOCEAN 2014 Rome, Italy www.eurooceanconferences.eu/</p>	<p>15th-19th December AGU Fall Meeting San Francisco, CA, USA fallmeeting.agu.org/2014/</p> <p>-----</p> <p>2015</p> <p>16th-21st August Goldschmidt 2015 Prague, Czech Republic goldschmidt.info/2015/</p> <p>6th-9th October 3P Arctic Saint Petersburg, Russia www.3parctic.com</p> <p>-----</p> <p>14th-18th December AGU Fall Meeting San Francisco, CA, USA http://meetings.agu.org/</p> <p>-----</p> <p>2016</p> <p>26th July - 1st June Goldschmidt 2016 Yokohama, Japan goldschmidt.info/2016/</p>
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2014 ECORD & IODP Meetings

ECORD Executive & Vision Task Force 4 th March Bremen, Germany	ESSAC 25 th -28 th May Keflavik, Iceland	Chikyu IODP Board 10 th -11 th July Yokohama, Japan
ECORD Facility Board 5 th -6 th March Bremen, Germany	IODP Forum 27 th -28 th May Busan, South Korea	ECORD Executive & Vision Task Force 2 nd September Zurich, Switzerland
JOIDES Resolution Facility Board 23 rd -24 th April Washington, DC, USA	SEP 23 rd -26 th June New Brunswick, NJ, USA	ECORD Outreach & Education Task Force 3 rd -4 th September Zurich, Switzerland
EPSP 5 th -7 th May College Station, TX, USA	ECORD Industry Liaison Panel 11 th -12 th June Edinburgh, UK	Joint ESSAC & ECORD Council 7 th -10 th October Zurich, Switzerland

Reports of MagellanPlus Workshops

:: Integrated Southern Ocean Latitudinal Transects (ISOLAT) - 23rd - 25th September 2013, Cambridge (UK)

Convenors: I. Hall, L. Skinner, L. Peterson, R. Zahn, M. Kienast, X. Crosta, R. Schneider and D. Hodell

Quantifying oceanic variability at timescales of oceanic, atmospheric, and cryospheric processes are fundamental objectives of both IODP and the international IMAGES programmes. In this context the Southern Ocean plays a leading role in that it is involved, through its influence on global ocean circulation and carbon cycle, with the development and maintenance of the Earth's climate system.

Decadal to millennial ocean and climate variability is documented in a wealth of proxy records from throughout the global ocean and continental archives. There is broad consensus that such abrupt climatic swings in the North Atlantic region were caused by sudden changes in marine heat and salt transports to the northern North Atlantic. The amount of poleward heat transport in surface ocean currents is defined by the strength of the ocean's thermohaline circulation (THC), the so-called oceanic conveyor, with deep convection in the northern North Atlantic being a plausible control on the THC and marine heat transport. Abrupt transitions between differing THC appear to be most clearly associated with rapid (10-20 year), major perturbations in the climate system documented for the last glacial-interglacial cycle from marine, ice-core and lake records in the North Atlantic region - known as Dansgaard-Oeschger events. However, understanding the trigger mechanism(s) for these rapid mode switches in the past and the interhemispheric connectivity of their climate impacts remains a key area of research. While freshwater perturbations of the North Atlantic surface-ocean density structure play a major role in many models to explain such rapid THC changes, the role of the Southern Ocean in driving such patterns is increasingly becoming apparent. Model simulations suggest that the transition between the North Atlantic circulation modes may instead be a function of density perturbations in the

southern hemisphere oceans. High-resolution marine and ice-core palaeoclimatic records from the southern hemisphere indeed indicate a high degree of variability in surface and deep-ocean as well as atmospheric patterns, thereby confirming the potential for an enhanced control of the southern hemisphere oceans on global ocean THC, and the Atlantic meridional overturning circulation in particular.

