

n°9
October, 2007

CONTENTS

Cover page:
Message from the
Council Chair

pages 2-3:
In Memoriam
Tim Brewer

page 4:
ESO News

page 5:
Curatorial
Meetings at BCR

page 6:
EMA News

pages 6-8:
ECORD
Education
& Outreach
Activities

pages 9-15:
ESSAC Updates
- Workshop &
Symposium
Reports

pages 11:
Highlights of
IODP Proposals

pages 12-13:
Search for signs
of active life in
the Tahiti reef
framework

page 16:
ECORD -Net
Updates

ECORD Contacts

Entering a New Phase !

On the first of October IODP is celebrating its first phase of 4 years. During this first phase it has been a privilege to act as chair both at the start and closure. The timing is appropriate for some reflection to see if our vision of 4 years ago has come true and where we would like to go for the next period.

Sadly, I have to start by paying tribute to the contribution of Tim Brewer to ECORD. Looking back over the last 4 years we can see that ECORD has been successful in establishing mission-specific platforms (MSPs) as part of IODP. Tim was instrumental in setting up the ECORD Science Operator consortium, which managed the ACEX and Tahiti expeditions. Tim's contribution to ECORD is recognised in this newsletter and he will be dearly missed by his friends and colleagues in ESO in future MSP operations.

The ACEX and Tahiti expeditions were not only great scientific successes, but also received a lot of media attention, demonstrating the important role that ECORD plays in IODP. The core repository in Bremen also underlines this role. Furthermore ECORD expanded its membership with Austria, Belgium, Canada and Ireland and under the ECORD-Net initiated a number of new joint initiatives. In collaboration with the European Science Foundation the EuroMARC pre- and post-cruise science programme and the Magellan workshop series were launched. These will undoubtedly contribute to a number of high ranking European led IODP proposals. Through joint activities such as the Teachers' Workshop, Distinguished Lecturer Programme and Summer School initiatives, the European visibility was strengthened. It was therefore

not a big surprise that the review report published earlier this year was very favourable to ECORD.

Now looking ahead it is useful to see where we can learn from the past for further improvement. Rotation of the ESSAC Office was questioned for reasons of continuity and efficiency. But Council agreed that rotation also offers opportunities to share responsibilities among member organisations and bring new élan and creativity. Lessons were learned to ensure a smooth handover from Cardiff to Aix-en-Provence. It was a pity that, for reasons explained by ESO (*page 4*), the next expedition, New Jersey Shallow Shelf, had to be postponed but the good news is that ECORD will continue to act as MSP operator for IODP. From a financial perspective it appears that ECORD will be able to meet the contribution level increase for 2008. ECORD is now more actively lobbying the European Commission to secure follow-up ERA-Net funding in the 7th framework programme as demonstrated by active participation in the Aberdeen declaration for marine science and partnerships for the Deep Sea Floor and Aurora Borealis activities.

In my first editorial I stated that *"it was decided that ECORD could not join as the third Lead Agency. Nevertheless ECORD still strives to raise considerable additional funding from the EU and the door has been left open to join as Lead Agency at a later stage."* This was the vision we had 4 years ago. Given the strong euro and difficulties in the USA and Japan, as Catherine Mével will comment on (*page 6*), it is still possible to make it happen in the new second phase of IODP.

Raymond Schorno, Council Chair, September 2007

Timothy Brewer (1959-2007), Coordinator of the European Petrophysics Consortium

Dr Tim Brewer collapsed and died on 14th July, while attending a conference in Barcelona. This was obviously shocking and very sad news and came as a complete surprise to everyone.

Tim was initially appointed as a lecturer at Nottingham University prior to moving to a Lectureship in Applied Geology at the University of Leicester in 1994. Since then Tim had developed a strong portfolio of interest, centering on geochemistry, but more recently including diverse interests such as petrophysics, Precambrian geology and lake sediments. This wide range of expertise made him a very valuable contributor to a diverse range of projects, and he was much appreciated for his ability to provide new insights. Tim also ran a wide range of analytical services in the department and through this work developed links with a broad network of people in both academia and industry. In 2007 Tim was promoted to a Personal Chair as a full Professor at the University of Leicester.

(to continue on page 2)



(continued from page 1)

As a senior member of staff in the Department of Geology at the University of Leicester he played a full and active part in the university's activities, but most will know him for his work with the Integrated Ocean Drilling Program. Tim initially worked with Peter Harvey before taking the lead in the European Petrophysics Consortium, part of the ECORD Science Operator for the Integrated Ocean Drilling Program. He contributed to the successful MSP Expeditions to the Arctic and Tahiti and was very much involved in planning for IODP Expeditions to New Jersey and the Great Barrier Reef, as well as supporting the other Implementing Organizations within IODP.

Tim was a much loved colleague and friend, but as a true family man he loved his wife and sons and talked about them often. He had the ability to find humour in almost any situation and that humour could become infectious, as many who sat near him, or opposite him, in meetings found out to their cost! Tim is survived by his wife Lesley and two sons Daniel (17) and Andrew (15). Together they have been genuinely surprised by the compassion and sympathy they have received from researchers around the world; Tim rarely spoke of his role in scientific research and kept his importance to the community very much hidden.

Mike Lovell, Professor at the University of Leicester

In Memoriam Tim Brewer

Since the very beginning of ECORD in 2001, Tim was deeply involved in the European Petrophysics group as part of IODP. In order to illustrate Tim's contribution in the scientific drilling community and as a talented professor, we have assembled the following contributions and quotes written by his colleagues, students and friends from ECORD-IODP and the University of Leicester .

I was stunned and saddened by Tim's demise; I knew him as a good colleague, particularly in the latter days, and as a close friend, in total for some 25 years, from the time he turned up at the University of Nottingham as a raw research student. There is not a lot to say now; he will be missed greatly, and my wish is that the work he was doing for the geoscience community should continue with enthusiasm to help provide some lasting memory of which he was a part.

from Peter Harvey, University of Leicester

I first met Tim when he was a PhD student at the University of Nottingham in the mid 1980s. As a new lecturer in geophysics I unexpectedly had to take on some supplementary teaching of mineralogy. I turned to Tim for help and his willingness and knowledge in providing me with support were matched in equal measure with his dry wit and humour, always extracting a laugh and a smile.

Tim developed considerable acting skills and regularly scared new students, only for them to eventually discover the soft hearted, jovial and caring personality that was the real Tim. They have talked repeatedly about his wicked but inoffensive sense of humour, his ability to find time to help and support students, and of his professionalism and skills as a lecturer and researcher.

Tim was a quiet and modest colleague who will be missed by so many more people than he could ever have imagined. While we respect his academic professionalism in both his research and teaching, and especially his work for ECORD and IODP, many of us will miss him simply for his ability to make us laugh and smile each and every day, thus making our lives all the richer and all the more enjoyable.

from Mike Lovell, University of Leicester

Tim left us all on July the 14th, 2007. This by itself rings like the last joke he left some of us with, collapsing on French national day! But this needs to be explained a little. I really got to know Tim in 1993, while sailing with him on the *JOIDES Resolution* in the equatorial Pacific, for Ocean Drilling Program Leg 148. Both on the morning shift, we decided with Damon Teagle from New Zealand and Andy McNeill from Australia, to play cards every day after lunch. During a couple of months, much was said about rugby national teams, each defending his national squad, Tim contributing to maintain a very high spirit and exerting on a frequent basis his unique dry sense of humour. After that, jokes concerning a countless number of topics including rugby and national teams continued while writing on several papers and, more recently, building with him the European Petrophysics Consortium (EPC) for ocean scientific drilling. Working with Tim as part of EPC was always easy and pleasant, which makes his loss even more difficult to accept.

from Philippe Pezard, European Petrophysics Consortium

I would like express my personal sadness at Tim's death and to acknowledge Tim's huge contribution to ESO and IODP; I know that we shall all miss his experience, expertise, humour and friendship.

from Dan Evans, ECORD Science Operator

Tim was an exceptional character, a lovely bloke and someone I shall miss enormously. We are all the richer for having known him.

from Chris MacLeod, ECORD Science Support & Advisory Committee

What a great guy and what a great loss.

Good old Brewer..... when one day we turned up in the field with big fat moustaches drawn on our faces he didn't bat an eyelid! There was a tweak of a smile under his own famous moustache and a cheeky twinkle in his eye!

One of the truly inspirational people at Leicester U. With a cracking sense of humour and kind nature, Tim was always happy to lend an ear when needed and generally the life and soul of many a field trip.

He really was a genuinely nice guy. He had a fantastic sense of humour, I'll never forget the way he'd sit in his office with the lights off if he was avoiding someone. But he always had time for students with difficulties and was understanding about personal problems.

Best project supervisor ever! I'm really going to miss him.

All who knew Tim knew he was such a good laugh and a brilliant Geo!

I will always remember going up to tutorials wondering how many black eyes he would have from his rugby at the weekend.

