

**17<sup>th</sup> Meeting of the  
ECORD Science Support & Advisory Committee  
ESSAC**

October 25-27, 2011, Dublin, Ireland



# Agenda of the 17<sup>th</sup> ESSAC Meeting

25<sup>th</sup> - 27<sup>th</sup> October 2011, Dublin, Ireland

**Tuesday 25<sup>th</sup> October** : field trip

**Wednesday 26<sup>th</sup> October, 9:00– 18:00 h**

*Coffee break 10:30-11:00 – Lunch break 12:30-13:30 – Coffee break 15:30-16:00*

## **1. Introduction**

- 1.1 Call to order, introductions (Escutia) (5´)
- 1.2 Welcome and meeting logistics (Monteys) (5´)
- 1.3 Discussion and approval of the Agenda (Escutia) (5´)
- 1.4 Items since the 16<sup>th</sup> ESSAC Meeting and ESSAC Office news (Escutia/Stein) (20´)
- 1.5 ESSAC FY12 Budget (Escutia) (5´)

## **2. IODP News**

- 2.1 Las, IOs, SASEC, IWG+ (Mével) (30´)
- 2.2 Science Planning Committee – (SPC) and Operation Task Force – OTF (Stein) (45´)
- 2.3 Outreach Task Force (Stein) (10´)

## **3. ECORD News**

- 3.1 EMA - ECORD Council (Mével) (20´)
- 3.2 ESO (Stevenson) (20´)
- 3.3 ESO-EMA-ESSAC (Maruéjol) (10´)
- 3.4 ESSAC representatives and National Office reports (ESSAC Delegates) (60´)

## **4. The future of IODP**

- 4.1 Where do we stand after the ECORD executive meetings with NSF and MEXT (Mével) (20´)
- 4.2 Plenary discussion: The future of the new IODP and ESSAC's position (60´)

## **5. Nominations and Staffing**

- 5.1 Staffing (Stein) (30´)
  - 5.1.1 Updates on expedition staffing: Mid-Atlantic Ridge Microbiology (336), Mediterranean Outflow (339), Atlantis Massif Oceanic Core Complex (340T), Lesser Antilles Volcanism and Landslides (340), Southern Alaska Margin Tectonics, Climate & Sedimentation (341), Newfoundland Paleogene and Cretaceous Sedimentation Drifts (342)
  - 5.1.2 Nomination of co-chiefs.
- 5.2 SAS panel nominations/changes (Escutia/Stein) (15´)

## **6. ECORD highlights**

- 6.1 ECORD Highlight (1): New insight on Irish Atlantic marine geology from densely cored deep-sea systems (Peter Haughton/UCD) (30´)

**Joint dinner in the evening**

**Thursday 27<sup>th</sup> October, 9:00– 15:00 h**

*Coffee break 10:30-11:00 – Lunch break 12:30-13:30*

**6.2 ECORD Highlight (2):** (45 ´)

Expedition 339: Environmental significance of the Mediterranean outflow water and its global significance (Dorrik Stow/NOCS)

**7. Education and outreach**

**7.1 ECORD Summer Schools**

7.1.1 Urbino Summer School in Paleoclimatology,  
Urbino, July 2011 (Schouten) (15 ´)

7.1.2 ECORD Summer School on Subseafloor Fluid Flow and Gas Hydrates,  
Bremen, September 2011 (Stein) (15 ´)

7.1.3 Outlook and ECORD Summer Schools 2012 (Office Granada) (5 ´)

**7.2 ECORD Grants and scholarships 2011 (Office Granada)** (5 ´)

**7.3 Distinguished Lecturer Programme update (Office Granada)** (5 ´)

**8. Workshop Reports**

**8.1 ESF Magellan Programme: Present and Future (Erbacher)** (20 ´)

**8.2 Report on further workshops and conferences (Stein)** (15 ´)

**8.3 Joint IODP/ICDP session at the EGU 2012 in Vienna (Escutia)** (5 ´)

**9. Review of consensus, motions and actions (Escutia)** (15 ´)

**10. Next meetings**

**10.1 ESSAC #18, May 2012, Denmark (Seidenkrantz)** (10 ´)

**11. Any Other Business (Escutia)**

# **Agenda of the 17th ESSAC Meeting**

October 25-27, 2011, Dublin, Ireland

## **List of Participants**

### **ESSAC Office**

<b>Carlota Escutia (Chair)</b>	ESSAC Delegate Spain
<b>Julia Gutiérrez-Pastor</b>	ESSAC Science Coordinator

### **ESSAC Representatives**

<b>Georges Ceuleneer</b>	ESSAC Alternate France
<b>Elisabetta Erba</b>	ESSAC Delegate Italy
<b>Gretchen Früh-Green</b>	ESSAC Delegate Switzerland
<b>Rachael James</b>	ESSAC Delegate UK
<b>Xavier Monteys (meeting host)</b>	ESSAC Delegate Ireland
<b>Werner Piller</b>	ESSAC Alternate Austria
<b>Stefan Schouten</b>	ESSAC Alternate Netherlands
<b>Marit Solveig Seidenkrantz</b>	ESSAC Delegate Denmark
<b>Ian Snowball</b>	ESSAC Delegate Sweden
<b>Ruediger Stein</b>	ESSAC Delegate Germany
<b>Antje Voelker</b>	ESSAC Delegate Portugal
<b>Dominique Weis</b>	ESSAC representative Canada, ECORD

### **Observers/Guests**

<b>Jochen Erbacher</b>	ESF Magellan Workshops
<b>Markus Kienast</b>	ESSAC Alternate Canada
<b>Patricia Maruéjol</b>	EMA
<b>Catherine Mével</b>	EMA
<b>Alan Stevenson</b>	ESO

### **Apologies**

<b>Serge Berné</b>	ESSAC Alternate France
<b>Bryndís Brandsdóttir</b>	ESSAC Delegate Iceland
<b>Anneleen Foubert</b>	ESSAC Delegate Belgium
<b>Nalan Koç</b>	ESSAC Delegate Norway
<b>Kari Strand</b>	ESSAC Delegate Finland
<b>Lucas Lourens</b>	ESSAC Delegate Netherlands



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## LIST OF ACRONYMS

<b>ACEX</b>	<b>Arctic Coring Expedition</b> (Expedition 302)
<b>APLACON</b>	<b>Alternative Platform Conference</b> (Lisbon, May 2001)
<b>AF</b>	<b>Academy of Finland</b>
<b>BCR</b>	<b>Bremen Core Repository</b>
<b>BGS</b>	<b>British Geological Survey</b> (UK)
<b>BoG</b>	<b>IODP-MI Board of Governors</b>
<b>CDC</b>	<b>Conceptual Design Committee</b> (new riser vessel)
<b>CDEX</b>	<b>Center for Deep Earth EXploration</b> (Japan)
<b>CoNISMa</b>	<b>Consorzio Nazionale Interuniversitario per le Scienze del Mare</b> (Italy)
<b>CDP</b>	<b>Complex Drilling Project</b>
<b>CNR</b>	<b>Consiglio Nazionale delle Ricerche</b> (Italy)
<b>CNRS</b>	<b>Centre National de la Recherche Scientifique</b> (France)
<b>DASTI</b>	<b>Danish Agency for Science, Technology and Innovation</b>
<b>DFG</b>	<b>Deutsche Forschungsgemeinschaft</b> (German Research Foundation)
<b>DSDP</b>	<b>Deep Sea Drilling Project</b>
<b>EC</b>	<b>European Commission</b>
<b>ECORD</b>	<b>European Consortium for Ocean Research Drilling</b>
<b>EDP</b>	<b>Engineering Development Panel</b>
<b>EPC</b>	<b>European Petrophysics Consortium</b>
<b>EMA</b>	<b>ECORD Managing Agency</b>
<b>ERA-Net</b>	<b>European Research Area Network</b>
<b>ESF</b>	<b>European Science Foundation</b>
<b>EPSP</b>	<b>Environmental Protection &amp; Safety Panel</b>
<b>ESO</b>	<b>ECORD Science Operator</b>
<b>ESSAC</b>	<b>ECORD Science Support and Advisory Committee</b>
<b>FWO-Vlaanderen</b>	<b>Fund for Scientific Research-Flanders</b> (Belgium)
<b>FWF</b>	<b>Austrian Science Fund</b>
<b>GRICES</b>	<b>Gabineta de Relacoes Internacionais da Ciencias e do Ensino Superior</b> (Portugal)
<b>GSI</b>	<b>The Geological Survey of Ireland</b>
<b>ICDP</b>	<b>International Continental Scientific Drilling Project</b>
<b>IIS-PPG</b>	<b>Industry IODP Science Program Planning Group</b>
<b>INGV</b>	<b>Istituto Nazionale di Geofisica e Vulcanologia</b> (Italy)
<b>INSU</b>	<b>Institut National des Sciences de l'Univers</b> (France)
<b>IOs</b>	<b>Implementing Organisations</b>
<b>IODP</b>	<b>Integrated Ocean Drilling Program</b>
<b>IODP-MI</b>	<b>IODP Management International, Inc.</b>
<b>ISP</b>	<b>Initial Science Plan for the IODP</b>
<b>JAMSTEC</b>	<b>Japan Marine Science &amp; TEchnology Center</b>
<b>J-DESC</b>	<b>Japanese Earth Drilling Science Consortium</b>
<b>JEODI</b>	<b>Joint European Ocean Drilling Initiative</b>
<b>JOI</b>	<b>Joint Oceanographic Institutions</b>
<b>JR</b>	<b>JOIDES Resolution</b>
<b>LDEO</b>	<b>Lamont Doherty Earth Observatory</b>
<b>MICINN</b>	<b>Ministerio de Ciencia e Innovación</b>
<b>MEXT</b>	<b>Ministry of Education, Culture, Sports, Science &amp; Technology</b> (Japan)
<b>MoU</b>	<b>Memorandum of Understanding</b>

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<b>MOST</b>	People's Republic of China <b>M</b> inistry <b>O</b> f Science and Technology
<b>MSP</b>	<b>M</b> ission- <b>s</b> pecific <b>p</b> latform
<b>NanTroSEIZE</b>	<b>N</b> ankai <b>T</b> rough <b>S</b> Eismogenic <b>Z</b> one Experiment
<b>NCMR</b>	National Center for <b>M</b> arine <b>R</b> esearch (Greece)
<b>NERC</b>	Natural Environment <b>R</b> esearch Council (UK)
<b>NSF</b>	National Science <b>F</b> oundation (USA)
<b>NWO</b>	Netherlands Organisation for Scientific Research
<b>OD21</b>	<b>O</b> cean <b>D</b> rilling in the <b>21</b> st Century (Japan)
<b>ODP</b>	<b>O</b> cean <b>D</b> rilling <b>P</b> rogram
<b>OEAW</b>	Austrian Academy of Sciences
<b>OGS</b>	Istituto Nazionale di Oceanografiae di Geofisica <b>S</b> perimentale (Italy)
<b>OTF</b>	Operations Task Force
<b>PEP</b>	Proposal Evaluation Panel
<b>RANNIS</b>	The Icelandic Centre for Research
<b>SAS</b>	Science Advisory <b>S</b> tructure
<b>SASEC</b>	Science Advisory <b>S</b> tructure Executive Committee
<b>SciMP</b>	<b>S</b> cientific <b>M</b> easurements <b>P</b> anel
<b>SCP</b>	Site Characterization Panel
<b>SIPCOM</b>	Science Implementation and Policy Committee
<b>SNF</b>	Swiss National Science Foundation
<b>SODV</b>	Scientific Ocean <b>D</b> rilling <b>V</b> essel
<b>SPC</b>	Science <b>P</b> lanning Committee
<b>SSEP</b>	Science <b>S</b> teering & Evaluation Panel
<b>SSP</b>	Site Survey Panel
<b>STP</b>	Site <b>T</b> echnology Panel
<b>TAMU</b>	Texas <b>A</b> & <b>M</b> University
<b>ToR</b>	<b>T</b> erms of <b>R</b> eference
<b>USSAC</b>	United States Science Advisory Committee
<b>USSSP</b>	United States Science <b>S</b> upport <b>P</b> rogram
<b>UVic</b>	University of <b>V</b> ictoria (Canada)
<b>VR</b>	Swedish Research Council

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## ESSAC subcommittee procedures

ESSAC has been structured in three subcommittees (Staffing and Nominations, Education and Outreach, and Workshops, ad-hoc working group) to increase the efficiency of ESSAC and the involvement of the ESSAC Delegates in ESSAC life. Subcommittee general tasks and composition are summarized below.