A natural place to investigate Southern Ocean variability is the circum-Antarctic ocean regimes of the southernmost subtropical, subantarctic and polar zones. The ocean circulation around Antarctica is primarily characterized by the vast Antarctic Circumpolar Current (ACC) surface current and the interactions between North Atlantic Deep Water (NADW) and Circumpolar Deep Water (CDW). The incorporation of NADW into the CDW varies through time as a function of past states of global climate and determines the volume transport in the ACC from the Atlantic to the Indian and Pacific Oceans. The surface section of the ACC likewise distributes water between the ocean basins and notably its transports through Drake Passage in conjunction with the water flow around the tip of Africa, in the southernmost subtropical zone, form the surface return flow to the Atlantic basin of the global THC. The fast-flowing deep reaching ACC in places promotes the deposition of contourite sediment drifts, offering the potential for recovering long, continuous, rapid deposition rate sediment sequences.

The three-day ISOLAT workshop brought together 33 members (*below*) of the palaeo-data and climate modelling communities from 11 countries to define scientific questions and targets to investigate sub-centennial to millennial variability of the ACC, including surface transports and deep water flow, in order to



Continued on page 27

:: Deep-sea Record of Mediterranean Messinian events (DREAM-II) - 20th - 23rd January 2014 Paris (France)

Convenors: G. Aloisi, A. Camerlenghi, G. deLange, R. Flecker, D. Garcia-Castellanos, C. Gorini, C. Hübscher, W. Krijgsman, J. Lofi, S. Lugli, S., V. Manzi, T. McGenity, G. Panieri, M. Rabineau, M. Roveri and J.F. Sierro

The MagellanPlus DREAM-II workshop held in Paris in January 2014 follows only 6 months after the DREAM workshop held in Brisighella (Italy) (See *ECORD Newsletter #21*). The goal of the DREAM initiative is to prepare a **Multi-phase Drilling Project (MDP)** to address a variety of exciting scientific themes that include the formation of one of the largest salt deposits (salt giants) in Earth's history, and are extended to the tectonic, hydrological and biological consequences of this extraordinary event. The fact that the Mediterranean Salt Giant is the youngest - it was formed about 6 million years ago during the Messinian stage of the Miocene - is still contained in the sedimentary basin where it formed and has suffered limited deformation, offers a unique opportunity to investigate geological, geochemical and biological processes in action. We acknowledge the participation of Gilbert Camoin, Director of EMA (ECORD Managing Agency), in the Paris workshop, who underlined the strong support offered by ECORD to drilling initiatives in the Mediterranean Sea.

In Paris we worked on preparing the Mediterranean MDP called "Uncovering

a Salt Giant". A presentation by Dick Kroon (Chair of the Science Evaluation Panel (SEP)) was particularly useful in directing our MDP preparation and submission strategy. We formulated the fundamental scientific questions that are addressed in four pre-proposals: **Messinian Salinity Crisis, Salt Tectonics and Fluids, Surface to Deep Earth Connections** (derived from the *GOLD drilling project*) and **Deep Biosphere**. We will submit the umbrella proposal and three pre-proposals for the April 1st 2014 deadline. The deep biosphere proposal, which is the most recent, will be prepared for the following deadline. We also worked on developing a Sapropel theme that will evolve into another pre-proposal in the near future.

The first day of the workshop was dedicated to reviewing the state of the drilling proposals. A presentation by Sierd Cloething (Utrecht University) made it clear that DREAM will benefit from collaborating with the European network TOPOEUROPE ("The Geoscience of Coupled Deep Earth - Surface Processes" - <http://www.topo-europe.eu/>), specifically on the link between vertical tectonics and the rapid loading and unloading

of the upper lithosphere during the emplacement of the Mediterranean Salt Giant. We then divided into four working groups to further develop our drilling proposals. The complex task of choosing drilling sites, including alternate sites, which are adapted to tackle the wide range of questions addressed by this MDP was carried out. Based on our database of 2-D and 3-D seismic surveys, we located one deep drilling target in the Levantine Basin (eastern Mediterranean) and a shallow-to-deep transect comprising four drilling targets in the western Mediterranean basin. Our approach is multi-platform, with some sites accessible only with the *Chikyu* in riser mode, and others accessible with the riserless *JOIDES Resolution*.

The road to Mediterranean scientific drilling is still long, but an important step forward was made in Paris. The actions we are considering for the coming months include organising a workshop in Japan (JAMSTEC) and the submission of a COST action for long-term scientific networking.