The guy was an absolute legend. Not only an awesome lecturer, but a caring project supervisor.

Going to miss him, was one of the real characters of the world, always very funny but under the abrasive character was a real softy, someone who would always try to help and a very friendly character. Not to mention a very knowledgeable and talented geologist.

I loved his dry and wicked sense of humour.

Tim, thanks for all the help with the work, and more importantly, thanks for the laughs. You'll be greatly missed.

from his students at the University of Leicester

Tim was a close colleague, but also a very good friend. His special strength was his steady and perpetual enthusiasm for the scientific projects that we jointly worked on for IODP and in particular, ESO. He was always generous in offering his help, and his special human touch and great humour always kept us cheerful, even in very busy times. Tim emailed me from the conference in Barcelona only a day before he passed away: "Well Barcelona is hot and sunny and I am learning a lot about lakes and the people here liked my presentation so life is good at the moment." It is still hard to imagine that he is not with us anymore. I will think of Tim often, remember him fondly, and surely will miss him very much.

from Ursula Röhl, ECORD Science Operator



Tim Brewer leading a field trip to Cornwall.

Tim took on the responsibilities for the IODP work undertaken by the Borehole Research Group at Leicester on the retirement of Professor Peter Harvey in 2004.

His extensive knowledge of IODP issues and his supportive and caring attitude to his colleagues ensured that the group continued to thrive as a strong and effective team.

We all feel so fortunate that Tim was managing this group and made

it feel so cohesive and friendly. As has been mentioned by so many people Tim was full of fun and had a fantastic sense of humour, as well as being the head of our small group he was our friend. We are all still attempting to come to terms with a future without his support and guidance, he is sadly missed.

from Janette Thompson, Andrew Myers, Marc Reichow, Jenny Inwood and Louise Anderson, Leicester IODP group

I had the chance to work with Tim at the occasion of several SSEP meetings where he was acting as ESO liaison. Then, Tim was the driving force of the development of petrophysical and logging plans for the IODP Expedition #310 with the success that we all know. His exceptional efficiency and his lovely sense of humour will be missed in our community.

from Gilbert Camoin, ECORD Science Support & Advisory Committee



Dan Evans



Alan Stevenson

As is reported elsewhere in this newsletter, ESO have been rocked by the death of Tim Brewer in July, and we also had to postpone the offshore New Jersey Expedition from 2007. Although this summer has not been a good one for ESO, we continue to plan for successful expeditions in the future.

New Jersey Shallow Shelf

It had been planned that ESO would implement the offshore portion of this expedition in the summer of 2007, followed by the Onshore Science Party in January-February 2008. Unfortunately, there were several delays in the availability of the chosen platform, and it was announced in late June that the platform would not be available until August, meaning that the offshore work would extend into November. At that stage it was too late to obtain another platform, and given the safety and financial risks associated with such a late finish, it was decided to postpone. This was an intense disappointment to ESO, the Science Party, and many others, but we are now working towards offshore implementation in 2008.

Great Barrier Reef

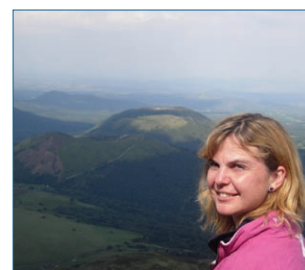
ESO has submitted to IODP-MI a provisional plan to drill the Great Barrier Reef in the September–November period of 2008, but depending on progress with New Jersey, this may be implemented during the same weather window in 2009.

The last edition of this newsletter reported on the ESO visit to the Great Barrier Reef Maine Park Authority as the first step in obtaining a permit to drill on the Great Barrier Reef. Since then, an official application has been submitted and we are currently in discussion with the Authority regarding some aspects of the application. We hope that our application will ultimately be successful, and I am pleased to say that we are receiving great support from the Australian geoscience community in our efforts towards this goal. We really hope that Australia will soon join IODP.

European Petrophysics Consortium

Following Tim Brewer's sudden death, Mike Lovell, the Head of the Geology Department at the University of Leicester took over leadership of EPC as a short-term measure. Since that time it has been announced that the long-term EPC Manager will be Sarah Davies at Leicester, but with Mike helping during the early stages of the transition.

Dr Sarah Davies is the new manager of the European Petrophysics Consortium. Sarah obtained her PhD from the University of Leicester, and subsequently undertook postdoctoral research at the universities of Liverpool and Edinburgh before joining the department at Leicester as a lecturer in 1999. The overarching theme of her research has been unravelling the influence of tectonic, climatic and eustatic controls on the development of sedimentary systems. Most recently she has worked on industry-funded projects combining petrophysics and sedimentology.



More MSP proposals needed

During recent SAS re-appraisals of proposals, it has become apparent that we need more high-quality MSP proposals to reach ranking at SPC. At present, only the New Jersey and the Great Barrier Reef proposals lie with the Operations Task Force for implementation, and no expedition is pencilled in for 2010. So if you have some good ideas, this may well be an opportunity to get some drilling done through IODP.

Please remember that ESO is available if you want to discuss any aspects of MSP drilling in your proposal.

ACEX session at AGU Fall Meeting

In 2004, the first scientific drilling expedition to the central Arctic Ocean, the Arctic Coring Expedition (ACEX), recovered sediment cores to 428 meters below seafloor. The ACEX co-chiefs Jan Backman and Kate Moran have now convened a special session on the expedition results (IODP Expedition 302) at this year's AGU Fall Meeting in San Francisco in December entitled "The Cenozoic Arctic Ocean Revealed". Prior to ACEX, the Cenozoic history (0 to 65 Ma) of the Arctic Ocean was largely unknown. Initial results following the expedition revealed a continuous paleo-record to ~18 Ma; a long hiatus from ~44 to ~18 Ma; a first occurrence of ice-rafted debris in the middle Eocene (~45 Ma); fresh surface waters at ~49 Ma; and warm surface waters during the Paleocene Eocene Thermal Maximum. Since then, over 40 scientists have further analyzed this unique paleoclimate record using petrophysical, chemical, paleontological, stratigraphic, and geophysical techniques. Other studies have integrated ACEX results to develop pan-Arctic reconstructions and interpretations. This session presents these follow-on results that elucidate the paleo-environment of the central Arctic Ocean over much of the Cenozoic.



photo ECORD/IODP

If you are attending the AGU, the convenors hope you will add the ACEX session to your schedule. Further information can be found at: <http://www.agu.org/meetings/fm07/?content=search&show=detail&sessid=201>



Ursula Röhl

Curatorial Meetings at the Bremen Core Repository

Training programme for CDEX curatorial staff at IODP Bremen Core Repository

The Bremen Core Repository (BCR) hosted a two-day training programme (26-27 February 2007) for CDEX* staff to acquaint them with procedures and policies they will need to be familiar with in the operation of the Kochi Core Center (KCC).

The sessions included a balance of practical and theoretical topics and were very successful in terms of the information covered and communication among the staff members from the



Discussion of sampling techniques during the training session at BCR (Photo IODP-BCR).

two repositories. The agenda was very flexible, allowing for more or less time for specific topics depending on time needed for questions and additional discussion. The CDEX visitors proved to be inquisitive and eager in their desire for information. The topics covered were numerous and included:

Introduction and tour of the facility. Overview of curation process. Review of basic core orientation and handling procedures. Practical sampling of a sediment core. Discussion of ideal sample sizes. Hard rock curation/sampling techniques. U-channel sampling, thin-sections, smear slides. Shipping of samples/cores. Education & Outreach examples. Receiving and racking of cores (core redistribution project; ECR* to BCR). Securing and packing of cores (core redistribution project; BCR to GCR*). Introduction to sampling program, databases: JANUS*, offshore DIS*. Sample request process (pre-cruise, moratorium, post-moratorium), Sample Allocation Committee (SAC) planning, pre site sample planning, planning for a post-cruise sample party, approval process.

Sampling of a composite record ("splice"). Sampling a recent request. Review of curator's role and IODP sample, data and obligations policy including loan agreements.

First Annual IODP Curatorial Meeting, held at MARUM in Bremen

Bremen Core Repository (BCR) hosted a three-day event (28 February to 2 March 2007) with 28 participants from CDEX (7), USIO* including WCR* and ECR (12), ESO-BGS* (2), IODP-MI* (1), Curatorial Task Force (CTF, formerly Curatorial Advisory Board, CAB) (1), and ESO-BCR (5), held in the MARUM building at Bremen University, Germany.

As this was the first meeting of all IODP curatorial staff, the agenda was flexible to allow time for questions and discussion. The topics covered were numerous and included:

General repository reports, discussion on communication channels, status of core redistribution project, specific curatorial issues, including quality assurance/quality control (QAQC) questions related to sampling, core wrapping issues, tracking of thin sections and smear-slide residues in the new Sample Material Curation System (SMCS), curation of cuttings, preservation conditions for cores loaned for short term (academic/scientific meetings) and long term (museum, educational institutes), sharing and administration of property and facilities among the repositories, and the role of university administration. Special operation related issues: incl. NanTroSEIZE curation (*SODV, Chikyu*), multirepository requests, non-performer requests, museum loans; discussion of IODP sample, data and obligation policy, inter-IO* training.