The subcommittees meet electronically to prepare the meetings on general issues and to work on specific issues at the request of the ESSAC Chair. Each subcommittee is coordinated by an ESSAC Delegate, nominated by the ESSAC Chair. The coordinator is in charge of writing a report for the Agenda book and of presenting the activities of the subcommittee at the meetings. A general discussion follows that presentation.

### Staffing and Nominations subcommittee

Members: Lucas Lourens (Coordinator, NL), Carlota Escutia (ESSAC Chair, ES), Julia Gutierrez-Pastor (ESSAC Science Coordinator, ES), Dominique Weis (CDN), Serge Berne (F), Rachael H. James (UK), Gretchen Früh-Green (CH), Ruediger Stein (D), Kari Strand (FIN), Antje Voelker (P).

#### General tasks:

- Suggesting nominations of ECORD representatives (delegates and alternates) on SAS panels, PPGs and DPGs.
- Co-ordinating applications, reviewing all the applications and suggesting nominations of shipboard participants.
- Reviewing the quota of shipboard scientists between participating countries.
- Suggesting co-chief nominations for IODP Expeditions.

#### Immediate actions:

- Summarize the current ECORD composition of SAS panels, identify future replacements (expertise), and suggest permanent alternates.
- Summarize the current ESSAC composition, identify future replacements (Delegates and alternates), and make recommendations.
- Summarize the quota balance for ECORD participation to IODP Expeditions.

### Education and Outreach subcommittee

Members: Xavier Monteys (Coordinator, IRE), Carlota Escutia (ESSAC Chair, ES), Julia Gutierrez-Pastor (ESSAC Science Coordinator, ES), Bryndis Brandsdottir (ICE), Elisabetta Erba (I), Nalan Koc (N), Werner Piller (A), Marit-Solveig Seidenkrantz (DK), Ian Snowball (S), Anneleen Foubert (B).

#### General tasks:

- Developing educational opportunities/programs: Teacher's workshops, Summer Schools etc., especially in non-traditional audiences.
- Reviewing Summer School proposals.

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- Reviewing applications and suggesting nominations for ECORD scholarships.
  - Initiating applications of speakers for the Distinguished Lecturer Series and suggesting nominations.
  - Providing new ideas regarding new ways to raise funds for E&O activities.
  - Advising on the public outreach (societal relevance of the IODP science).

Immediate actions:

- Make recommendations for deadlines for submission of Summer School proposals and for applications for ECORD scholarships.
- Make suggestions of new ideas regarding E&O activities (societal relevance of the IODP science), especially in non-traditional audiences.
- Make suggestions regarding new ways to raise funds for E&O activities.
- Monitoring ECORD database (e.g. ECORD publications).

AD-HOC Working Groups on relevant themes

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## 1. Introduction

### 1.1 Letter from the Chair

Dear ESSAC Delegates, ESSAC alternates, and attendees of the 17th ESSAC Meeting,

October 1st the ESSAC Office moved from Bremerhaven in Germany to Granada Spain. Julia Gutierrez-Pastor as new Science Coordinator and myself as new ESSAC Chair, took over the steering wheel from the former Chair Rüdiger (Rudy) Stein and Science Coordinator Jeannette (Jenny) Lezius. This implies that most of the ESSAC activities carried-out since the 16th ESSAC Meeting held in Leuven (Belgium) on May 11-13, 2011, were done under the leadership of the Bremerhaven ESSAC Office.

ESSAC has been actively involved in issuing calls for five expeditions with the *JOIDES Resolution*: Expedition 340 (Lesser Antilles Volcanism and Landslides), Expedition 341 (Alaska Tectonics, Climate and Sedimentation), Expedition 342 (Newfoundland Paleogene and Cretaceous Sediment Drifts: Deep-sea circulation in a Greenhouse World), Expedition 344 (Costa Rica Seismogenesis Project 2 (CRISP)) and Expedition 345 (Hess Deep Plutonic Crust); and calls for two expeditions with the *Chikyu*: Expedition 338 (NanTroSEIZE Plate Boundary Deep Riser-2), and Expedition 343 (Japan Trench Fast Drilling Project). ESSAC has completed the selection of ECORD scientists for Expeditions 339, 340 and 341, and the staffing is still in progress. Calls for applications to sail on Expeditions 344, 345, 338 are open until December 15, and until November 18 for Expedition 343. More information about the scientific objectives, precise dates, and official notification of all these expeditions can be found on the IODP website at <http://www.iodp.org/expeditions/>.

The second phase of the ECORD Distinguished Lecturer Program is running successfully with the ECORD Distinguished Lecturers Kai-Uwe Hinrichs (MARUM, University of Bremen, Germany, "Benthic archaea - the unseen majority with importance to the global carbon cycle revealed by IODP drilling"), Dominique Weis (PCIGR, University of British Columbia, Canada, "What do we know about mantle plumes and what more can we learn by IODP drilling?"), and Helmut Weissert (ETH Zurich, Switzerland, "Carbon cycle, oceans and climate in the Cretaceous: lessons from Ocean Drilling (DSDP to IODP) and from records on continents"). This phase will be active until June 2012.

ECORD provided scholarships with amounts between 500 and 1500 € to allow 14 students, from ECORD and non-ECORD countries, to attend one of the ECORD Summer Schools 2011: The ECORD Summer School on Subseafloor Fluid Flow and Gas Hydrates, Bremen, Germany; and the Urbino Summer School in Paleoclimatology, Urbino, Italy.

ECORD sponsored merit-based awards for outstanding graduate students to conduct research related to the Integrated Ocean Drilling Program. ESSAC received highly qualified applications, from which five young researchers have been awarded an ECORD Research Grant of around 2000 € each to cover travel and lab expenses. ECORD also provided scholarships to 5 young scientists with maximum amounts of 1300 € to allow outstanding young scientists to attend the workshop "Engaging Early Career Scientists in Future Scientific Ocean Drilling" at Texas A&M University.

ESSAC has been actively involved in the shaping of the successor program: the International Ocean Discovery Program (IODP) "Exploring the Earth under the Sea." Related to this initiative a new Scientific Advisory Structure (SAS) has been formed with the aim of guiding the scientific, technological and engineering aspects of the current IODP as well as the new Program from October 2013. As a result, ECORD has four representatives in each the following panels: Science Implementation and Policy Committee (SIPCOM), Site Characterization Panel (SCP), Scientific Technology (STP) and Environmental Protection and Safety Panel (EPSP). Eight ECORD scientists are members of the Proposal Evaluation Panel (PEP). The full list of ECORD representatives in the new SAS structure can be obtained from <http://www.iodp.org/Committees-and-Panels-New/4/>

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During the EGU 2012 in Vienna, we will organize the EuroFORUM 2012. Our proposal has been accepted for a Session titled: Major achievements and perspectives in ocean and continental drilling. A call for oral and poster contributions will be send out soon.

Julia and I thank Rudy and Jenny for their hard work and success leading ESSAC and running of the ESSAC Office during the past two years. We will work hard to continue their success. For this, we will need the continued active participation of all the ESSAC delegates and collaboration with the IODP/ECORD bodies, as well as the input of the scientific community. The move of the ESSAC Office to Granada coincides with the final two years of the current IODP Program in September 2013. Many challenges need to be overcome in the near future by the scientific drilling community as the detailed structure and international partnerships in the new program are yet to be defined. ESSAC is committed to being central to these discussions acting as the advisory and support body for the ECORD community. Julia and I are here to serve this community and we welcome any ideas and/or suggestions that you may have related to IODP/ECORD/ESSAC.

I warmly thank Xavier Montenys for hosting the 17th ESSAC Meeting in Dublin and for his efforts for the outstanding arrangements made for that meeting.

I wish you a successful and pleasant meeting.

*Carlota Escutia*

Granada, 14 October 2011



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## 1.2 Welcome and meeting logistics of the 17<sup>th</sup> ESSAC Meeting in Dublin, Ireland

October 25-27, 2011

### *Practical information:*

- From **Dublin airport** to the **Hotel**:

Aircoach (Ballsbridge route) leaves every 15 minutes from outside the Dublin airport arrivals terminal.

1. Take the coach to the Lansdowne Road stop, at Ballsbridge Inn, D4 Hotel.
2. Walk by the side of the hotel down Lansdowne Road, through the traffic lights at Shelbourne Road towards AVIVA Stadium.
3. Go through the level crossing gates over the DART railway lines. The Stadium is on the left.
4. Follow the road around to the right, over the bridge, and Sandymount Hotel is on the right hand side.

- **Accommodation**

Sandymount Hotel Dublin, Herbert Rd, Lansdowne Rd,  
Dublin 4

Tel: +353 (0) 1 614 2000

Fax: +353 (0) 1 660 7077

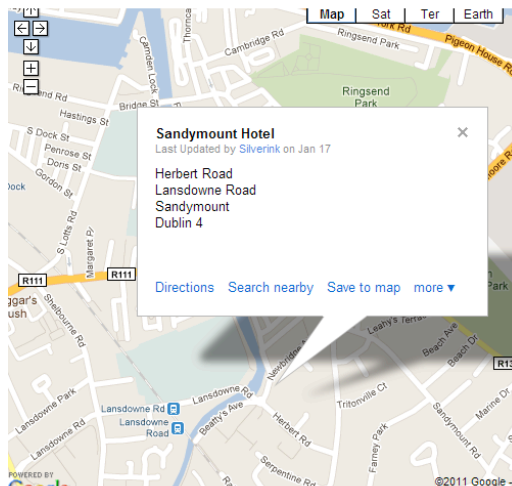
Email: [info@sandymounthotel.ie](mailto:info@sandymounthotel.ie)

<http://www.sandymounthotel.ie/>

Checking time: 3.00 pm

Departure time: 11.00 am

Rate per night: 90 /110 euros



- **25<sup>th</sup> of October**

**Field Trip:** The field trip will take place near Dublin in Killiney Beach accessible by local train. It will consist of two parts: Quaternary glacial geology and solid geology.