Contact: Giovanni Aloisi
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<http://www.ecord.org/magellanplus.html>



DREAM-II Workshop participants: 1 Nicolas Waldmann, 2 Angelo Camerlenghi, 3 Terry McGenity, 4 Dick Kroon, 5 Lucien Montadert, 6 Marc de Rafelis, 7 Agnès Maillard-Lenoir, 8 Andrea Moscariello, 9 Daniel Garcia-Castellanos, 10 Rachel Flecker, 11 Christian Gorini, 12 Marina Rabineau, 13 Veronique Gardien, 14 Francisco-Javier Sierro, 15 Daniel Aslanian, 16 Speranta Popescu, 17 Antonio Caruso, 18 Fabrizio Lirer, 19 Vinicio Manzi, 20 Stefano Lugli, 21 Andrea Argnani, 22 Alessandra Negri, 23 Johanna Lofi, 24 Francisco José Jimenez-Espejo, 25 Gert deLange, 26 Junichiro Kuroda, 27 Vanni Aloisi, 28 Nobu Eguchi, 29 Lucas Lourens. Not on the photo: Christian Hübscher, Gilbert Camoin, Richard Hedley, Rolf Kipfer, Sierd Cloething, Zohar Gvirtzman, Catherine Pierre, Jeffrey Poort and Jean-Marie Rouchy.



A new Science Plan for ICDP: Continental Scientific Drilling Conference in Potsdam

“Imaging the Past to Imagine our Future” is the motto for future science in the International Continental Scientific Drilling Program (ICDP). About 180 geoscientists, stakeholders, representatives from partner programmes, early-career scientists, policymakers, and industry professionals from 26 countries gathered at the ICDP Science Conference 2013, on 11th-14th November, in Potsdam, Germany, to discuss the forthcoming ICDP Science Plan. It will broaden the goals of continental scientific drilling towards targeted understanding of geoprocesses in relation to society. In future, scientific drilling for faulting and earthquakes processes, for heat and mass transport, for global cycles and environmental changes and for the hidden biosphere will be considered in the context of societal needs and relevance such as water quality and availability, climate and ecosystem evolution, energy and mineral resources and natural hazards.

The conference served to (1) review ICDP activities and highlight past achievements, (2) identify new hot topics, (3) strengthen and expand ties between member countries and partner programs (IODP, ANDRILL), (4) invite and integrate early-career researchers in upcoming ICDP activities, (5) debate incorporation of industry partners into selected ICDP strategic activities for a science-driven mutual benefit and (6) discuss new outreach measures to media, policy makers and the interested public. The successful co-operation between ICDP and IODP/ECORD in particular in the field of outreach was highlighted and shall be further developed in the future.

All talks and discussions were video-streamed and are available at the ICDP website at <http://www.icdp-online.org/media/icdp-science-conference-2013/conference-videos/>. A white paper serving for the forthcoming years as the ICDP Science Plan is currently in production, and a special issue of a



(photos courtesy ICDP)

scientific journal will present key papers discussed during the conference to provide a snapshot of the scientific framework within which ICDP operates.

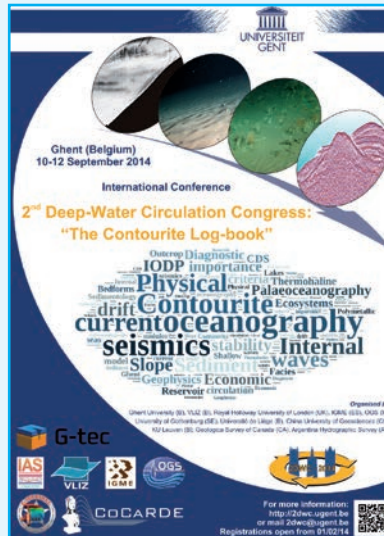
Thomas Wiersberg, ICDP - <http://www.icdp-online.org>



News from ECORD Member countries

Belgium

This year, the Marine Geology journal will celebrate its 50th anniversary. We can celebrate as well the first seminal paper on deep-sea currents, published by Heezen and Hollister in the first volume of Marine Geology. Since then, there has been a tremendous effort by numerous marine scientists to better understand the story locked within contouritic sequences. This is why the **2nd Deep-Water Circulation Congress**, held in Ghent, Belgium (10th-12th September 2014) aims to focus on the 'Contourite Log-book', with the intention of increasing our ability to unveil and extract the temporal and lateral variability of palaeoceanographic processes. We therefore aim to assemble the widest possible



consortium of international ocean scientists in order to discuss the following main topics:

1. The coupling between physical oceanographic and contouritic processes;
2. The role of contouritic processes in the initiation, maintenance and decay of deep-water ecosystems (co-sponsored by COCARDE);
3. The influence of contourite sedimentation on slope instability (co-sponsored by IGCP-585 E-MARSHAL);
4. The economic relevance of contourites for hydrocarbon systems, polymetallic nodules etc.