The meeting included a good balance of presentations and discussion topics, and was very successful both in terms of the information covered and in promoting communication between the staff members from all repositories.

The last day of the 1st Annual IODP Curatorial Meeting (with guest participants from the IODP Data Management Coordination Group (DMCG), who met at MARUM later that week) was dedicated to the databases the IOs are using, the new Sample Material Curation System (SMCS), and the new USIO Laboratory Information Management System (LIMS). Brief presentations/updates were given on J-CORES*, Offshore DIS, SEDIS*, JANUS, and LIMS/SMCS, with introductions, background, and sampling information. In addition, a demo and test of the Sample Material Curation System (SMCS) was performed online by most participants.

Ursula Röhl, ESO Curation and Laboratory Manager

* CDEX: Center for Deep Earth Exploration; ECR: East Coast Repository; GCR: Gulf Coast Repository; JANUS: USIO Database System; Offshore DIS: ESO Database System, Offshore Drilling Information System; USIO: US Implementing Organisation; WCR: West Coast Repository; BGS: British Geological Survey; IODP-MI: Integrated Ocean Drilling Program Management International, Inc.; IO: Implementing Organization; J-CORES: Japanese Database System; SEDIS: Scientific Earth Drilling Information System.



Catherine Mével

IODP faces new challenges

We are entering a new phase of IODP, with the three types of drilling platforms operating simultaneously. For the first time, new areas of research are now accessible to the scientific community.

At the same time, however, IODP is facing significant funding challenges. Due to the oil price, there is a high demand for all equipment related to ocean drilling which has resulted in increased costs that strongly impact on the program. This is also why ESO has not been able to contract a drilling platform during the weather window suitable to implement the New Jersey Shallow Shelf Expedition in 2007. Moreover, in many member countries, the funding level is not as high as we would like.

As a result, IODP will not have enough funds to run the platforms all year round. It is expected that the *JOIDES Resolution* will operate 7-8 months a year within IODP. The *Chikyu* is planning to devote 5 months of riser drilling plus 2 months of non riser drilling every year to IODP. During the remaining time, both NSF/USIO and MEXT/JAMSTEC will look for other funding sources, either from other governmental agencies or from commercial companies, to operate outside

of IODP. The program is also open to partnership that could contribute significantly to specific expeditions.

For mission-specific platforms, the challenge is also there. ECORD is not likely to have enough funds to operate one expedition per year. The ECORD Council is keen, however, to maintain at least one every two years, to keep the momentum in the ECORD Science Operator. This may keep very expensive expeditions out of reach for the present time, unless we are able to raise additional money. We are discussing possible funding opportunities with the European Commission within FP7.

How this will work is not yet fully appreciated. All IODP entities are presently working on the implementation of this new mode of operation. However, the good news is that the *Chikyu* is ready to go this September, and that a completely refitted *JOIDES Resolution* will start next spring. A number of exciting programmes are coming up, and opportunities are still there.

Catherine Mével, EMA Director

The ECORD member countries are Austria, Belgium, Canada, Denmark, Finland, France, Germany, Iceland, Ireland, Italy, The Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.



Albert Gerdes



Alan Stevenson

ECORD Education and Outreach Activities



Patricia Maruéjol

News from the Outreach Team

Since the last Newsletter was published, the main event for the Outreach team was the EGU 2007 meeting in Vienna (*see below*), where we organised the ECORD-IODP booth and Townhall meeting and presented a talk on "Mission-specific platforms" at the ECORD Teachers' Workshop.

In June, Alan Stevenson and Albert Gerdes travelled to Washington DC to meet with representatives from the Lead Agencies, IODP-MI colleagues and outreach specialists from the US and Japanese Implementing Organizations. As well as our annual review of progress in our joint outreach activities we also discussed input to the forthcoming NanTroSEIZE Expedition and the AGU Fall Meeting in San Francisco in December 2007. During the trip to the USA, we also visited the Rutgers University campus at New Brunswick to discuss outreach with New Jersey Shallow Shelf Expedition co-chief scientist, Greg Mountain, and Carl Blesch of the Rutgers Media Relations Department.

Plans are already underway to organise the ECORD-IODP booth at EGU 2008 in Vienna next April and the Outreach team also plan to present ECORD-IODP information at the Oceanology International Conference in London, UK in March 2008. Preliminary plans are being made to have a booth at the 33rd International Geological Congress in Oslo, Norway from 6th to 14th August 2008.

In collaboration with our IODP-MI colleagues, we submitted an article describing IODP science to be included in "Responding to Climate Change 2007", which will be distributed at the United Nations Framework Convention on Climate Change Conference of the Parties (serving as the meeting of the Parties to the Kyoto Protocol) in Bali, Indonesia, 3rd-14th December 2007. The article will be included in the delegate packs for up to 10,000 people and will be distributed to a further 25,000 people/organisations. The article will also be featured on the RTCC website for 1 year - www.rtcc.org/2007/.

We continue to receive regular requests from both print and TV media to contribute information and pictures from the Arctic Coring and Tahiti Sea Level expeditions demonstrating the great interest that IODP drilling generates worldwide.

ECORD and IODP Activities at EGU 2007

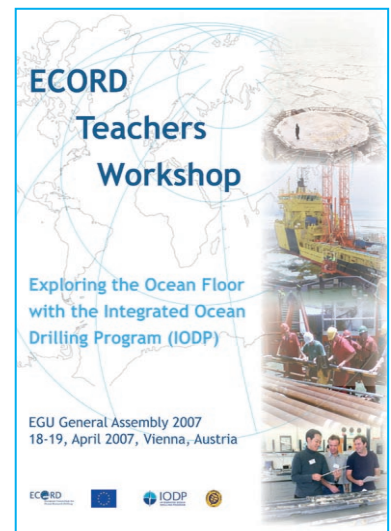
Almost 8,000 people attended the European Geosciences Union General Assembly 2007 in Vienna from 16th to 20th April, one of the major Earth Sciences conferences in Europe. The ECORD-IODP booth was busy throughout the conference as a focal point for people interested in the program. It featured a wide range of information including replica cores from the Arctic and Tahiti Expeditions and the most recent publications related to the program. The ECORD scientific drilling community was involved in (*to continue on page 7*)

a number of activities such as scientific sessions on IODP science, press conferences and interviews, a joint ICDP-IODP Townhall meeting and the ECORD Teachers' Workshop.

ECORD Teachers' Workshop

Eve Arnold (Swedish ESSAC delegate) organised the ECORD Teachers' Workshop «Exploring the ocean floor with the Integrated Ocean Drilling Program» during the EGU 2007. Seventy teachers from 22 different countries registered for the ECORD workshop, which was organized in partnership with the annual EGU Geophysical Information For Teachers (GIFT) symposium. The GIFT theme for 2007 «Geoscience in the City», focussed on natural hazards, and the following ECORD-IODP workshop continued on that theme by presenting current ocean drilling scientific results and future science plans concerning sea-level change, slope stability, earthquakes, volcanoes and life in extreme environments in addition to presenting the IODP drilling fleet. The teachers also received an ECORD «goodie bag» including posters and CDs for use in their class rooms as well as IODP literature for future reference.

ECORD Outreach team: Albert Gerdes & Alan Stevenson, ESO, and Patricia Maruéjol, EMA



ECORD Summer Schools 2007

In 2007 ECORD provided support to co-sponsor summer schools in Urbino, Italy (18th July-3rd August) and Bremen, Germany (13th-24th August). Support has also been provided to participants by awarding 10 ECORD Scholarships to cover the expenses of the successful applicants (*see page 9*).

The IODP-ECORD Urbino Summer School in Palaeoclimatology USSP 2007 (18th July-3rd August 2007)

To promote a “total integration approach” of field data and GCM experiments to the next generation of paleoclimatologists and IODP drillers, the Urbino Summer School on Paleoclimatology (USSP) Consortium organized the 4th annual USSP, generously hosted by the Faculty of Sciences of the Università degli Studi di Urbino, in Urbino, Italy. Since 2003, the USSP has provided graduate students and professionals from around the world with an intensive educational experience in reconstructing the history and dynamics of palaeoclimate. World experts in paleontology, sedimentology, geochemistry, climatology, and many related fields converge to provide a balance of lecturing on palaeoclimate-related topics and mentoring of student-centered exploration, integration, and synthesis. The USSP has been extremely successful since its inception and continues to evolve and expand through each annual offering.