Meeting point: we will meet at **Sandymount Hotel reception at 9:45 am - 25/10**

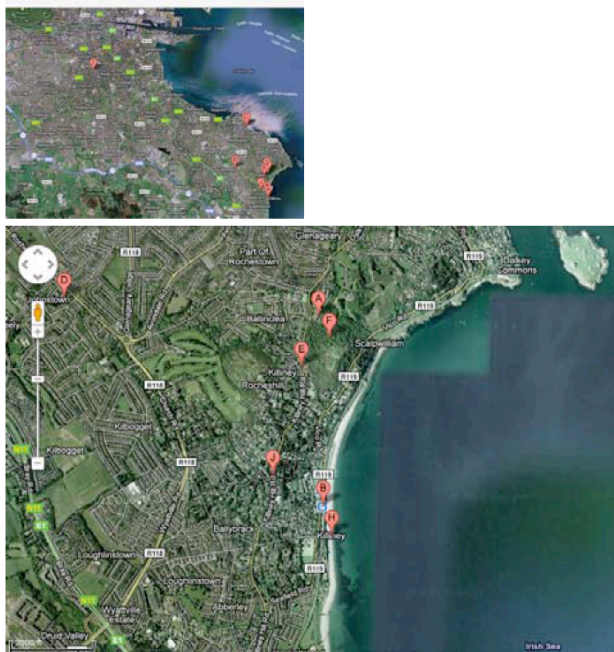
Approximate cost:

- Transport - on the local train (DART) ~ 7€
- Lunch ~ 15€ (location TBC) Gear: Wet gear: umbrella or raincoat and trekking shoes

Access is easy but walking is tricky due to the cobble-sized beach material underfoot, so ankle-supporting footwear is advised. The beach is affected by Tides so we will have to do

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the field trip without stops till lunch (more info in Appendix 1).



South Dublin Bay and Killiney Beach (H)

- **Meeting: 26<sup>th</sup> and 27<sup>th</sup> of October:**

- 26<sup>th</sup> (9:00 to 18:00 h)

- 27<sup>th</sup> (9:00 to 15:00 h)

*(Coffee break 10:30-11:00 - Lunch break 12:30-13:30 - Coffee break 15:30-16:00)*

**Meeting room:** Oakland suite at the Sandymount Hotel.

- **Meeting Dinner:** 26<sup>th</sup> of October at 8:00 pm at the Schoolhouse Bar  
2-8 Northumberland Rd.

Ballsbridge, Dublin 4

[http://www.schoolhousebar.ie/schoolhousebar/?page\\_id=37](http://www.schoolhousebar.ie/schoolhousebar/?page_id=37)

For further assistance regarding administrative and logistical matters, please contact the meeting host.

**Meeting Host**

Xavier Monteys ([Xavier.Monteys@gsi.ie](mailto:Xavier.Monteys@gsi.ie))

ESSAC Delegate Ireland

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### 1.3 Discussion and approval of the Agenda

At the meeting in Dublin, Ireland, C. Escutia will present the current agenda and highlight potential challenges of the meeting and/or changes of the agenda.

### 1.4 Items since the 16<sup>th</sup> ESSAC Meeting and ESSAC Office news

C. Escutia and R. Stein will present items since the last ESSAC meeting. The list down-below contains the actions items, which arose since the 16th ESSAC meeting in Leuven/Belgium and that have been accomplished by the ESSAC Office since then (labelled with “Done”). Action items not fulfilled yet, have been labelled by “in progress”. The complete list of consensus, motions and actions from the 16<sup>th</sup> meeting are listed in Appendix 2.

> **ESSAC Action Item 1105-01:** As response to the NSF letter related to the future IODP and NSF, ESSAC will prepare a letter of concern during the meeting. ESSAC Chair will send out this letter to NSF within the next days. ***Done***

> **ESSAC Action Item 1105-02:** The ESSAC Office will issue calls for nominations for the SAS panels in the new SAS: Technology Panel (TP) and Proposal Evaluation Panel (PEP). ***Done***

> **ESSAC Action Item 1105-03:** ESSAC Office will contact organizers of the Urbino Summer School in Paleoclimatology (USSP) and ask them to involve more ECORD lecturers (e.g. from France or Spain) in order to make the USSP more attractive for students from other/these countries.

***In progress*** (ESSAC Office will send message beginning of 2012)

> **ESSAC Action Item 1105-04:** ESSAC Office will adjust the questionnaire about Summer Schools. ***Done***

> **ESSAC Action Item 1105-05:** ESSAC Office will send out a message to ESSAC delegates about a possible solution for future handling with ECORD Scholarships. Proposal for further discussion: Evaluation of scholarship applications and decision about scholarships by the Organizers of the Summer School; ESSAC only decides how much money in total will be available for scholarships of a specific Summer School. ***In progress***

> **ESSAC Action Item 1105-06:** ESSAC Office will create a doodle table to organize and fix the dates for the next ESSAC meeting in October 2011 in Dublin (weeks 17<sup>th</sup> – 28<sup>th</sup> October 2011). ***Done***

> **further ESSAC Action Item:** Calls have been issued for Expedition 344 - Costa Rica Seismogenesis Project 2 and Expedition 345 - Hess Deep Plutonic Crust, both with deadline December 15, 2011.

## 1.5 ESSAC FY12 Budget

Budget approved by the ECORD Council during its Meeting#19, May 31st-June 1<sup>st</sup>, 2011, in Montreal, Canada

### ESSAC REQUESTED BUDGET FOR FY12

September 30 th, 2011 - October 1st, 2012

REQUESTED BUDGET FY 12	Budget FY12	Budget FY 11	Budget FY 10	Budget FY 09
<b>Salaries</b>				
Science coordinator's salary (12 months)	48,000.00 €	57,600.00 €	57,600.00 €	48,000.00 €
<b>Travel and subsistence costs</b>				
Science Coordinator	5,000.00 €	5,000.00 €	5,000.00 €	5,000.00 €
Chair	11,000.00 €	11,000.00 €	11,000.00 €	11,000.00 €
<b>Office costs</b>				
General office costs <sup>1</sup>	14,000.00 €	12,000.00 €	13,500.00 €	13,500.00 €
<b>Meetings</b>				
ESSAC October meeting <sup>2</sup>	1,500.00 €	1,500.00 €	1,500.00 €	1,500.00 €
ESSAC May meeting <sup>2</sup>	1,500.00 €	1,500.00 €	1,500.00 €	1,500.00 €
Travel support for speakers invited at ESSAC meetings <sup>3</sup>	4,000.00 €	2,000.00 €	4,000.00 €	4,000.00 €
<b>Additional Council activities</b>				
Support for the ECORD Distinguished Lecturer Programme	18,000.00 €	18,000.00 €	18,000.00 €	18,000.00 €
Workshop scientist support <sup>4</sup>	5,000.00 €	(Money left from FY10)	5,000.00 €	5,000.00 €
Summer Schools support	20,000.00 €	20,000.00 €	20,000.00 €	20,000.00 €
Summer school students	15,000.00 €	15,000.00 €	15,000.00 €	15,000.00 €
Conference 10 travel support <sup>5</sup>	5,000.00 €	3,000.00 €	5,000.00 €	10,000.00 €
ECORD Grants	10,000.00 €	10,000.00 €	10,000.00 €	-----
<b>ECORD CONTRIBUTION</b>	<b>158,000.00 €</b>	<b>156,600.00 €</b>	<b>167,100.00 €</b>	<b>152,500.00 €</b>

<sup>1</sup> Set up of ESSAC Office in Spain

<sup>2</sup> Support for ESSAC meetings

<sup>3</sup> Expedition reports, proposal presentations, workshop reports etc.

<sup>4</sup> Support for 'over-quota' participation of ECORD scientists at IODP-MI workshops and PPG - Student support for Arctic Workshop

<sup>5</sup> Travel support for keynote and invited speakers at the 10 ECORD Conference (EGU Session Vienna-EUROFOURUM)

## 2. IODP News

### 2.1 LAs, IOs SASEC and IWG+

C. Mével will give a summary about the latest news regarding lead agencies, SASEC and IWG+.

### 2.2 Science Planning, Committee (SPC) and Operation Task Force (OTF)

R. Stein will present a summary of the 18<sup>th</sup> SPC meeting that took place in Zao, Miyagi, Japan from 22-24 August, 2011(Appendix 3).

### 2.3 Outreach Task Force

The IODP Outreach Task Force met at the IODP-MI office in Tokyo on 27-28 September 2011. Representatives from EMA and ESO attended the meeting, along with colleagues from IODP-MI, the USIO and CDEX, as well as observers from MEXT. The agenda included reports from each of the Implementing Organisations and specific items on Exhibitions and Townhall Meetings, Media

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Relations, the new IODP Website, Future Video Projects, Mantle Drilling and Graphics and Publications.

### **3. ECORD News**

#### **3.1 EMA - ECORD Council and ECORD ILP activities**

C. Mével will give a summary about the latest news regarding EMA and ECORD Council activities.

#### **3.2 ESO**

ESO has been planning the next MSP Expedition, which is aimed to be implemented in 2013. During the last few months, ESO have been scoping 4 IODP MSP proposals: #548 Chicxulub K-T Impact Crater, #716 Hawaiian Drowned Reefs, #758 Atlantis Massif Seafloor Processes and #672 Baltic Sea Basin Paleoenvironment.

ESO staff met with the proponents of the Atlantis Massif and Baltic Sea Basin proposals in July 2011 (meetings with the Chicxulub and Hawaii proponents took place in October and November 2010). After considering the options for an MSP in 2013 at their August 2011 meeting, IODP's Science Planning Committee chose the Baltic Sea Basin Paleoenvironment as the next MSP. ESO is continuing to scope the remaining, highly-ranked MSP proposals which provide excellent options for MSP expeditions in the first years of the International Ocean Discovery Program.

The Expedition 313 (New Jersey Shallow Shelf) 2<sup>nd</sup> Post-expedition Meeting took place from August 15 - 18, 2011, at the University of Utah, Salt Lake City, USA. The Science Party gathered to discuss their results to date and to coordinate their publication approach. The Science Party participated in a field trip to view classic outcrops of the Blackhawk Wave-Dominated Coastal System (Book Cliffs) and the Ferron Sandstone Deltaic System. A series of collaborative peer-reviewed papers from the Science Party are expected to be published before August 2012.