The Conference format will consist of keynote talks, oral presentations, and poster presentations.

Additional information can be obtained through <http://www.2dwc.ugent.be>.

We look forward to welcoming you in Ghent!

David Van Rooij, ESSAC Delegate

Portugal

Portugal transitioned into the new programme on a high note with the Fundação para a Ciência e a Tecnologia (FCT) committing to ECORD for the period from 2014 to 2018 and spreading interest in IODP.

Cristina Lopes from the Portuguese Institute for the Sea and Atmosphere (IPMA) sailed on Expedition 346 Asian Monsoon, the last IODP (2003-2013) expedition. Clara Sena from the Geoscience Department and CESAM Associated Laboratory of the University Aveiro, is the first sea-going scientist from an institute outside of

the Greater Lisbon area to embark on Expedition 351 Izu Bonin Mariana: Arc Origins this summer.

The increasing interest in IODP manifested itself also in actions at the University of the Algarve in Faro where Prof. Cristina Veiga-Pires hosted ECORD Distinguished Lecturer Claude Hillaire-Marcel in October (who gave his lecture also at IPMA in Lisbon a few days later). In addition, Prof. Veiga-Pires used the K/T boundary core replica in an exhibition at the CIMA research center and as teaching material in the Marine Sciences Undergraduate programme (page 11) and in a geology course of a nearby high school.



Helder Pereira (Loule High School) and his class and colleagues during the ship-to-shore video call with Cristina Lopes (on screen) on the JOIDES Resolution during Expedition 341 Asian Monsoon).

Helder Pereira, who sailed in Expedition 339 as the Education and Outreach officer, his 11th grade science class and three additional teachers had a successful ship-to-shore video call with Cristina Lopes onboard the *JR* during Expedition 346.

Helder is also contributing to a video prepared by the Deep Earth Academy, Consortium for Ocean Leadership (Washington, D.C.) (page 10).

Antje Voelker, ESSAC Delegate and Fernando Barriga, Council Delegate

Canada

Prof. Guillaume St-Onge (Institut des sciences de la mer de Rimouski - Université du Québec à Rimouski & GEOTOP) recently sailed as a Stratigraphic Correlator on Expedition 341 to the Southern Alaska Margin (29th May to 29th July 2013). The main objective of the expedition was to drill a cross-margin transect to investigate the northeast Pacific continental margin sedimentary record formed during orogenesis within a time of significant global climatic deterioration in the Pliocene-Pleistocene that led to the development of a temperate glacial system. Expedition 341 recovered a 3,240 m sedimentary record that extends from the late Pleistocene/Holocene through the middle Miocene. A remarkable expedition discovery is the substantial sediment volume accumulating on the shelf, slope, and deep-sea fan since the early Pleistocene intensification of



Guillaume St-Onge at the Stratigraphic Correlation station onboard the JOIDES Resolution during Expedition 341 (photo Oscar Romero, IODP/TAMU).

Northern Hemisphere glaciation and more significantly since the mid-Pleistocene transition.

In collaboration with the shipboard paleomagnetists Joseph Stoner and Shulan Ge, as well as with shipboard sedimentologist Matthias Forwick, Guillaume St-Onge and PhD student Julie Heggdal Velle will now

focus their efforts on the detailed paleomagnetic analysis of u-channel samples for magnetostratigraphic, geomagnetic and paleoceanographic purposes.

Diane Hanano, CCOD Scientific Coordinator
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Finland

Work with the IODP Expedition 347 Baltic Sea Paleoenvironment material continued during the Onshore Science Party (OSP) that was organised in the Bremen Core Repository (BCR), Germany, in January-February 2014 (*pages 8-9*). The Finnish offshore-onshore party, Outi Hyttinen (University of Helsinki) (*cover photo*) and Aarno Kotilainen (GTK) (*right*), participated in the OSP together with the international team of 29 IODP scientists and

a group of 20 ECORD scientists, technicians and curators, and 16 student assistants, processing in total 1,623 m of sediment cores and collecting over

32,000 samples for post-cruise studies.