And ECORD - USSP 2007 was a blast indeed! More than 55 participants representing over 20 nations, and more than 25 teachers/instructors met to enjoy the intensive two and a half weeks of USSP 2007 18th July – 3rd August. The renowned winning combination of integrated in-depth lectures and exercises, by internationally recognized geoscientists, including former and future IODP co-chiefs, (palaeo)climatologists, including both editors of Palaeoceanography, student-centred data investigations and presentations on the latest, often yet unpublished, field data and modelling results, field excursions to classic Italian stratigraphic sections (*see photo*), and intensive small-group discussions among students and instructors on various paleoclimate topics and methods, did it again. For 2007, the 4th USSP was generously sponsored by the Netherlands Darwin Center for Geobiology, the Institute for Marine and Atmospheric Sciences Utrecht (IMAU), the Netherlands Research School for Sedimentary Geology (NSG), the International Marine Past Global Change Study Group (IMAGES), the European Consortium for Ocean Research Drilling (ECORD), the universities of Urbino and Utrecht, and the Province of Pesaro e Urbino. The collective support of these institutions is gratefully acknowledged.

Some comments from the students who attended the summer school:

“Awesome!”, “superb!”, “intense plus!”, “Steep learning curve but thumbs up”, and “a never-to-be forgotten, totally positive experience”.

“The summer school was fantastic! Really, really intense learning (a slight shock to the system) but because all 50 of us were in the same boat the experience was really heightened. We helped each other learn a lot, not only did it give me excellent top-of-the-range feedback on my own research BUT it also awakened me to other areas of research that my work will feed into or form collaborations with. I’ve also gained fifty research colleagues who I can turn to for advice, information, feedback and who I can continue to work with, and even plan new research with! The school was invaluable to me for learning, confidence and making contacts! If only I could go again.”

Henk Brinkhuis, Professor at Utrecht University and Dutch ESSAC delegate - H.Brinkhuis@uu.nl

The ECORD Bremen Summer School on Paleoceanography (August 13th-24th 2007)

The ECORD Summer School on Paleoceanography 2007 was held from 13th-24th August 2007 at the MARUM Research Center Ocean Margins, Bremen University, Germany. A total of 24 PhD students and young post-docs participated from several European countries, the USA and China.

The course combined lectures and interactive discussions on the paleoceanography of the Cretaceous to Cenozoic ocean with practical exercises, as well as core-logging practice with the application of time-series analysis techniques, using the facilities of the IODP Bremen Core Repository (*see photo below*).



The focus of the lectures and discussions was key topics related to, e.g., ocean heat transport and nutrient cycles, recent developments in integrated stratigraphy, and recent studies of North Atlantic and Arctic Ocean climate variability.

The course was equally balanced, with half the time dedicated to lectures and discussions and the other half to laboratory exercises. The major goal was to inform the students about IODP and to train them for possible drilling expeditions.

The participants were also given the opportunity to present their own projects in 15-minute talks. Maite Hernandez Sanchez, University of Bristol and Ulrich Kotthoff, University of Frankfurt received awards for the best oral presentation.

Combined with the ECORD Summer School, the first IODP Topical Symposium on “North Atlantic and Arctic Climate Variability” was held at the MARUM institute (*see page 15*). This provided the students

with first-hand exposure to current research results from the world’s leading scientists, and the chance to discuss their work directly with the experts. The integration of the Topical Symposium with the ECORD course, more easily allowed speakers at the symposium to give lectures at the summer school.

In addition to using the IODP Bremen Core Repository facilities, the group also visited the ice-core repository at the Alfred Wegener Institute for Polar and Marine Research in Bremerhaven, to get a direct insight into the ice-core research.

ECORD has already provided funds for next year to carry out another ECORD Summer School with the theme “Deep Biosphere and Carbon Cycle” in the MARUM at Bremen University. The probable time frame is early September 2008.

Dierk Hebbeln, Professor at the Bremen International Graduate School for Marine Sciences “Global Change in the Marine Realm” and Gerold Wefer, Director of MARUM Research Center Ocean Margin

ECORD Paleoclimatologists take IODP science to the schools

On the 6th of June, a team from Utrecht University won a prestigious award out of 21 competing proposals from other universities. The winning project “Paleoclimatologists on expedition to the past to discover the climate of the future” was led by Tine Beneker with central contributions from Lucas Lourens, Appy Sluijs and Henk Brinkhuis. The project aims to bring new understanding and insights to Dutch high schools (4-6th grades), focussing on the Paleocene-Eocene Thermal Maximum (PETM) greenhouse world, which is directly relevant to the current CO₂ debate. This will be achieved through developing a “greenhouse world” package of DVDs featuring lots of IODP drilling, a web site, and a national contest producing short films (You-Tube style, produced by the kids) on the theme ‘Holland in 2508’. The winners of the school competition will go on a real expedition to Svalbard, in association with the Climate Change College, (www.climatechangecollege.org/) in Summer 2008. This package will serve as part of the obligatory programme for kids following the ‘sciences’ track on high schools for the next years.



Henk Brinkhuis, Professor at Utrecht University and Dutch ESSAC delegate - H.Brinkhuis@uu.nl

How to find materials and contacts for Outreach and Education

- **Promotional materials** - www.ecord.org/pi/promo

Publications - brochures/flyers and posters, core replicas and Arctic photo exhibition are available upon request.

- **Education** - www.ecord.org/edu/education

Educational materials, ECORD Teachers’ Workshop, ECORD Summer Schools, ECORD Distinguished Lecturer Programme.

- **Contacts:** Alan Stevenson (agst@bgs.ac.uk), Albert Gerdes (agerdes@marum.de) and Patricia Maruéjol (maruejol@crpg.cnrs-nancy.fr)

Other IODP contacts: Nancy Light - nlight@iodp.org (IODP-MI); Tadashi Yoshizawa - yoshizawat@jamstec.go.jp (Chikyu expeditions) and Jon Corsiglia - jcorsiglia@joiscience.org (SODV / JOIDES Resolution expeditions).



Chris MacLeod

ECORD Science Support & Advisory Committee Updates



Elspeth Urquhart

Behind the scenes, the main news from ESSAC is the handover of the chairmanship of the committee from me, Chris MacLeod, to Gilbert Camoin and consequent relocation of the ESSAC Office from Cardiff to Aix-en-Provence on 1st October 2007. The new ESSAC Science Coordinator will be Dr Bonnie Wolff-Boenisch, whom we have poached from ICDP, the International Continental scientific Drilling Programme (see photo). We hope that relations between IODP and ICDP don't suffer as a result!

From 1st October 2007 all e-mail communications with ESSAC should be addressed to essac@cerege.fr. The web site (www.essac.ecord.org) will remain unchanged, except for the replacement of the ESSAC@Cardiff Welsh dragon logo with a snappy new one designed by Gilbert.

To the scientific community of ECORD little should change following the ESSAC Office handover. Staffing of the first three expeditions of the Nankai Trough Seismogenic Zone Experiment on *Chikyu*, which was complicated by a number of behind-the-scenes operational changes, has finally been completed. The same is true for the two Equatorial Pacific Transect expeditions on *JOIDES Resolution*. Following recent news of further delays to the completion of the refit of *JOIDES Resolution*, the Science Planning Committee and Operations Task Force have been forced to reschedule what had been Equatorial Pacific Transect I (with co-chiefs Pálíke and Ahagon) from March-May 2008 to September-November 2008. The other Equatorial Pacific Transect expedition (formerly expedition II, with co-chiefs Raffi and Lyle) will remain May-July 2008 (see table). Precise dates and official notification can be found in the table above and on the IODP web site:

iodp.tamu.edu/scienceops/expeditions/equatorial_pacific

ESSAC is currently engaged in staffing the Bering Sea expedition, currently scheduled for July-September 2008 (see table). With a record 56 eligible applications for the 8 ECORD berths competition for places has never been fiercer. Evidence for the ever-growing enthusiasm and vibrancy of the ECORD scientific community in IODP is everywhere and pervades the entire program; for example, 38% of the 135 active drilling proposals under consideration by the

IODP Science Advisory Structure are led by European or Canadian scientists. At a time of unprecedented financial pressure on IODP in the USA and Japan, the importance of ECORD's scientific and (relative!) financial solidity should not be underestimated.



The new ESSAC team, from left to right : Myrthyse Joanides (CEREGE) in charge of the ESSAC budget, Gilbert Camoin (ESSAC Chair) and Bonnie Wolff-Boenisch (ESSAC Science Coordinator).

Reflecting upon my time in the helm as ESSAC Chair, I look with some satisfaction at the expansion of ESSAC's activities over the past couple of years, and the maturing and growth of its role within ECORD. As is usual in such circumstances, this less to do with me than it is a reflection of the hard work of a very great number of people who have worked selflessly for the common cause. I would particularly like to acknowledge the contributions of: Elspeth Urquhart, Federica Lenci and Julian Pearce in the Cardiff ESSAC Office, and former ESSAC chair Jeroen Kenter; Catherine Mével and the EMA office; Chris Franklin and team at the UK Natural Environment Research Council, and Sir Geoffrey Allen, Mike Bickle and Heather Stewart from UKIODP;

and of course the ESSAC delegates and alternates. Many of the new initiatives we have put in place have only been possible because of ECORD Council's decision to 'empower' ESSAC by, for the first time, giving us a budget to work with. Council's backing for our suggested schemes is gratefully acknowledged.