The moratorium period for Expedition 325 (Great Barrier Reef Environmental Changes) ended on July 16 2011 with the publication of the associated Proceedings volume online at <http://publications.iodp.org/proceedings/325/325title.htm>. The Science Party are continuing to conduct their post-Expedition research, with two or three peer-reviewed papers expected before the end of the year. The Expedition 325 2nd Post-expedition Meeting will take place from July 3 - 7, 2012, at Heron Island, Queensland, Australia. A special session has been co-organised with scientists associated with Expedition 310 for the 12<sup>th</sup> International Coral Reef Symposium (9 - 13 July, Cairns, Australia), and the majority of the Expedition 325 Scientists are expected to participate. For the latest list of expedition-related publications for all MSP expeditions, please consult the Expedition-related bibliography section of the Proceedings volumes. The Expedition 325 Operational Review Task Force (ORTF) took place at the Edinburgh offices of the British Geological Survey on 18 & 19 July 2011. All reports by the Operations Review Task Force concerning MSP Expeditions can be found on IODP-MI's website at <http://www.iodp.org/ortf/>.

ESO representatives have attended SAS panels, IODP- and ECORD-related committees, and workshops during the reporting period and carried out associated tasks. C. Graham and E.

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Gillespie hosted the June EPSP meeting at the British Geological Survey in Edinburgh. ESO staff attended the 2011 EGU Meeting, 4-8 April, Vienna, in various capacities: IODP booth maintained in the exhibition hall; booth services by ECORD/ESO staff; attendance at the joint IODP/ICDP Townhall Meeting; U. Röhl was a Co-Convener of the session “Major achievements and perspectives in scientific ocean and continental drilling”; media presentation on Expedition 325, Great Barrier Reef. · ESO staff held Project Management Team Meetings with the proponents of the Baltic Paleoenvironment and Atlantis Massif Seafloor Processes proposals, on 28 and 29 June respectively, at the British Geological Survey in Edinburgh. Representatives from all ESO partners were in attendance. ESO is continuing to work with EMA on a new

### **3.3 EMA-ESO-ESSAC and ECORD Publications**

P. Maruéjol will report on recent ECORD outreach activities and publications since June 2011 and future actions/publications discussed at the last EMA-ESO-ESSAC (ECORD Outreach) meeting held in Prague at Goldschmidt 2011 conference. The meeting was attended by A. Stevenson and A. Gerdes (ESO), C. Mével and P. Maruéjol (EMA).

#### **1) Summary of ECORD outreach activities/publications**

- **ECORD Newsletter #17 - October 2011**, 20-page issue, released on late October 2011 will be distributed as printed copies and available online at: <http://www.ecord.org/pub/nl.html>  
This issue is made up of ECORD information from May 2011 to early October 2011, with messages and news from the ECORD bodies, reports on ECORD Summer Schools 2011, School of Rock 2011, a Magellan Series Workshop, a Letter from Norway (K. Kleive, N; Koç and O. Pedersen), a scientific contribution "Challenges in Arctic Ocean Drilling" (R. Stein) and a report of the Deep Sea and Sub Seafloor Frontier (A. Kopf and C. Mével).
- **Report of the ECORD Evaluation**, about 40-page document to be released on November 2011
- **ECORD-IODP booth at Goldschmidt 2011**, Prague, August 15-18, targeting the geochemists not present at EGU 2011,
- **ECORD-IODP booth at [3P Arctic 2011](#)** in Halifax, Canada (ESO and ECORD ILP), August 30-September 1 (see 3.2),
- Participation in **IODP Outreach meeting**, September 27-28, Tokyo (see 2.4),
- Providing ECORD materials (ECORD/IODP brochures ± core replicas)
  - To teachers at school (IODP core replicas + materials),
  - To Urbino Summer School 2011
  - To IODP national offices for national events - GeoItalia 2011, Genova - and international events - IODP-ICDP booth at GAC-MAC 2011 in Ottawa
  - To Antarctic summer school in Genova
  - to IODP-MI and CDEX for booths at Earth science conferences (OTC, , JPGU and AOGS (printed materials)
- Distribution of the IODP New Science Plan - full and short versions (1,500 copies each)

#### **2) Future outreach activities/ publications**

- Participation in IODP activities at **AGU 2011** (IODP booth and Townhall meeting, press conferences, etc.)
- **Coordinating portcall activities in Lisbon**, January 18, 2012 with Sarah Saunders (USIO)

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and Antje Voelker (IODP-Portugal)

➤ **Next issue of ECORD Newsletter #18 - April 2012**, will be discussed during the next EMA-ESO-ESSAC meeting and assembled according to the following deadlines:

- Call for contributions - to be issued on early to middle February 2012,
- Author's deadline - March 15, 2012
- Date of release - late April 2011 at EGU 2012

The following items have been identified:

- ECORD business and science delivery plan for IODP post 2013
  - Access data information through SEDIS database (Pangaea, IODP-MI)
  - A Letter from? 7 potential candidates: Denmark, Portugal, Austria, Italy, Sweden, Iceland, Belgium.
  - Report of the ECORD Evaluation
  - Scientific contribution?
- **Joint ECORD/IODP/ICDP booth** and townhall meeting at EGU 2012: April 22-27, Vienna
- Publishing the ECORD photo gallery
- Providing ECORD/IODP materials to Swiss IODP event (10-12 November), to high school teachers (core replicas),
- Updating ECORD flyer and GBREC leaflet

**Next ECORD outreach meeting:** early to mid February, location to be decided (Aix, Nancy, Granada?) or earlier, January 19 after the portcall in Lisbon.

### 3.4 ESSAC representatives and National Office reports

Each ESSAC delegates will give a short summary about the latest national activities regarding IODP and ECORD issues. The current ESSAC delegates and alternates are given in the table down below:

ESSAC Delegates and Alternates		
Austria	Werner E. Piller	Michael Wagreich
	<a href="mailto:werner.piller@uni-graz.at">werner.piller@uni-graz.at</a>	<a href="mailto:michael.wagreich@univie.ac.at">michael.wagreich@univie.ac.at</a>
Belgium	Anneleen Foubert	Stephen Lowye
	<a href="mailto:Anneleen.Foubert@ees.kuleuven.be">Anneleen.Foubert@ees.kuleuven.be</a>	<a href="mailto:stephen.lowye@ugent.be">stephen.lowye@ugent.be</a>
Canada	Dominique Weis	Markus Kienast
	<a href="mailto:dweis@eos.ubc.ca">dweis@eos.ubc.ca</a>	<a href="mailto:markus.kienast@dal.ca">markus.kienast@dal.ca</a>
Denmark	Marit-Solveig Seidenkrantz	Paul Cornils Knutz
	<a href="mailto:mss@geo.au.dk">mss@geo.au.dk</a>	<a href="mailto:pkn@geus.dk">pkn@geus.dk</a>
Finland	Kari Strand	Annakaisa Korja
	<a href="mailto:kari.strand@oulu.fi">kari.strand@oulu.fi</a>	<a href="mailto:annakaisa.korja@helsinki.fi">annakaisa.korja@helsinki.fi</a>
France	Serge Berne	Georges Ceulener
	<a href="mailto:serge.berne@univ-perp.fr">serge.berne@univ-perp.fr</a>	<a href="mailto:georges.ceuleneer@get.obs-mip.fr">georges.ceuleneer@get.obs-mip.fr</a>
Germany (Vice-Chair)	Ruediger Stein	Jochen Erbacher
	<a href="mailto:Ruediger.Stein@awi.de">Ruediger.Stein@awi.de</a>	<a href="mailto:j.erbacher@bgr.de">j.erbacher@bgr.de</a>
Iceland	Bryndís Brandsdóttir	Gudrún Helgadóttir



	<a href="mailto:bryndis@raunvis.hi.is">bryndis@raunvis.hi.is</a>	<a href="mailto:gudrun@hafro.is">gudrun@hafro.is</a>
<b>Ireland</b>	Xavier Monteys	David Hardy
	<a href="mailto:Xavier.Monteys@gsi.ie">Xavier.Monteys@gsi.ie</a>	<a href="mailto:david.hardy@gsi.ie">david.hardy@gsi.ie</a>
<b>Italy</b>	Elisabetta Erba	Leonardo Sagnotti
	<a href="mailto:elisabetta.erba@unimi.it">elisabetta.erba@unimi.it</a>	<a href="mailto:leonardo.sagnotti@ingv.it">leonardo.sagnotti@ingv.it</a>
<b>The Netherlands</b>	Lucas Lourens	Stefan Schouten
	<a href="mailto:llourens@geo.uu.nl">llourens@geo.uu.nl</a>	<a href="mailto:schouten@nioz.nl">schouten@nioz.nl</a>
<b>Norway</b>	Nalan Koç	Helga F. Kleiven
	<a href="mailto:Nalan.Koc@npolar.no">Nalan.Koc@npolar.no</a>	<a href="mailto:kikki@uib.no">kikki@uib.no</a>
<b>Portugal</b>	Antje Voelker	Luiz F. Menezes Pinheiro
	<a href="mailto:antje.voelker@lneg.pt">antje.voelker@lneg.pt</a>	<a href="mailto:imp@geo.ua.pt">imp@geo.ua.pt</a>
<b>Spain (Chair)</b>	Carlota Escutia Dotti	César Ranero
	<a href="mailto:cescutia@ugr.es">cescutia@ugr.es</a>	<a href="mailto:cranero@icm.csic.es">cranero@icm.csic.es</a>
<b>Sweden</b>	Ian Snowball	Eve Arnold
	<a href="mailto:Ian.Snowball@geol.lu.se">Ian.Snowball@geol.lu.se</a>	<a href="mailto:eve.arnold@geo.su.se">eve.arnold@geo.su.se</a>
<b>Switzerland</b>	Gretchen Früh-Green	Judith McKenzie
	<a href="mailto:frueh-green@erdw.ethz.ch">frueh-green@erdw.ethz.ch</a>	<a href="mailto:judy.mckenzie@erdw.ethz.ch">judy.mckenzie@erdw.ethz.ch</a>
<b>U.K.</b>	Rachael H. James	Ros Rickaby
	<a href="mailto:R.H.James@noc.soton.ac.uk">R.H.James@noc.soton.ac.uk</a>	<a href="mailto:Rosalind.Rickaby@earth.ox.ac.uk">Rosalind.Rickaby@earth.ox.ac.uk</a>

#### 4. The future of IODP

##### 4.1 Where do we stand after the ECORD executive meetings with NSF and MEXT

C. Mevel will present discussions held in Paris between the ECORD Council Executive and NSF and MEXT

##### 4.2 Plenary discussion: The future of the new IODP and ESSAC's position

#### 5. Nominations and Staffing

##### 5.1 Staffing

###### 5.1.1 Updates on expedition staffing:

Mid-Atlantic Ridge Microbiology (336),  
Mediterranean Outflow (339),  
Atlantis Massif Oceanic Core Complex (340T),  
Lesser Antilles Volcanism and Landslides (340),  
Southern Alaska Margin Tectonics, Climate & Sedimentation (341),  
Newfoundland Paleogene and Cretaceous Sedimentation Drifts (342)

###### 5.1.2 Nomination of co-chiefs.

##### 5.2 SAS panel nominations/changes: R. Stein and C. Escutia will summarize about SAS panel nominations and changes within the SAS.