Expedition 347 and its preliminary results were promoted via participation

in the first Finnish National Colloquium of Geosciences held at the GTK, in Espoo on 19th-20th March 2014. The Colloquium had a special theme focusing on "The Baltic Sea" geology.

Aarno Kotilainen, ESSAC Delegate



Physical properties specialists Aarno Kotilainen, right (Geological Survey of Finland, GTK) and Steven Obrochta, left (University of Tokyo, Japan) discuss further core logging strategies in the BCR lab (U. Röhl ©ECORD/IODP).

United Kingdom

IODP Knowledge Exchange

Fellow. The IODP programme is aware that industry has a desire to engage with IODP, and that significant use is already made of the data arising from IODP, particularly published literature and archived samples. In order to develop knowledge exchange activities and improve engagement with industry, a dedicated effort is required. NERC are therefore looking for a

Knowledge Exchange Fellow to work towards achieving this goal for the UK IODP research programme for a period of 3 years. Applications are welcomed on a part-time basis (between 40% and 80% full-time equivalent). Ideally the Fellowship will commence before November 2014. Further information: <http://www.nerc.ac.uk/funding/available/schemes/dkefellowscall.asp#iodp>

UK-IODP Science Co-ordinator

UK-IODP is pleased to announce that Dr Sean Burke will be taking



over the role of UK-IODP Science Co-ordinator. Dr Burke is currently employed by the British Geological Survey and is based in Keyworth, Nottingham, England. He can be contacted on ukiodp@bgs.ac.uk

UK-IODP - Science Coordination
<http://www.bgs.ac.uk/iodp/>

Sweden

Expedition 347 Baltic Sea Paleoenvironment.

After what felt like an eternity to those involved, three Swedish-based scientists (including one Co-chief by the name of Thomas Andrén) attended the 4½ week long Onshore Science Party of Expedition 347 in Bremen during January and

February 2014 (*pages 8-9*). Elinor Andrén spent her days peering at diatoms through a microscope and Ian Snowball dutifully collected thousands of samples in cubic plastic boxes for paleomagnetic measurements, which will be processed during the coming months. These participants thank the staff of ESO, MARUM and the Marine Geophysics research group at the

University of Bremen for all their help and attention.

Expedition 350 Izu-Bonin-Mariana Rear Arc. This newsletter will be released shortly after Abigail Barker (petrologist) and Manuela Bordiga (nannofossil paleontologist), who are both members of the Department of Earth Sciences at Uppsala

University, sailed on Expedition 350. There have been an increased number of applications by Swedish-based scientists to use the infrastructure that IODP provides through ECORD and these scientific berths are a welcome result.

ESSAC Alternate. After many years of serving as the Swedish ESSAC delegate and subsequently as the alternate, Eve Arnold (Department of Geosciences, Stockholm University) has stepped down and Jorijntje Henderiks (Department of Earth Sciences, Uppsala University) recently took over the role as the ESSAC alternate delegate.

Ian Snowball (Swedish ESSAC delegate)
<http://www.ssdp.se/>



From left to right: Ian Snowball, Thomas Andrén and Elinor Andrén performing their tasks during the Baltic Sea Paleoenvironment Onshore Science Party, Bremen, Jan-Feb 2014 (©ECORD/IODP).

Switzerland

With the initiation of the new IODP in late 2013, Swiss IODP and ICDP has reorganised under a single umbrella structure housed in a central office at the University of Bern. Organised by Flavio Anselmetti and Mareike Trauerstein, the first **SwissDrilling Day** was convened in Bern on 14th February 2014 and brought together 59 scientists from all Swiss academic institutions to share their experiences and future plans in ocean and continental drilling. A total of 25 oral contributions presented introductions to IODP, ICDP and IPICS (International Partnerships in Ice Core Sciences - the third major scientific drilling programme in Switzerland), reports covering ongoing and future drilling projects, perspectives for new drilling

proposals, and information about how to participate in scientific campaigns and submit proposals. Keynote contributions focused on the most recent drilling projects/



expeditions, such as the multi-expedition NanTroSEIZE project and geothermal exploration in Switzerland.