Riserless drilling vessel planning schedule

Expedition	Dates
317 - Equatorial Pacific / Juan de Fuca*	18 May-18 July 08
318 - Bering Sea	18 July-17 September
319 - Equatorial Pacific	17 September-17 November
321 - Canterbury	17 November-17 January 09
323 - Wilkes Land	17 January-22 March
Mariana	22 March-22 May

* the expedition will consist of operations both in Equatorial Pacific (30 days) and 5 days in Juan de Fuca.

With this financial support we have been able to sponsor the wonderfully successful summer schools in Urbino and Bremen in 2007 (see reports pages 7-8), and award what have already become prestigious ECORD Scholarships for up to 10 young scientists to attend. Council have generously agreed to sponsor Urbino and Bremen again in 2008, and to support the

Scholarship scheme once more. The Bremen Summer School in 2008 will be focused on the theme of the deep sub-seafloor biosphere, and Urbino once again on palaeoclimatology. Details of the 2008 summer school schedules will be posted on the ESSAC web site in due course.

Through the efforts of Swedish ESSAC delegate Eve Arnold and the ECORD Outreach team ECORD and IODP science has been presented to the wider public via the ECORD Teachers' Workshop held at the European Geosciences Union meeting in Vienna in

April 2007. This and other related activities are described in more detail on pages 6-7 of this newsletter.

The ECORD Distinguished Lecturer Programme is just getting under way. We received a very large number of applications from institutions to host the 2007-08 lecturers Judy McKenzie, Paul Wilson and Benoît Ildefonse. We are attempting to schedule as many lectures as our budget will allow through to spring 2008, and are posting their times and venues on the ESSAC web site as soon as they are arranged. A conscious effort is being made to give lectures in institutions that have not previously had much involvement with IODP, and also to visit non-ECORD European countries to evangelise about the exciting science of IODP.

The ESSAC Office has worked hard in conjunction with IODP-MI, the European Science Foundation Magellan steering committee and the national offices of ECORD countries to help support the attendance of ECORD scientists at IODP-MI sponsored workshops in summer 2007. These were the Large Igneous Provinces and Geohazards workshops, held in

Coleraine (Northern Ireland) and Portland (Oregon) respectively (www.iodp.org/workshops). Together we have been able to ensure the attendance of a much larger number of ECORD scientists than at previous IODP-MI workshops because of our joint attempts to coordinate funding avenues. ECORD influence in the planning of future directions in IODP should be proportionately greater as a result.

Forward planning of IODP-related science in Europe is also going ahead via the ESF Magellan workshop series, as it has with great success for the past two years. A report from the recent Magellan-funded workshop on mud-mounds is included elsewhere in this newsletter (*see page 15*). A new call for workshop proposals has just been issued by ESF (www.esf.org/magellan) with deadline of 15 November 2007 (*see below*).

In conclusion, as I hand over the reins of ESSAC to Gilbert and Bonnie in Aix-en-Provence I am confident you will see a bigger, better and even shinier ESSAC working for you over the coming two years! Bon courage!!

Chris MacLeod, Outgoing ESSAC chair

Meeting Announcements

- ◆ *ESF-Magellan Workshop Series:* <http://www.esf.org/magellan>
- ◆ *IODP-MI Workshops:* <http://www.iodp.org/workshops>

INTERNATIONAL CONFERENCES:

- ◆ AGU Fall 2007, 10-14 December 2007, San Francisco, USA - <http://www.agu.org/meetings/fm07/>
- ◆ 28th Nordic Geological Winter Meeting, 7-10 January 2008, Aalborg, Denmark - <http://www.civil.aau.dk/ngwm/>
- ◆ Oceanology International, 11-13 March 2008, London, UK - <http://www.oceanologyinternational.com/>
- ◆ EGU 2008, 13-18 April 2008, Vienna, Austria - <http://meetings.copernicus.org/egu2008/>
- ◆ EuroFORUM 2008 - Achievements and perspectives in ocean and continental drilling, EGU 2008 in Vienna (Co-conveners: Gilbert Camoin - ECORD and Ulrich Harms - ICDP)
- ◆ 33rd International Geological Conference (IGC), 6-14 August 2008, Oslo, Norway - <http://www.33igc.org/>

Call for Proposals for Magellan Workshops Series to be held in 2008

Magellan Workshop Series invites proposals from potential organisers of workshops to be held in 2008. Proposals following these special themes: **Carbon Dioxide Sequestration beneath the Seafloor, Transient Climate Events, Climate Tectonic Links** Proposals focusing on the Atlantic Ocean are encouraged.

On-line Submission: www.esf.org/magellan and www.essac.ecord.org/workshops

Deadline for applications: 15 November 2007

Contact: Eilen Degott - edegott@esf.org

**How to Submit an
IODP Drilling Proposal ?**
next submission deadline: April 1, 2008
Further information on ESSAC at:
www.ecord.org

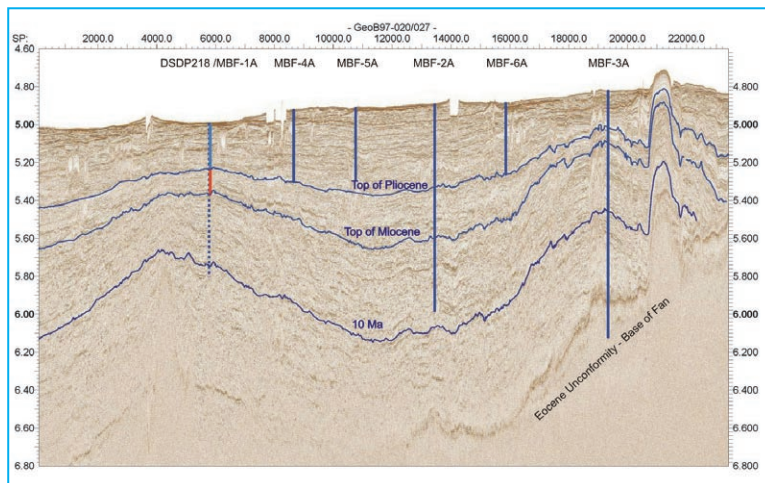
Highlights of IODP Proposals recently sent to the Operation Task Force

Neogene and late Paleogene record of Himalayan orogeny and climate: a transect across the Middle Bengal Fan

Christian France-Lanord, Volkhard Spiess, Tilmann Schwenk, Peter Molnard and John Curray.

IODP Proposal 552

Proposal 552 addresses the general objective to understand how the Himalayan-Tibet orogenesis interacts with the Earth's climate. This includes forcing of the climate due to paleogeographic evolution and atmospheric CO₂ uptake as well as retroaction of the monsoon climate on tectonics via erosion. Because the Bengal Fan has accumulated most of the Himalayan erosion flux since the continental collision, it represents the most complete record of both the uplift and erosion history of the Himalaya and of the monsoon climate. Sediments will document (1) uplift history through erosional flux and deposition patterns and detailed geochronology of minerals, (2) Himalayan evolution from isotopic tracing of particle origin and age, and (3) environmental and climate conditions through sediment granulometry, mineralogy and geochemistry, organic matter composition and δ¹⁸O of microfossils. A reliable quantification of erosional fluxes over the Neogene is essential to assess the role of the Himalayan erosion on the global carbon cycle. Leg 116 in the distal fan has shown major variations of these proxies over the Neogene and the proposed Leg should allow us to test if they are representative regionally. The proposed transect at 8°N will allow a complete record of the Neogene Himalayan erosion and monsoon to be constructed and will complete the present record of Himalayan erosion since the Miocene.



Interpreted seismic data and age horizons with IODP drillsite locations (MBF-1A to 6A) and DSDP site 218, Leg 22 - www.deepseadrilling.org - Seismic data are GI Gun data, collected during the first site survey with R/V Sonne (cruise SO125, 1997).

Environmental significance of the Mediterranean outflow water and its global implications

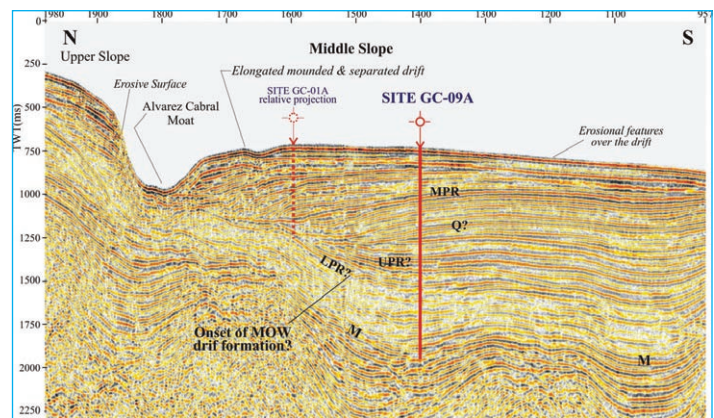
Dorrik Stow, F^o Javier Hernández-Molina et al.