#### 6. ECORD Highlights

##### 6.1 ECORD Highlight (1) by Peter Haughton (University College Dublin): New insight on Irish



6.2 ECORD Highlight (2) by Dorrik Stow (Institute of Petroleum Engineering, Scotland)  
Expedition 339: Environmental significance of the Mediterranean outflow water and its global significance

Integrated Ocean Drilling Program (IODP) Expedition 339 combines IODP Proposal 644-Full2 and ancillary proposal letter (APL)-763 and focuses on the broader significance of Mediterranean Outflow Water (MOW) on North Atlantic circulation and climate. The expedition will address important questions highlighted in the IODP Initial Science Plan related to paleocirculation and climate, the influence of oceanic gateways, and sea level and neotectonic control on sediment architecture along continental margins. In order to answer these questions, we propose targeted drilling of a late Neogene continental margin sequence in the Gulf of Cádiz and off West Iberia. The high rates of accumulation associated with contourite depositional system (CDS) deposits in this region provide an expanded sedimentary record that permits detailed examination of paleocirculation patterns linked to past environmental change. Expedition 339 offers a unique opportunity to understand the global link between paleoceanographic, climatic, and sea level changes from Messinian to recent time. The Gulf of Cádiz and off-West Iberia CDS form an extensive compound sedimentary body, which has been developing along the midslope over the past 5 m.y. under the direct influence of MOW. It therefore holds an unmistakable signal of MOW through the Gibraltar Gateway, reopened following tectonic adjustments at the end of the Messinian Salinity Crisis, and hence a clear record of Mediterranean Sea and MOW influence on the North Atlantic Ocean.

The importance of the Gulf of Cádiz is clearly reflected in the large number of regional studies and multinational interest shown over the past 40 y. An extensive array of high-quality data exists for the region, and a detailed seismic stratigraphic framework has recently been proposed. But, 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 five broad scientific objectives, which require seven drill sites through the Pliocene to Quaternary sedimentary record:

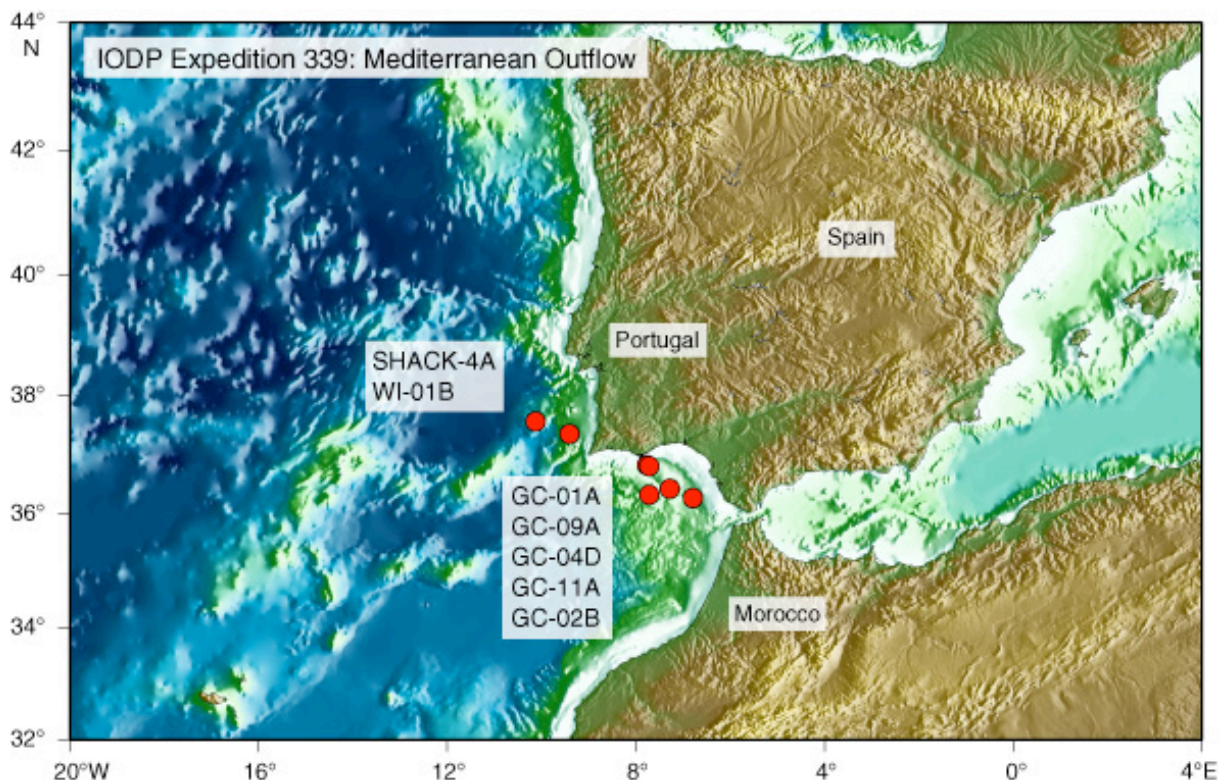
- Understand the opening of the Gibraltar Gateway and onset of MOW,
- Determine MOW paleoceanography and global climate significance,
- Establish a marine reference section of Pleistocene climate change,
- Identify sea level changes and sediment architecture of the Cádiz CDS and Iberian margin, and
- Ascertain synsedimentary 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.

Seven primary sites (and two alternates sites) have been selected that will allow us to identify and calibrate the third- and fourth-order depositional units and associated widespread erosive discontinuities across the CDS. This is of great significance, both regionally and globally, for

- 1) Monitoring the long-term variability of MOW and its global climatic significance;
- 2) Constraining the main paleoceanographic events from late Miocene to recent time, including high-resolution focus on late Pleistocene and Holocene rapid climate events;
- 3) Evaluating the influence of opening of the Gibraltar Gateway on North Atlantic oceanography and climate and monitoring the effects of sea level change on MOW flux;
- 4) Understanding the architecture of a complex CDS and the nature of its unit stacking pattern related to allogenic and autogenic controls; and
- 5) Investigating the dramatic large-scale asymmetric cycles of seismic character evident on high-resolution records, thereby elucidating their link with Quaternary-Pliocene climate/sea level and paleoceanographic changes.

In addition, drilling proposed Site SHACK-04 on the western Iberian margin is expected to recover a continuous sediment record with high sedimentation rates that preserves a signal of millennial-scale climate variability throughout the Pleistocene. This record will constitute a marine reference section of Pleistocene climate variability that can be correlated confidently to polar ice core and European terrestrial archives. The site will be used to document suborbital climate variability over numerous Pleistocene glacial-interglacial cycles; determine interhemispheric phasing (lead/lag) of the climate system; and correlate terrestrial, marine, and ice core records.



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## **7. Education and outreach**

### **7.1 ECORD Summer Schools 2011 (Reports)**

#### **7.1.1 The Urbino Summer School in Paleoclimatology 2011**

S. Schouten will give a short report about the Urbino Summer School in Paleoclimatology. The Pdf course program is given in the Appendix 4. Details are to be found on the webpage: <http://www.urbinossp.it/>

#### **7.1.2 ECORD Summer School on Geodynamics of Past Climate Changes**

R. Stein will give a short report about the ECORD Summer School on Subseafloor Fluid Flow and Gas Hydrates. More information is given in the Appendix 5.

#### **7.1.3. Outlook and ECORD Summer Schools 2012**

J. Gutierrez-Pastor will give a short outlook of ECORD Summer School 2012.

### **7.2 ECORD Scholarships and Grants 2011**

J. Gutierrez-Pastor will give a short overview of ECORD Scholarships and Grants 2011.

### **7.3 Distinguished Lecturer Programme 2010/2012**

C. Escutia will present a short update of the DLP.

## **8. Workshop Reports**

### **8.1 ESF Magellan Programme: Present and Future**

Scientific drilling and coring supports a large and influential scientific community in Europe as testified by, for example, the huge impact of the previous operations by the Deep Sea Drilling Program (DSDP), Ocean Drilling Programs (ODP), the current Integrated Ocean Drilling Program (IODP) and the International Continental Scientific Drilling Program (ICDP). Within these programs, European researchers have played a leading role in determining the scientific drilling targets that has led to important discoveries and scientific advances such as the mechanisms of plate tectonics and the accretion of the oceanic lithosphere, the existence of microbial communities (deep biosphere) and presence of gas hydrates, past climates including extreme and rapid climate variations, high resolution climate perturbations, novel insight in faulting and volcanic processes, new models for passive margin and collision orogen evolution, the mechanisms of biogeochemical cycles, and formation of mantle plumes, large igneous provinces and continental break-up.

For the maximum realization of the full potential of pan-European scientific drilling science, it is imperative that European scientists can participate fully in the planning and execution of identified and promising research. The Magellan<sup>+</sup> Workshop Series Program, is hence needed to implement and expand the success of the ending ESF Magellan program, through the integration of continental and marine drilling and coring to meet future challenges in Earth, Life and Environmental sciences and to support the leading role of European scientists in developing new and innovative science proposals to IODP and ICDP.

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### ***Objectives and deliverables***

Workshop proposals to the Magellan<sup>+</sup> Workshop Series Program must support high-quality, new and innovative science. It is envisaged that a maximum of three workshops will be organized each year. Proposals will be reviewed by a Steering Committee, with the advice of external reviewers if necessary. Proponents will be notified, within two months following the submission deadline. Two calls are envisioned with deadlines on February 1<sup>st</sup> and July 1<sup>st</sup>. The proposals should include complete and realistic scripts for the workshop, thus enabling the execution of the workshop within a maximum of nine months following the selection. It will be anticipated that the workshop proposals will have a significant component of European leadership. The average workshop period and size are set between 2-4 days and 20-35 participants respectively. In addition, the locality should be close to a convenient air and/or train hub and have relatively low cost facilities. The average cost of a workshop is estimated to vary around 15 k€. The participation of young scientists will be particularly encouraged. International experts of the relevant disciplines will be invited to these workshops to provide scientific input to the workshop themes and warrant international collaboration. Priority is given to proponents from ECORD and ICDP member countries.

Successful proponents will acknowledge the support of ECORD/ICDP in all information regarding the workshop. They will commit to submit a report to the SSC within six months after the completion of the workshop, to be posted on the ECORD and ICDP websites. They are further committed to submit a short article for the ECORD Newsletter and/or Scientific Drilling within a period of eight months.

### ***Scientific program***

Workshop proposals to the Magellan<sup>+</sup> Workshop Series Program must broadly follow the themes listed in the Science Plans of IODP and ICDP. They should ensure European leadership in the effective exploitation of research opportunities by the planning and execution of marine and continental drilling expeditions, thereby taking into account a mission specific drilling strategy, the societal relevance of the investigations, and a broad European network.