A highlight of the meeting was the “**Livecast from the JOIDES Resolution**” direct from Expedition 349 South China Sea. Two young scientists, Rui Bao and Ivan Hernandez Almeida from Swiss

institutions, were on board the *JR* and, together with the staff and Co-chief Scientists, were beamed in via Skype live connections. They relayed their enthusiasm for shipboard participation, introduced their respective laboratories and explained the objectives of their work on board.

A second highlight was the presentation of the **First Swiss Drilling Lifetime Award** to Judith McKenzie and to Michael Sturm for their outstanding contributions and dedication to ocean and continental research drilling, respectively. Overall, this premiere event left everyone with a very positive impression and interest to meet again in the next year.

Silvia Spezzaferrri, Swiss ESSAC Alternate
<http://www.swissiodp.ethz.ch>

The Netherlands

On 18th October 2013, Jan de Leeuw received the prestigious IODP-Person of the Year 2012 award from the Netherlands IODP Committee (NIC) for his major contribution to IODP between 2009-2013, part as member of SASEC and as Chair of SIPCOM and the Science Implementation and Policy Committee (see picture). The IODP-Person of the year award was set up in 2005 to recognise scientists for their major achievements as Dutch representatives within ODP/IODP. The award is symbolised by an “Elmo” puppet (*right*) and is awarded each year - <http://www.iodp.nl/events.html> - during the annual IODP-NL symposium where graduate students and staff



members present their IODP and ICDP related research and news items.

2013 was also the year that Caroline Slomp (Utrecht University) joined Expedition 347 Baltic Sea Paleoenvironment (*see page 6-9*) and posted her blog on <http://geoblog.weebly.com/expedition-baltic-sea.html> and the Iodp.nl page on Facebook got more than 80 likes.

Recently, Bernard Westerop (NWO Earth and Life Sciences) has replaced Josef Stuefer as Dutch member of the ECORD Council. Bernard will take over all duties of representing NWO in national and international ECORD/IODP-related bodies.

Lucas Lourens, ESSAC Delegate, Josef Stuefer and Bernard Westerop ECORD Council Delegate.
<http://www.iodp.nl/>

Israel

Israel recently joined the ECORD consortium and is already active in the ocean and continental drilling arena. In late February, the Israel Geological Society annual meeting took place on the shorelines of the Dead Sea.

A booth explaining Israeli liaison with ECORD was opened to provide information to the attendees (*right*). A short presentation was given to all members in the general assembly, to explain to the general Israeli scientific community the different aspects of being members of ECORD and the large IODP family. Besides being active in the



ocean realm, Israel is also a member of the ICDP. A special session was organised in the same congress about the ICDP-Dead Sea Deep Drilling Project (DSDDP), which took place

a few years ago. Ten presentations were given in this special session, which was very successful and very well attended.

Besides being active in the field, the Israel liaison to ECORD is also active on the web. A website is currently being built and will include information on the different ways the Israeli scientific community can participate in IODP-ICDP related projects and courses. The website will be online in April 2014.

We are looking forward to the first Israeli participant in one of the IODP expeditions!

*Nicolas Waldmann, ESSAC Delegate
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Norway

In early February 2014, future IODP activities in the Arctic were presented by Katrine Husum during an open conference entitled "The Changing Arctic and Sub-arctic Marine Environments (CASE): Proxy and model-based reconstructions" at the University of Bordeaux in France - <http://caseconf.epoc.u-bordeaux1.fr/>.

The conference was organised within the CASE Initial Training (ITN) funded by the FP7 European Commission under Grant Agreement No. 238111.