IODP Proposal 644 (GUCADRILL)

An extensive Contourite Depositional System (CDS) has been developing within the Gulf and the West Iberian Margin over the past 5 million years as the direct result of the Mediterranean Outflow Water (MOW). The high rates of accumulation and expanded sedimentary records of drift deposits permit high-resolution examination of past environmental change. The CDS deposits, therefore, hold the very best signal of MOW flow through the Gibraltar gateway, and a clear record of its influence on the oceanography and climate of the North Atlantic Ocean and on North Atlantic Deep Water (NADW) variability. The importance of the Gulf of Cadiz is clearly reflected in the large number of regional studies and multinational interest shown over the past 30 years. Despite such extensive surveying, the region has not yet been drilled for scientific purposes, even though the Gibraltar gateway clearly has major implications for global climate and oceanography. We have identified the following four broad scientific objectives, which require a total of seven drill sites through the Pliocene to Quaternary sedimentary record: (1) Influence of the Gibraltar Gateway, (2) MOW paleoceanography and global climate significance, (3) Sea-level changes and sediment architecture of the Cadiz CDS and Iberian margin, and (4) Syndepositional neotectonic control on architecture and evolution of the CDS. To achieve these major scientific objectives, it is essential to integrate the results of the proposed drill sites with a dense network of existing high-resolution seismic reflection profiles. Interpretation of this seismic network is already well established, although the inferred ages require drilling confirmation.

The GUCADRILL proposal involves, directly or indirectly, 44 researchers from nine different countries.

Uninterpreted Multichannel seismic-reflection (MCS) profile across the Faro-Albufeira drift on the middle slope (Line P74-75 provided by REPSOL-YPF Oil Company for the IODP proposal. Site GC-01A and GC-09A location is shown. Four major low-resolution depositional sequences have been recognised by MCS profiles in the Pliocene and Quaternary sedimentary record (Llave et al., 2001; Hernández-Molina et al., 2002; 2006). They are separated by four relevant discontinuities: M (Late Messinian), LPR (early Pliocene?), UPR (late Pliocene?) and MPR (Mid Pleistocene?). LPR erosive discontinuity could represent the onset of drift formation.



Search for signs of active life in the Tahiti reef framework

As a component of IODP Expedition 310 (Tahiti Sea-Level), microbiological investigations were carried out in a reef framework based on the occurrence of authigenic grey carbonates representing microbialite structures, which are frequently associated with microbial activity, within the coral-reef framework. This was the first time that microbiological processes inside the reef framework have been studied, in situ, in order to understand the biological mechanisms linked with the formation of massive microbialites.

Microbialites are laminated or thrombolitic carbonate crusts, which grow in the coral-reef framework, reducing the pore spaces and, thereby, stabilizing the overall structure (Figure 1). As a new aspect for reef studies, the geo-microbiological approach and methods had to be introduced to the shipboard research program. It was a novel idea to consider that living microorganisms could be involved in mineral precipitation inside the reef.



Figure 1. Laminated and thrombolitic carbonate crusts in the Tahiti reef, referred to as microbialites (photo ECORD/IODP).

During IODP Expedition 310, an innovative method using ATP measurements was applied to detect microbial activity. As direct cell counts were not possible, due to the porous nature of the cored material, an ATP analyzing instrument was tested to determine if living biofilms could be detected in the reef framework and for microbial contamination assessment of drill waters, equipment, etc. (Figure 2).

Method

Adenosine 5'-triphosphate (ATP) is the universal energy-transferring intermediate molecule in all organisms. Thus, the presence of ATP is a marker molecule for the presence of living cells. This is affirmed by the fact that ATP is not known to form abiotically. ATP can be easily detected with high sensitivity and high specificity using an enzymatic assay.

Luciferase enzyme

$ATP + \text{Luciferin} + O_2 \rightarrow AMP + \text{Oxyluciferin} + PPi + CO_2 + \text{Light}$
Light is emitted as a result of the reaction, which is detected by a photomultiplier. Typical sensitivity (significant above background) of commercially available instruments is 0.01 attomoles/ml water, corresponding to about 5 *Escherichia coli* cells.

Using the handheld ATP device along a freshly retrieved core allowed for fast and accurate measurement of activities, as well as enabling the detection of life in lithified sediments, such as reef cores.



Figure 2. The new, handheld ATP analyzing instrument, manufactured by UNILITE, which was used to detect the presence of life with a swab-test during shipboard analysis of core surfaces (photo R. Warthmann).

ATP was measured routinely on drillcores recovered from the submerged reef. Due to the delicate and easily damaged nature of living biofilms, the core-handling protocol was not adequate to avoid contamination. As a result, the ATP measurement took first priority when the core came on deck (Figure 3), and biofilm sampling was made directly on the freshly retrieved drill core prior to further handling. Furthermore, using this new ATP detection method, it was possible to control the degree of microbial contamination by seawater, drill fluids, and, of course, the drill operator's gloves which showed the highest ATP values (Figure 4).



Figure 3. Shipboard geomicrobiologists, Drs. Crisogono Vasconcelos and Rolf Warthmann, making ATP measurements as the first step during core handling on Expedition 310 (photo ECORD/IODP).

The results of hundreds of measurements showed that the Tahiti reef is a patchy environment with respect to ATP and microbial activity. Most of the activity is located near the surface from 0 to 6 mbsf (metres below sea floor). A truly deep subseafloor biosphere seems not to exist in this nutrient-poor reef environment. This implies that the carbonate microbialite, which is a major component of the reef framework (up to 70%), was formed concurrently or a short time after the encompassing coral deposit.



Figure 4. Possible sources of microbial contamination: contact with the operator's gloves, drill water and/or drill pipe (photo ECORD/IODP).

Geomicrobiology sampling recovered biofilms, which line the open pore spaces in the reef framework and comprise living microbial communities ensconced in an organic matrix, commonly known as exopolymer substance or EPS (Figure 5). Microbial processes mediate the precipitation of carbonate minerals (Figure 6), which, in turn, leads to the formation of layer upon layer of thin microbialite laminae.

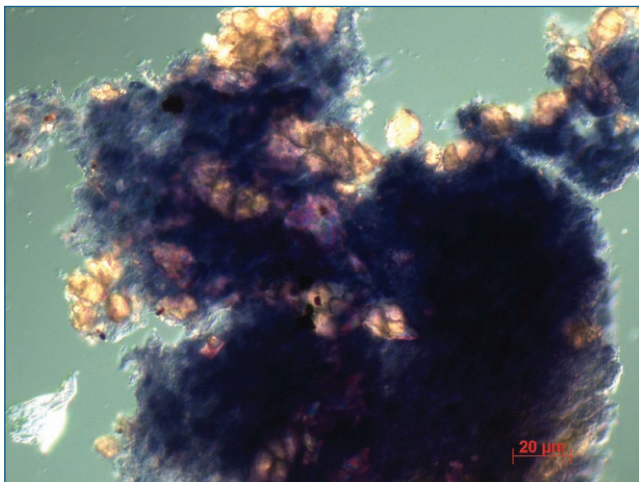


Figure 5. Living biofilms recovered from the Tahiti reef showing carbonate minerals encompassed by an organic exopolymer matrix (EPS) (photo R. Warthmann & C. Vasconcelos).

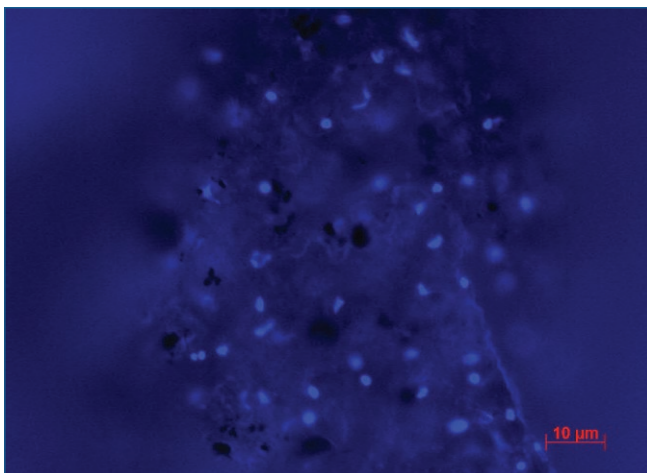


Figure 6. This microscopic view of a microbial community (bright blue dots) detects in situ carbonate precipitation (black dots), which is probably the process responsible for the microbialite formation in the Tahiti reef (photo R. Warthmann & C. Vasconcelos).

SEM photomicrographs of the collected biofilm show the diversity of the microbial community detected in the samples, which provides clues to interpret the role of microbes in reef formation (Figure 7). Furthermore, SEM evidence of the merging and coalescing of the microbial carbonate precipitate within the EPS indicates the first step in the formation of microbialite laminae (Figure 8).