### ***Organisation and Terms of References***

Oversight of Magellan<sup>+</sup> Workshop Series Program will be under the purview of the Scientific Steering Committee (SSC), which includes the process of coordination, collaboration with ECORD/ESSAC and ICDP, the development of specific workshop calls in line with the program goals, the proposal review process and the evaluation of final reports of workshops granted.

ECORD and ICDP will provide annual budget guidance to the SSC.

The SSC will meet annually about one month after the February 1<sup>st</sup> call.

The SSC will report by-annually to ESSAC and annually to ICDP. A written statement on the use of the funds will be submitted to the ECORD council annually. In order to minimize administration costs the SSC will have seven members only including one chair, five ESSAC delegates and one ICDP delegate.

The SSC chair and vice chair shall be elected by ESSAC and approved by ICDP and the ECORD

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council. The SSC chair shall be liaison to the ESSAC, with the vice-chair as alternate.

SSC decisions about proposals shall be sent to the ECORD Management Agency (EMA) or ICDP respectively, in order for them to provide funding to the proponents of the positively evaluated workshop proposals.

Decisions within the SSC shall be made either by consensus or voting, as decided on a case-by case basis. Votes shall be decided by a majority of all members present and eligible to vote. A quorum shall consist of at least two-thirds of the voting members.

8.2 Report on further workshops and conferences

8.3 Joint IODP/ICDP session at the EGU 2012 in Vienna

## **9. Review of consensus, motions and actions**

## **10. Next meetings**

10.1 ESSAC 18, May 2012, Denmark

Marit-Solveig Seidenkrantz will introduce the city and venue for the ESSAC 18th meeting

## **11. Any other Business**

## APPENDIX 1

### 17<sup>th</sup> ESSAC Meeting- Dublin- Field trip

25<sup>th</sup> October

#### Overview:

The field trip will take place near Dublin in Killiney Beach accessible by local train. It will consist of two parts: Quaternary glacial geology and solid geology.

Meeting point: we will meet at [Sandymount Hotel](#) reception at 9:45 am - 25/10

Approximate cost :

- Transport - on the local train (DART) ~ 7€
- Lunch ~ 15€ ( location TBC)

Gear:

Wet gear: umbrella or raincoat and trekking shoes

Access is easy but walking is tricky due to the cobble-sized beach material underfoot, so ankle-supporting footwear is advised.

The beach is affected by Tides so we will have to do the field trip without stops till lunch.

#### First part: from 1015 am to 12 am

Quaternary Glacial Geology in Killiney Beach leaded by Dr Stephen McCarron (NUI Maynooth)

Several extensive glacial sediment wedges comprising infamous 'Irish Sea Basin' deglacial sediments occur along the Irish east coast within easy reach of the main population centres and the DART suburban railway system (Shankill stop). One such deposit, variously known as the Shanganagh/Killiney/Bray section has been recorded and discussed in the Irish and occasionally the international sedimentological and Quaternary Science literature for over a century. It comprises a 4km+ long vertical and occasionally slumped cliff line of Quaternary sediments up to 15m high, variously interpreted as glaciomarine, glaciolacustrine and subglacial, and most recently sub-ice shelf in origin. The extensive length of the section makes evaluating its multi-faceted entirety unfeasible in one day, but a reasonably representative introduction to the sequence from (probably) the oldest (a fossiliferous over-compacted diamict - the famous 'Irish Sea Till', used in the distant past to 'prove' diluvial theories) to youngest (plume rainout with ice-rafted boulders?) facies can be gained in several hours by moving northwards from the Shankill (Corbawn Lane) entrance onto the beach. Its relatively rapid erosion provides continuously fresh exposure.

#### second Session: from 1200 to 1330 pm

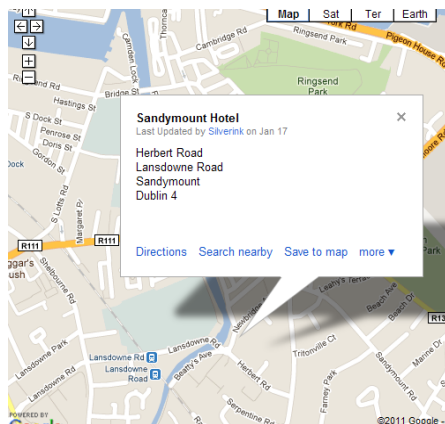
Solid Geology leaded by Dr. Brian McConnell (GSI)

Granite/schist contact at Whiterock, north end of Killiney beach

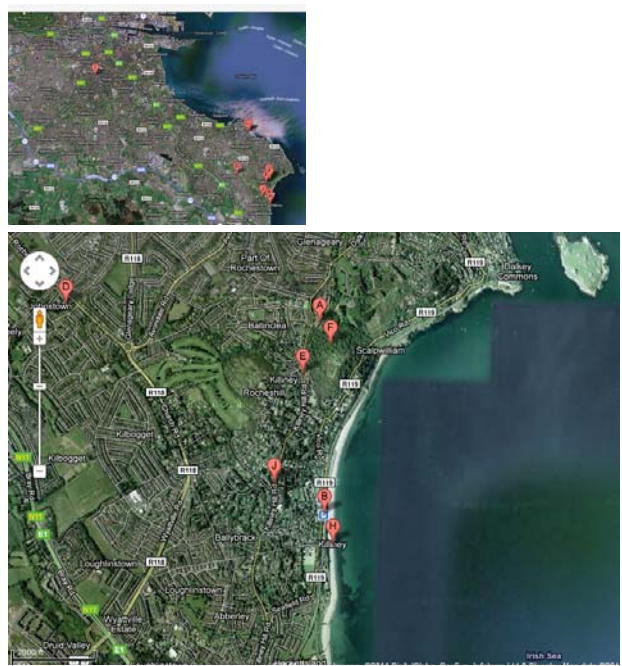
We will walk along the beach to the rock outcrops at the northern end, which expose the sheeted contact of the Devonian Leinster Granite against Ordovician metasedimentary rocks, now andalusite-mica schist. Rock armouring of blocks of Ordovician rhyolite along the beach, although out of place, is also worth a look. Together, these rocks form a microcosm of the bedrock geology of SE Ireland and record deposition and orogenesis on the southern margin of Iapetus (no need for a drill to explore the ocean depths here!). If time allows, we will climb Killiney Hill onto the granite for the dramatic coastal scenery.



Sandymount hotel - [www.sandymounthotel.ie](http://www.sandymounthotel.ie)



Hotel location



South Dublin Bay and Killiney Beach (H)

## APPENDIX 2

### LIST OF CONSENSI, MOTIONS AND ACTIONS 16<sup>H</sup> MEETING OF THE ECORD SCIENCE SUPPORT & ADVISORY COMMITTEE ESSAC

MAY 11-13, 2010, LEUVEN, BELGIUM

#### 1. INTRODUCTION

##### 1.3 Discussion and approval of the Agenda

**ESSAC Consensus 1105-01:** ESSAC approves the Agenda of its 16<sup>th</sup> meeting on May 11-13, 2011 at the Grand Beguinage, Leuven, Belgium.

#### 6. NOMINATIONS AND STAFFING

##### 6.1 Updates on expedition staffing

**ESSAC Consensus 1105-01:** ESSAC agrees to send out a letter of concern to NSF related to JR schedule for FY2012/2013.

> **ESSAC Action Item 1105-01:** ESSAC will prepare a letter of concern during the meeting. ESSAC Chair will send out this letter to NSF within the next days.

##### 6.2 Updates on SAS panels

**ESSAC Consensus 1105-01:** ESSAC agrees on ECORD SIPCom (Science Implementation and Policy Committee) members as follows (3+1 or 4 to be negotiated):

- 1 UK (to be filled)
- 1 Germany (continuation of current member from the SPC until end of term)
- 1 France (continuation of current member from the SPC until end of term)
- 1 from the “small” countries (to be filled) if four seats for ECORD possible

**ESSAC Consensus 1105-01:** ESSAC agrees on the continuation of current ECORD members in the EPSP, SSP and STP until the end of their term within the New SAS panels.

**ESSAC Consensus 1105-01:** ESSAC agrees on the continuation of current members from SSEP until the end of their term within the PEP (Proposal Evaluation Panel).

**ESSAC Consensus 1105-01:** ESSAC points out that the call for new candidates should take the balance of expertise into consideration. Especially, candidates with expertise on Geohazards / slope failures are needed.

> **ESSAC Action Item 1105-01:** The ESSAC Office will issue calls for nominations for the SAS panels in the new SAS: Technology Panel (TP) and Proposal Evaluation Panel (PEP).

#### 7. EDUCATION AND OUTREACH

##### 7.1/7.3ECORD Summer Schools 2011/2012

> **ESSAC Action Item 1105-01:** ESSAC Office will contact organizers of the Urbino Summer School in Paleoclimatology (USSP) and ask them to involve more ECORD lecturers



(e.g. from France or Spain) in order to make the USSP more attractive for students from other/these countries.

> **ESSAC Action Item 1105-01:** ESSAC Office will adjust the questionnaire about Summer Schools

**ESSAC Consensus 1105-01:** ESSAC agrees on the new questionnaire about ECORD Summer Schools.

**ESSAC Consensus 1105-01:** ESSAC approves that in 2012 three ECORD Summer Schools will be granted: the ECORD Bremen Summer School 2012 on “Submarine Landslides, Earthquakes and Tsunamis”, the ECORD IODP-Canada Summer School on “Impacts of the cryosphere dynamics from land to ocean” and the Urbino Summer School in Paleoclimatology 2012.

**ESSAC Consensus 1105-01:** ESSAC agrees to raise the amount of financial support for the Urbino Summer School in Paleoclimatology 2012 compared to the other two ECORD Summer Schools 2012 due to higher costs and higher amount of participants. The difference should be covered by the leftover amount of the ECORD Research Grant budget (1000€).

**ESSAC Consensus 1105-01:** ESSAC decides that the ECORD Bremen Summer School 2012 on “Submarine Landslides, Earthquakes and Tsunamis” and the ECORD IODP-Canada Summer School on “Impacts of the cryosphere dynamics from land to ocean” will be supported with 7000 € . The Urbino Summer School in Paleoclimatology 2012 will be supported with 8000€.

## 7.2 ECORD Scholarships 2011, Workshops & Summer Schools, and ECORD Research Grants

**ESSAC Consensus 1105-01:** ESSAC approves 14 awardees of ECORD Scholarships 2011: UK: 4, D: 2, F: 2, B: 1, CND: 1, ES: 1, N: 1, NL: 1, Brazil: 1; USSP: 11, Bremen: 3.

**ESSAC Consensus 1105-01:** ESSAC agrees to forward a list of candidates (taken from the list of remaining ECORD Scholarship applications) to H. Pälike, chairman of the ESF-Earthtime Program, for selecting four ESF-Earthtime Scholarships.

**ESSAC Consensus 1105-01:** ESSAC approves 5 awardees of the ECORD Research Grant 2011: UK:2, D: 1, S:1, NL:1.

> **ESSAC Action Item 1105-01:** ESSAC Office will send out a message to ESSAC delegates about a possible solution for future handling with ECORD Scholarships.