The purpose of the presentation was to introduce early-stage researchers to future possibilities for IODP research in the Arctic. One of the challenges identified in the Science Plan for IODP 2013-2023 is the response of ice sheets and sea level to a warming climate. The research and drilling strategy will be to



Sea ice and icebergs in Scoresby Sound, East Greenland (photo Katrine Husum).

establish records of Quaternary glacial-interglacial cycles from pole to pole. At present seven drilling proposals in the Arctic Ocean have been submitted to the IODP, and they are currently being evaluated. In addition, it is expected that

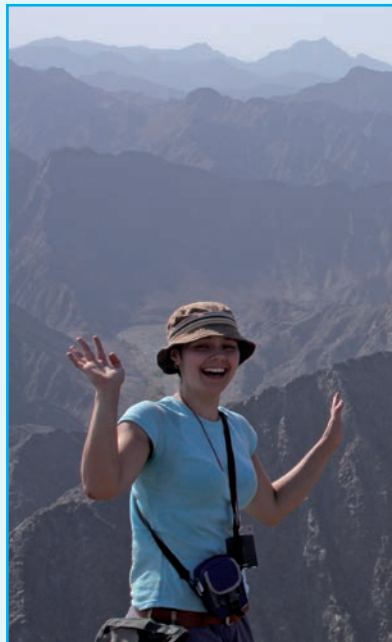
new proposals for drilling the Arctic region will be prepared and submitted to the IODP in the future.

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France

France has enthusiastically entered into the 2013-2023 phase of IODP. At the dawn of this new era, the good resolutions include the will to increase the involvement of French scientists by supporting them after an expedition. In order to reach this objective, IODP-France has secured a budget of about 300,000 euros per year specifically dedicated to post-cruise funding and to seagoing post-doc salaries for seagoing young scientists. Applications will be evaluated by a recently created committee composed of experts in the various fields of the IODP Science Plan.

The IODP-France website has been re-designed by Bénédicte Abily, Anne-Marie Cousin and Bérengère Doerler. It now has two main entry points,



Bénédicte Abily during a fieldtrip in Oman (photo Georges Ceuleneer).

one for the scientists, and the other for a larger public audience, including

teachers and journalists interested in scientific drilling.

Bénédicte Abily (*left*), IODP-France Scientific Co-ordinator, left the office in Toulouse in January 2014. During her three years, Bénédicte has done a fantastic job! Among many others tasks, she daily collected information to feed the databases and, in particular, mostly wrote a long report about French participation in the IODP from 2003 to 2013, which contributed to the decision of our funding agency to renew French participation in the International Ocean Discovery Program. Bénédicte is now a Post-doc Fellow at Macquarie University (Sydney, Australia).

Georges Ceuleneer, ESSAC Delegate and President of IODP-France, and Michel Diament, ECORD Council Delegate.

<http://www.iodp-france.org/>

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assess the role of the Southern Ocean in rapid climate changes, both in terms of its THC and biogeochemical inventories. Overview presentations and discussions addressed the following subjects: dynamics of the Southern Ocean, the Southern Ocean role in modulating climate, biogeochemistry, stratification and the control of atmospheric CO₂, interhemispheric climate linkages, frontal systems: variability, processes and impacts, regionalisation of Holocene climate change and knowledge from existing sediment records in the Southern Ocean.

The workshop was also primarily intended to provide a planning opportunity that would lead to the development and submission of integrated proposal(s) for the acquisition of long (30-50 m) sediment cores from latitudinal transects crossing the Southern Ocean frontal systems and the ACC. This saw 24 short-presentations highlighting potentially suitable long-coring targets and ensured extensive discussions of future scientific coring strategies and plans.

Our objectives were reached, and discussions emphasized the strong need for multidisciplinary investigations utilising a long-coring, transect approach designed to allow the study of ACC variability across a range of latitudes in conjunction with

meridional shifts of the major surface ocean-fronts. The targeting of sites distributed with water depth will ensure the opportunity to reconstruct the vertical water mass architecture of the ACC. Smaller working groups were created at the ISOLAT meeting and each has begun the process of developing detailed plans for long-coring transects in a number of key areas. These will be integrated into a Multi-Phase Drilling Project in the coming months.

This workshop, jointly funded by the MagellanPlus Workshops Series Programme and the International Marine Process Reconstruction Study (IMPRESS/IMAGES II) programme, was intended to take advantage of new changes that will allow ECORD to support long-coring as a mission-specific option within the framework of the International Ocean Discovery Program (IODP). The ISOLAT Workshop was hosted by the University of Cambridge, (Magdalene College) and is an outgrowth of earlier discussion and preliminary planning originating from within the IMAGES 'Southern Ocean Working Group'.

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