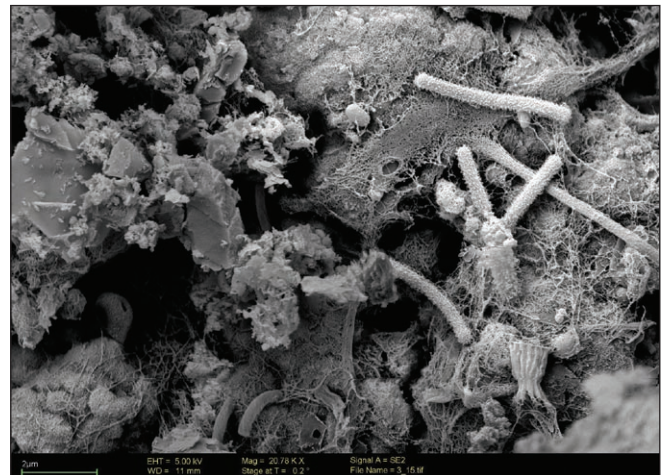


Figure 7. SEM photomicrograph showing rod-shaped microbes embedded in an EPS matrix (photo R. Warthmann).

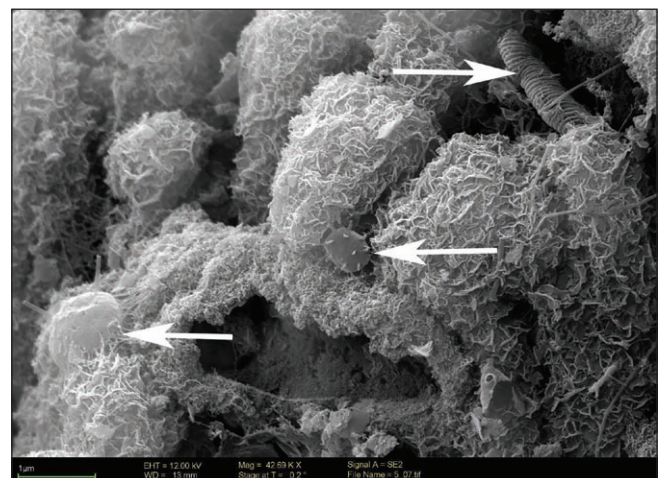


Figure 8. SEM photomicrograph showing a close-up view of the microbialite formed in association with the biofilm surface. Globular carbonate precipitate covered by an EPS matrix produced the wrinkled texture of the surface. Three different microbes are visible, as indicated by arrows (photo R. Warthmann).

Together, the ATP detection of distinct levels of microbial activity and the exciting recovery of living biofilms in the pore spaces of the Tahiti coral reef during IODP Expedition 310 is an important discovery adding a new dimension to our understanding of the evolution of a carbonate reefal structure and its early diagenesis .

Rolf Warthmann¹, Crisógono Vasconcelos¹, Judith A. McKenzie¹ and Gilbert Camoin²

¹Geomicrobiology Laboratory, Geological Institute, ETH Zurich, Universitätstrasse 16, CH-8092 Zurich, Switzerland

²CEREGE UMR 6635 CNRS, Europôle Méditerranéen de l'Arbois, BP 80, F-13545 Aix-en-Provence, France



Engineering Development Panel (EDP)			Environmental Protection and Safety Panel (EPSP)		
Roland Person	France	roland.person@ifremer.fr	Michael Enachescu	Canada	michaele@mun.ca
Maria Ask	Sweden	maria.ask@tu.se	Philippe Lapointe	France	philippe.lapointe@total.com
Lothar Wohlgemuth	Germany	wohlgem@gfz-potsdam.de	Bramley Murton	UK	bjm@soc.soton.ac.uk
John Thorogood	UK		Dieter Strack	Germany	ddhstrack@aol.com
Scientific Technology Panel (STP)			Site Survey Panel (SSP)		
Nathalie Vigier	France	nvigier@crpg.cnrs-nancy.fr	Christoph Gaedicke	Germany	gaedicke@bgr.de
Georges Gorin	Switzerland	georges.Gorin@terre.unige.ch	Gilles Lericolais	France	gilles.lericolais@ifremer.fr
Mike Lovell (chair)	UK	mike.lovell@le.ac.uk	Holger Lykke-Andersen	Denmark	hla@geo.au.dk
Warner Brückmann	Germany	wbrueckmann@ifm-geomar.de	Neil Mitchell	UK	neil.mitchell@manchester.ac.uk
Science Planning Committee (SPC)			Industry-IODP Science Program Planning Group (IIS PPG)		
Jan Behrmann	Germany	jbehrmann@ifm-geomar.de	Richard Davies	UK	richard.davies@durham.ac.uk
Gilbert Camoin	France	gcamoin@cerege.fr	Harry Doust	Netherlands	harrydoust@hotmail.com
Chris MacLeod	UK	macleod@cardiff.ac.uk	Didier Hubert Drapeau	France	didier-hubert.drapeau@total.com
Rolf Birger Pedersen	Norway	rolf.pedersen@geo.uib.no	David Roberts	UK	d.g.roberts@dsl.pipex.com
Science Steering and Evaluation Panel (SSEP)			Hotspot Geodynamics Detail Planning Group (HG DPG)		
Jan Backman	Sweden	backman@geo.su.se	Nicolas Arndt	France	nicolas.arndt@uij-grenoble.fr
Achim Kopf	Germany	akopf@uni-bremen.de	Kaj Hoernle	Germany	khoernle@ifm-geomar.de
Frédérique Eynaud	France	f.eynaud@epoc.u-bordeaux1.fr	Bernhard Steinberger	Norway	bernhard.steinberger@ngu.no
Bénédicte Menez	France	menez@ipgp.jussieu.fr	Science Advisory Structure Executive Committee (SASEC)		
Jens Konnerup-Madsen	Denmark	jenskm@geol.ku.dk	Michael Bickle	UK	mb72@esc.cam.ac.uk
Kai-Uwe Hinrichs	Germany	khinrichs@uni-bremen.de	Gerold Wefer	Germany	gwefer@marum.de
Timothy Elliott	UK	tim.elliott@bris.ac.uk			
Heiko Pälike (co-chair)	UK	heiko@noc.soton.ac.uk			

ESSAC Delegates and Alternates

Country	Delegate	Alternate
Austria	Werner E. Piller werner.piller@uni-graz.at	Michael Wagreich michael.wagreich@univie.ac.at
Belgium	Rudy Swennen rudy.swennen@geo.kuleuven.ac.be	—
Canada	Kathryn Gillis kgillis@uvic.ca	Ulrich Wortmann uli.wortmann@utoronto.ca
Denmark	Paul Martin Holm paulmh@geol.ku.dk	Paul Knutz knutz@geol.ku.dk
Finland	Kari Strand kari.strand@oulu.fi	Annakaisa Korja annakaisa.korja@seismo.helsinki.fi
France	Gilbert Camoin (chair) gcamoin@arbois.cerege.fr	Benoit Ildefonse benoit.ildefonse@dstu.univ-montp2.fr
Germany	Rüdiger Stein (vice-chair) rstein@awi-bremerhaven.de	Jochen Erbacher j.erbacher@bgr.de
Iceland	Bryndís Brandsdóttir bryndis@raunvis.hi.is	Guðrún Helgadóttir gudrun@hafro.is
Ireland	Brian McConnell brian.mcconnell@gsi.ie	David Hardy david.hardy@gsi.ie
Italy	Marco Sacchi marco.sacchi@iamc.cnr.it	Elisabetta Erba elisabetta.erba@unimi.it
Netherlands	Henk Brinkhuis h.brinkhuis@bio.uu.nl	Lucas Lourens llourens@geo.uu.nl
Norway	Rolf Birger Pedersen rolf.pedersen@geo.uib.no	Nalan Koc nalan@npolar.no
Portugal	Fatima Abrantes fabrantes@pro.softhome.net	Luis F. Menezes Pinheiro lmp@geo.ua.pt
Spain	Menchu Comas mcomas@ugr.es	Victor Diaz del Rio diazdelrio@ma.ieo.es
Sweden	Eve Arnold emarnold@geo.su.se	Maria Ask marai.ask@tu.se
Switzerland	Judith McKenzie judy.mckenzie@erdw.ethz.ch	Helmut Weissert helmut.weissert@erdw.ethz.ch
United Kingdom	Chris MacLeod (vice-chair) macleod@cardiff.ac.uk	Rachael H. James r.h.james@open.ac.uk

More information at www.essac.ecord.org

Workshop & Symposium Reports

◆ Exploring Escarpment Mud Mound Systems and Mud Volcanoes with New European Strategies for Sustainable Mid-Depth Coring - Magellan Workshop Series, 26th-29th April 2007, Murten, Switzerland

(Convener: Silvia Spezzaferri, silvia.spezzaferri@unifr.ch).