## 9. WORKSHOPS, COMMUNICATION AND VISION

**ESSAC Consensus 1105-01:** The ESSAC chair will present a proposal by J. Erbacher (ESF Magellan Chair) to support a Magellan Plus Workshop Program through ECORD at the coming ECORD Council Meeting in Montreal.

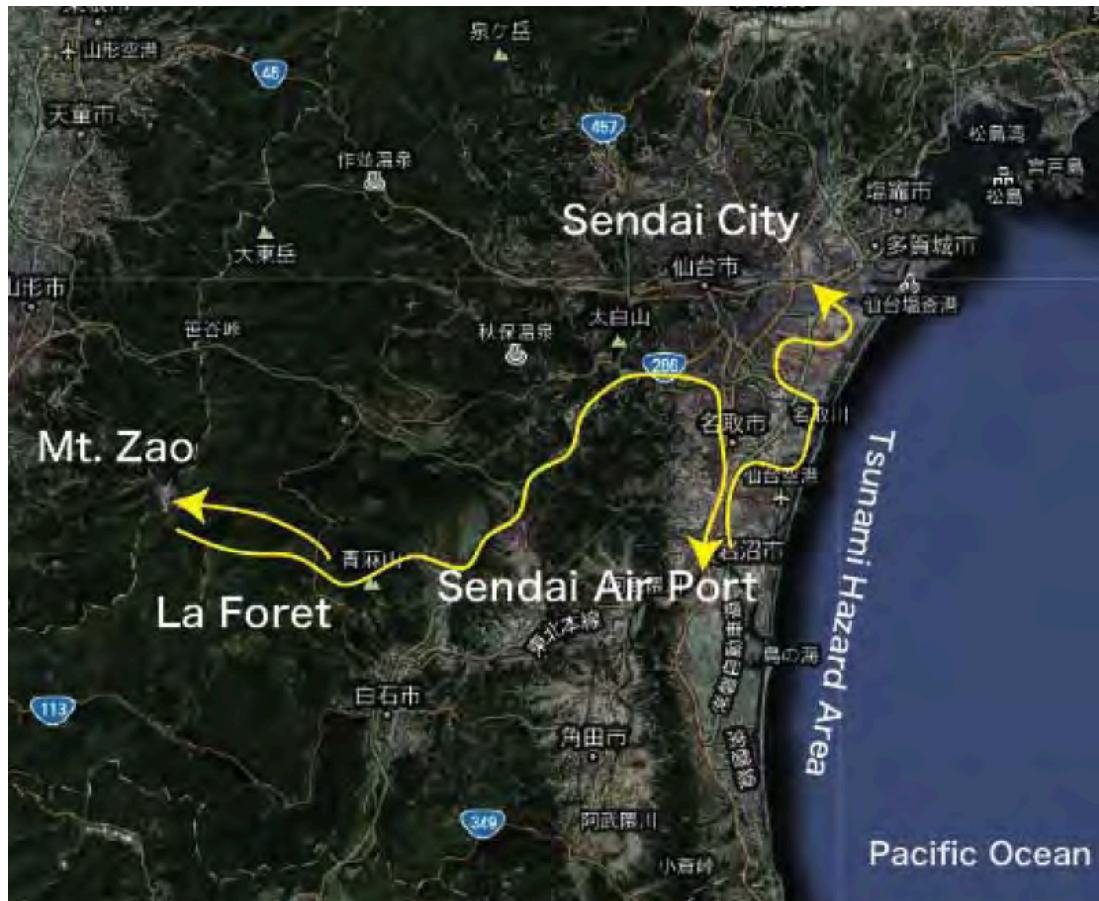
## 11. NEXT MEETINGS

> **ESSAC Action Item 1105-01:** ESSAC Office will create a doodle table to organize and fix the dates for the next ESSAC meeting in October 2011 in Dublin (weeks 17<sup>th</sup> – 28<sup>th</sup> October 2011).

## APPENDIX 3

### 2.2 Science Planning Committee (SPC) and Operation Task Force

18th Meeting of the IODP Science Planning Committee  
(22-24 August 2011; Zao, Miyagi, Japan)



# IODP Science Planning Committee

18<sup>th</sup> Meeting, 22-24 August 2011

Zao, Miyagi, Japan

## EXECUTIVE SUMMARY (V.0.4)

<b>Monday</b>	<b>22 August 2011</b>	<b>09:00-17:30</b>
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### 1. Introduction

#### 1.3. Approve SPC meeting agenda – highlight action items

**SPC Motion 1108-01:** The SPC approves the agenda for its 18<sup>th</sup> meeting on 22-24 August 2011 in Miyagi, Japan.

Murray moved, Escartin seconded, 16 in favor (Dunbar, Escartin, Feary, Filippelli, Früh-Green, John, Kakegawa, Kasahara, Kuroda, Murray, Nishi, Smith, Stein, Takada, Umino, Yamazaki), 0 opposed, 1 abstained (Blackman), 3 non-voting (Brumsack, Gallagher, Li).

The motion passed.

#### 1.4. Approve last SPC meeting minutes

**SPC Consensus 1108-02:** The SPC approves the minutes for its 17<sup>th</sup> meeting on 28-31 April 2011 in Edinburgh, UK.

### 7. SAS panel reports

#### 7.1. SSP

**SPC Consensus 1108-03:** The SPC received SSP consensus 1108-04 and 1108-05.

#### 7.3 STP

**SPC Consensus 1108-04:** The SPC received STP consensus 1108E-02, 1108E-03 and 1108E-05.

### 8. Proposal Review (Rapid Response Proposal)

**SPC Consensus 1108-05:** In light of the potential for high scientific and societal returns from JFAST, SPC forwards the proposal to OTF. We acknowledge the potential scientific and technical risks associated with the project management. Pending the results of SSP and other feasibility reviews, we expect implementation of the project by OTF as warranted.

<b>Tuesday</b>	<b>23 August 2011</b>	<b>09:00-17:30</b>
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### 10. Review and Discussion of CPP

**SPC Consensus 1108-06:** SPC recognizes the importance of 735-CPP proposal to understand the regional tectonic and climatic evolution of the Western Pacific.

The scientific drilling results will contribute towards the advancement of the IODP science program, and in particular Challenge 9 ‘How are seafloor spreading and mantle melting linked to ocean crustal architecture? On Theme 4 ‘Earth connections: deep processes and their impact on Earth’s surface Environment’. An updated proposal following detailed comments would also address aspects of climate evolution (e.g., Theme 2, Climate and Ocean Change) more specifically.

The proponents are encouraged to submit an updated proposal that includes the results of recently acquired data, and the outcome of the workshop while addressing specific comments and recommendations provided by SPC.

## 11. Review and Discussion of OTF proposals

### 11.2. Discussion and summary of proposals

#### 11.2.2 Proposals that have been partially implemented

**SPC Motion 1108-07:** The SPC does not forward Proposal 477-Full4 Okhotsk/Bering Plio-Pleistocene to the new SAS.

Feary moved, Murray seconded, 17 in favor (Blackman, Dunbar, Escartin, Feary, Filippelli, Früh-Green, John, Kakegawa, Kasahara, Kuroda, Murray, Nishi, Smith, Stein, Takada, Umino, Yamazaki), 0 opposed, 0 abstained, 3 non-voting (Brumsack, Gallagher, Li).

**SPC Motion 1108-08:** The SPC does not forward Proposal 601-Full3 Okinawa Trough Deep Biosphere to the new SAS.

Murray moved, Früh-Green seconded, 14 in favor (Blackman, Dunbar, Escartin, Filippelli, Früh-Green, John, Kakegawa, Kasahara, Murray, Smith, Stein, Takada, Umino, Yamazaki), 2 opposed (Kuroda, Nishi), 1 abstained (Feary), 3 non-voting (Brumsack, Gallagher, Li).  
The motion passed.

#### 11.2.3 Non-riser proposals

**SPC Motion 1108-09:** SPC returns Proposal 659-Full Newfoundland Rifted Margins to the SAS system and encourages the proponents to select more suitable sites and to take into consideration comments in previous SPC reviews.

Früh-Green moved, John seconded, 17 in favor (Blackman, Dunbar, Escartin, Feary, Filippelli, Früh-Green, John, Kakegawa, Kasahara, Kuroda, Murray, Nishi, Smith, Stein, Takada, Umino, Yamazaki), 0 opposed, 0 abstained, 3 non-voting (Brumsack, Gallagher, Li).

The motion passed.

**SPC Motion 1108-10:** SPC returns Proposal 705-Full2 Santa Barbara Basin Climate Evolution to the SAS system and encourages further development of the site assessment and safety characterization in consultation with the operators.

Murray moved, Blackman seconded, 17 in favor (Blackman, Dunbar, Escartin, Feary, Filippelli, Früh-Green, John, Kakegawa, Kasahara, Kuroda, Murray, Nishi, Smith, Stein, Takada, Umino, Yamazaki), 0 opposed, 0 abstained, 3 non-voting (Brumsack, Gallagher, Li).

The motion passed.

**SPC Consensus 1108-11:** SPC Recognizes that borehole observatories (e.g., CORKS, Smartplugs, and other similar borehole-installed instrument packages) are necessary to address numerous goals of the new science plan. For this initiative to be successful, it is critical to both secure funding for the installations themselves and support for their operation through an extended period of time. SPC stresses that a link to existing seafloor observatory programs is necessary, and that the task of developing this link should be undertaken by SIPCOM. Aspects to be considered on this front include operations and maintenance of observatories, data management and distribution, and coordination of field operations, among others.

**Wednesday**

**24 August 2011**

**09:00-17:00**

## 12. Discussion and Prioritization of MSP scheduling

**SPC Consensus 1108-12:** The SPC recommends that two proposals, Baltic Sea Paleoclimate and Chicxulub Impact Crater, continue active scoping and that both of these proposals be implemented in FY13 and FY14. These proposals have different scientific objectives, and both constitute clearly exciting science of the highest impact. The SPC recommends that the Baltic Sea Paleoclimate be prioritized for implementation in FY13, and that Chicxulub Impact Crater be implemented in FY14. This timing will allow for additional potential positive linkages to be forged for the Chicxulub project with ICDP, thus maximizing the impact of this effort.