The geological setting of mound systems and mud volcanoes provides an exceptional natural laboratory for studying and understanding the exciting and constructive interplay between the hydrosphere, geosphere and biosphere. The nature and shallow migration patterns of geofluids, the precipitation modes of authigenic carbonates, the diversity of the microbial and benthic



biosphere in these provinces, where mounds and mud volcanoes frequently co-occur, develop into unique research topics.

As part of the ESF Magellan Workshop Series on Marine Research Drilling, a workshop, entitled “Exploring Escarpment Mud Mound Systems and Mud Volcanoes with New European Strategies for Sustainable Mid-depth Coring”, was held in Murten, Switzerland on 26th -29th April 2007. The workshop gathered together 19 scientists, some of whom are involved with two IODP Proposals 689 and 673 on related topics, as well as ESF EUROCORES and EU-FP6 projects. The participants, representing a wide spectrum of disciplines, e.g., geophysics, sedimentology, paleoceanography, biogeochemistry and geomicrobiology, joined with the aim to discuss the best strategies to study mud-mound systems and

mud volcanoes. The two workshop thematics, Mud Mounds and Mud Volcanoes, were discussed separately. However, common features were analysed in detail and the participants agreed that a parallel research strategy was most rewarding.

Of relevant interest was the contribution (with a short film) presented by T. Freudenthal of the capability of Europe’s most promising and innovative tool for ocean margin exploratory drilling: the Remotely Controlled Sea-Floor Drill Rig “MeBo” (Meeresboden-Bohrgerät) developed at the Marum Center for Marine Environmental Sciences at the University of Bremen (MARUM) to address the target objectives, in the absence of high-performance drilling tools such as IODP drilling platforms. The unique sea-floor sampling capabilities of the MeBo have been demonstrated during four expeditions with 26 deployments between August 2005 and March 2007. Crystalline and sedimentary rocks were sampled down to a depth of >40 m by rotary drilling, as well as recovering soft sediments by push coring. The possibility to switch between push coring and rotary drilling and vice versa during the same deployment makes the MeBo the ideal dedicated tool for coring mound sites containing hardgrounds and carbonate crusts intercalated within soft sediment. The meeting summarized recent research advances in the field and recommended addressing carbonate-mound and mud-volcano investigations with MeBo drilling to provide the preliminary framework for future IODP expeditions.

Silvia Spezzaferri, Stephan Margreth, and Giordana Gennari, Katja vonAllmen, University of Fribourg, Switzerland; Jean-Pierre Henriët, Davy Depreiter, Anneleen Foubert and Hans Pirlet, RCMG, Ghent University, Belgium; Christian Dullo and Andres Rüggeberg, Kiel University (IFM-GEOMAR), Germany; Tim Freudenthal and Dierk Hebbeln, MARUM, University of Bremen, Germany; Kai Mangeldorf, GeoForschungsZentrum (GFZ) Potsdam, Germany; Mieke Thierens, Rory O’Donnell and Andy Wheeler, University College Cork, Ireland; Luis Menezes Pinheiro, Universidade de Aveiro, Portugal; Menchu Comas, CSIC and University of Granada, Spain; Judith A. McKenzie and Crisogono Vasconcelos, ETH, Zurich, Switzerland.

◆ IODP Topical Symposium - North Atlantic and Arctic Climate Variability, 15th-16th August 2007, Bremen, Germany

The first topical IODP Topical Symposium was held at the MARUM Research Center Ocean Margins from 15th to 16th August. About 130 researchers discussed “North Atlantic and Arctic Climate Variability”. The climatic processes in these regions influence the world climate greatly. The 15 keynote speakers gave an overview of the current state of affairs of this important piece of the climate puzzle.

“The North Atlantic and Arctic are key players in global climate”, explains Prof. Dr. Gerold Wefer, Director of the MARUM and host to the symposium. “Through research drilling, the Integrated Ocean Drilling Program aims to unravel the processes in this area. With the won samples we can better understand past and present climate - indispensable basics for predicting climate change”.

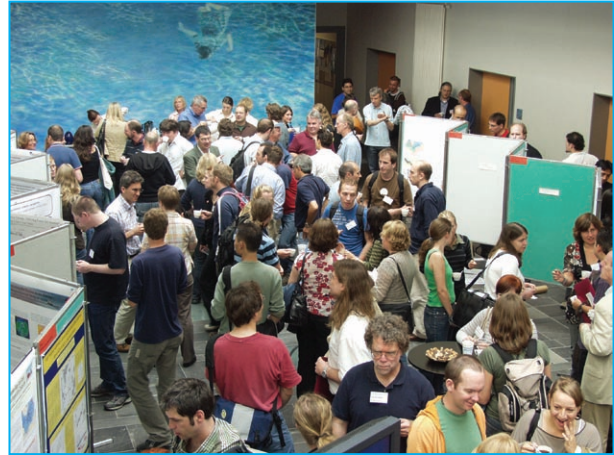
The four main topics of the Symposium were: Millennial-Scale Climate Dynamics, Milankovitch Scale Climate Variability, Evolution of Northern Hemisphere Glaciation, Extreme Warm Events. Besides the 15 keynote lectures about 70 posters were presented, many of them by junior scientists. The participants came from all over the world and different research areas. Not only scientists working on samples from the IODP program were present, but also scientists with terrestrial, ice and water samples to give an integrated overview.

(to continue on page 16)

“When this many renowned researchers come together, it is always something very special”, comments Prof. Gerold Wefer, “Hosting the symposium here at MARUM is a great, great opportunity especially for our young scientists. To meet the foremost minds in the field, discuss ideas with them and even present their own research and thinking is a tremendous advantage and motivation.”

Tied with the Symposium a summer school for advanced PhD students and post-docs was taking place from 13th to 24th August, sponsored by ECORD (see page 8).

Participants attending a poster session of the IODP Topical Symposium in the MARUM building .
(photo A. Gerdes © ECORD/IODP).



ECORD-Net Updates

ECORD Databases are on-line

The mutual exchange of information is one of the major goals of ECORD-Net and was described by the tasks of the WP1. ECORD has created a highly visible portal of interactive databases related to IODP and ECORD scientific data, publications and information:

<http://www.ecord.org/data>

Posted on this web page are three interactive ECORD databases which allow the ECORD scientists to efficiently exploit all aspects of scientific ocean drilling and managers to evaluate the impact of ocean drilling related science.

1) ECORD Information database

By collecting information from all ECORD members, this database documents and promotes the participation of the ECORD scientists involved in IODP according to:

- ◆ Proposal submitted by ECORD proponents (lead & co-proponents),
- ◆ Participation of ECORD scientists in expeditions (co-chiefs & participants),
- ◆ Participation of ECORD scientists in workshops, summer schools, IODP and ECORD committees.

It also archives and reflects an up-to-date picture of ECORD activity within IODP, in order to inform people (scientists & managers) involved in or joining the program.

2) **GeoMicroBiology** database pools and links all known existing information on drilling-based Geo-microbiology research by European scientists. The availability and exchange of information is intended to promote the writing of geo-microbiology proposals, enabled by ocean drilling, by the European scientific community. This will lead to the submission of quality research proposals in the competitive and exciting field of geo-microbiology

3) **Geological and Geophysical Information** database is a search page of undersea metadata featured by Mardsen squares (10°/10° from GEBCO bathymetric atlas). The implementation of the data has been handled by a group of scientists from INETI (Portugal), University of Bergen (Norway) and Italy (OGS, Trieste). The data comprises seismic and acoustic data, seafloor and boreholes samples and provide links to other European databases (EU-SEASED, EUROSEISMIC, DISKOS, SNAP). It is designed to help scientists writing proposals.

ECORD scientists are invited to visit these databases, to register as a member and to enter/modify their data in order to help update and maintain these databases. All comments can be sent to: maruejol@crpg.cnrs-nancy.fr

*ECORD-Net: European Research Area for scientific drilling Project n° ERAC-CT-2003- 510218, European Consortium for Ocean Research Drilling Network
Coordinator - Catherine Mével - mevel@ipgp.jussieu.fr
www.ecord.org/enet/ecord-net*

ECORD Contacts

ECORD Council	ESSAC-ECORD Science Support and Advisory Committee
Chair: Bruno Goffé - bruno.goffe@cnrs-dir.fr Vice-Chairs: Raymond Schorno - schorno@nwo.nl & Severino Falcón-Morales - severino.falcon@mec.es	Chair: Gilbert Camoin - camoin@cerege.fr Vice-Chairs: Chris MacLeod - macleod@cf.ac.uk & Rudiger Stein - rstein@awi-bremerhaven.de ESSAC Office: essac@cerege.fr
EMA - ECORD Managing Agency	ESO - ECORD Science Operator
Director: Catherine Mével - mevel@ipgp.jussieu.fr EMA Office: ema@ipgp.jussieu.fr	Science Manager: Dan Evans - devans@bgs.ac.uk Operations Manager: Alister Skinner - acsk@bgs.ac.uk

More information on ECORD web site: <http://www.ecord.org>