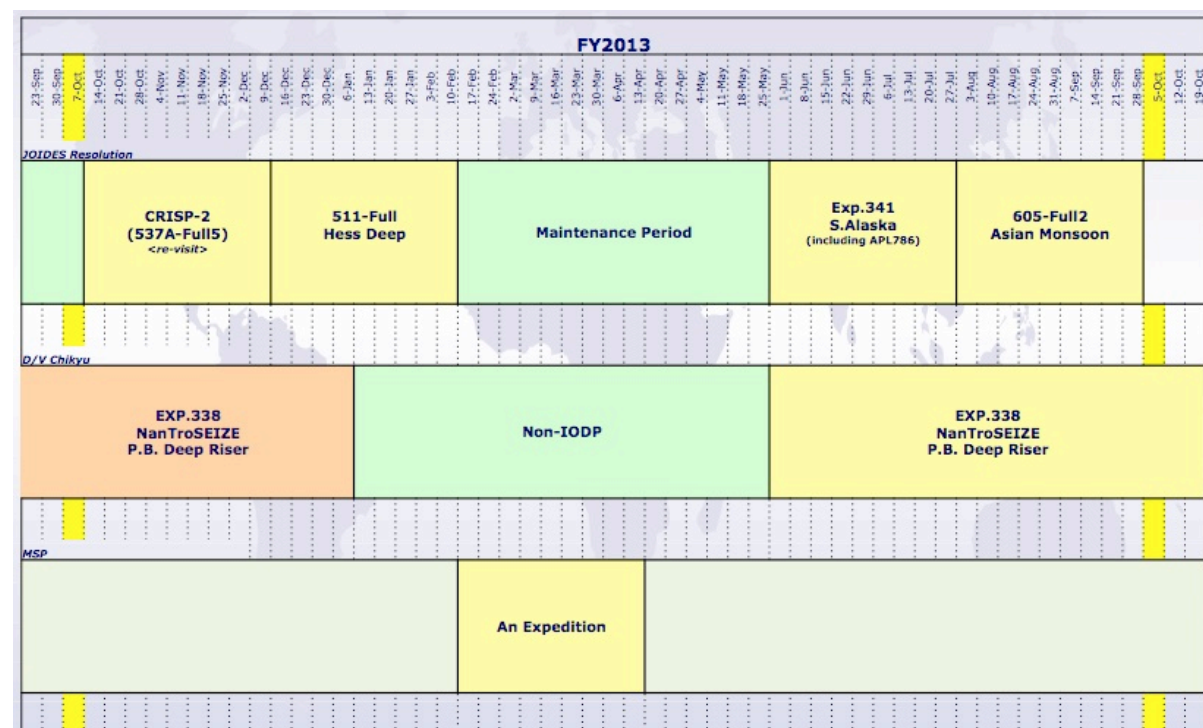
**SPC Consensus 1108-13:** SPC prioritizes Proposal 758-Full2 Atlantis Massif Seafloor Processes as the first option for additional operations beyond Baltic Sea Paleoclimate during FY13 if funds are available.

## 13. OTF Report: IODP expedition scheduling II



## 13.2. SPC discussion and approval

**SPC Consensus 1108-14:** The SPC approves FY13 ship schedule as presented by OTF chair Yoshi Kawamura.



## 15. Other business

**SPC Consensus 1108-15:** SPC acknowledges there will be a new funding model for post-2013 scientific ocean drilling. In light of the recent communication from the U.S. NSF, SPC wishes to emphasize the following guiding principles, independent of the on-going national and international financial discussions:

--The internationally developed science plan, "Illuminating Earth's Past, Present, and Future", remains the over-arching vision that provides the scientifically-driven suite of highest priority objectives using multiple platforms in the coming decade.

--Significant participation by the international scientific community in the Science Advisory Structure and implementing the next phase of scientific ocean drilling is essential. Expertise from throughout the international community will be required to achieve the strongest possible scientific outcomes.

--Access to a variety of programmatic resources, such as drilling platforms (including non-riser, riser, and MSPs), repositories, legacy and future cores, data and metadata, will be desired by members of all participating countries, and the new program should make every effort to enhance and streamline such international collaborations of personnel.

--All possible avenues to increase the operations time of the individual platforms should be

pursued.

SPC further wishes to thank IWG+ and personnel at the different national funding agencies for their dedication and pursuit of a successful post-2013 scientific ocean drilling program.

#### 16. Review of motions and consensus statements

**SPC Consensus 1108-16:** The SPC expresses their sincere appreciation to Takeshi Kakegawa, Daisuke Sugawara, Akiko Fuse, and Hiroshi Nishi for organizing and leading the field trip to Mt Zao, and the area around Sendai influenced by the March 11, 2011 M9 Tohoku mega-earthquake and tsunami. We were granted a poignant reminder of the power of the Earth, its devastating effects and tremendous human tragedy – a humbling lesson none of the trip participants will ever forget.

**SPC Consensus 1108-17:** The SPC thanks our local host, Professor Kakegawa, for an incredible meeting. Together with the able assistance and organization of Mrs. Akiko Fuse, Professor Kakegawa made this final meeting of the SPC a memorable one. From the efficient and thorough arrangement of travel for participants, the clear instructions on using the Japanese bath, the wonderful, and delicious, reception on the first day, and the excellent choice of meeting location and meals, this meeting was thoroughly enjoyable and memorable. We thank you for a special meeting, and wish the best of luck for all of those affected by recent tragic impacts in this area.

**SPC Consensus 1108-18:** Gabe - SPC offers its most sincere thanks for your many years of service to the international scientific drilling community. We thank you for your thoughtful, patient, and gentle guidance as Vice Chair and then Chair of SPC, your unfailingly constructive wisdom, your quiet and effective leadership, and your spectacular ability to achieve consensus where none seemed possible—all done with a smile. Enjoy your break - we have no doubt that the community will call on your experience and skills in the future.



The Urbino Summer School in Paleoclimatology  
in collaboration with the School of Rock presents

## Past Global Change Reconstruction and Modelling Techniques

University of Urbino, Italy  
July 13 - August 2, 2011

### THE 2011 IODP-ECORD URBINO SUMMER SCHOOL IN PALEOCLIMATOLOGY (USSP)

- 7th annual IODP-ECORD Urbino Summer School in Paleoclimatology
- July 13 – August 2; Faculty of Economics in the center of Urbino.
- 36 teachers.
- 64 typically first-year graduate students from 21 nations.



Student tuition was set at an economical 650 euro.

Sponsorship by

- Italian Ministry for Environment
- European Consortium for Ocean Research Drilling (ECORD)
- European Geophysical Union (EGU)
- United States National Science Foundation (NSF)
- Universities of Urbino and Utrecht
- Netherlands Darwin Center for Geobiology

Additional support offered more than 20 student fellowships.

**Table 2.** Participants to USSP2011 and their nationality. USSP received more 100 applications this year and was able to accept 64 participants, several of them received a scholarship from different institutions.

<b>Surname</b>	<b>Name</b>	<b>Nationality</b>	<b>Surname</b>	<b>Name</b>	<b>Nationality</b>
1 Auer	Gerald	Austrian	33 Konijnendijk	Tiuri	Dutch
2 Barrott	Julia	UK	34 Lauretano	Vittoria	Italian
3 Beddow-Twigg	Helen	Dutch	35 Lenniger	Marc	German
4 Bradley-Dosaj	Sam	UK	36 Lenoir	Guillaume	Belgian
5 Chalk	Thomas	UK	37 Loptson	Claire	British
6 Chritz	Kendra	USA	38 Markovic	Stefan	Serbian
7 Chun	Zhu	Chinese	39 Mejía Ramírez	Luz María	Spanish
8 Ciummelli	Marina	Italian	40 Mitchell Larson	Eli	USA
9 de Gasperi	Giovanni	Italian	41 Mojtahid	Meryem	Moroccan
10 Demchuk	Thomas	USA	42 Owens	Ryan	Australian
11 Driscoll	Robin	UK	43 Palumbo	Eliana	Italian
12 Drury	Anna Joy	UK	44 Patterson	Molly	New Zealand
13 Dubois	Nathalie	Swiss	45 Pérez-Rodríguez	Irene	Spanish
14 Emanuele	Dario	Italian	46 Perretti	Adriana	Brasilian
15 Fang	Linhao	Chinese	47 Petrick	Benjamin	UK
16 Fenero	Raquel	Spanish	48 Plancq	Julien	French
17 Fox	Lyndsey	UK	49 Razik	Sebastian	German
18 Fraass	Andrew	USA	50 Reghellin	Daniele	Italian
19 Frings	Patrick	UK	51 Reyes	Dharma	Chilean
20 Gallagher	Timothy	USA	52 Ribeiro Duarte	Tiago	Brasilian/Italian
21 Gray	William	UK	53 Ruggieri	Gabriella	Italian
22 Greenop	Rosanna	British	54 Safra	Anissa	Tunisian
23 Griffith	Fritz	Canadian	55 Sankelo	Paula	Finnish
24 Henehan	Michael	UK	56 Santarosa	Ana Claudia	Brazilian
25 Hennekam	Rick	Dutch	57 Simon	Margit	UK
26 Hubert	Lucie	Canadian	58 Su	Xiang	Chinese
27 Iwai	Fabiane	Brazilian	59 Tessin	Allyson	Norwegian
28 Keating-Bitonti	Caitlin	USA	60 van Helmond	Niels	Dutch
29 Keul	Nina	German	61 Van Rampelbergh	Maïté	Belgian
30 Khadun	Emma	UK	62 Wendy	Kordesch	USA
31 Koch	Mirjam	German	63 White	Sarah	USA
32 Komar	Nemanja	Serbian	64 Zheng	Xinyuan	Chinese

## USSP 2011 Structure and Impact (II)

- USSP 2011 program included a 1-day workshop (July 24, 2011) where many instructors gave informal presentations on their latest, often unpublished, field and modeling results, providing students with an excellent opportunity to experience the cutting edge of scientific progress.
- Student 2011 course evaluations assessed USSP 2011 as extremely positive.

	13-Jul	14-Jul	15-Jul	16-Jul	17-Jul	18-Jul	19-Jul
AM-1	Paleoclimate Archives (Leckie)	Age Models I: Time and Stratigraphy (Schellenberg, Leckie)	Carbon Cycle: Dynamics and Patterns II (Ridgwell)	Field Excursion	FREE DAY	Age Models VI: Cyclostratigraphy of Field Sections (Lourens)	Stable Isotopes I: Theory and Systematics (Rohling, Zachos)
AM-2	"before you see any isotope record" (Spero)	Age Models II: Biomagnetostratigraphy of PETM (Schellenberg, Leckie)	Carbon Cycle: Dynamics and Patterns III (Ridgwell)			Field Analyses (add. field work, sediment processing, foram zoning, etc.)	Stable Isotopes I: Applications and Interpretations (Rohling, Zachos)
PM-1	Intro to past climate variability : tempo and scales (Raymo)	Investigating Complex Systems (Ridgwell)	Age Models III: Cyclostratigraphy Theory (Lourens)	Field Work			
PM-2	Orbital Forcing (Raymo)	Carbon Cycle: Dynamics and Patterns I (Ridgwell)	Exploration of Ocean Drilling Data and Field Overview (Leckie, Schellenberg, Galeotti)			Age Models IV: Cyclostratigraphy of PETM Lourens	Stable Isotopes III: Problem Set and Data from Field Sections (Rohling, Zachos)
Night		Poster Session and K/T Boundary with focus on the local record (Smit)					
	20-Jul	21-Jul	22-Jul	23-Jul	24-Jul	25-Jul	26-Jul
AM-1	Past Climate Variability (DeConto)	Discussion and Integration: Age models, isotopes, carbon cycle, and Earth History	Proxies IV: Organic Chemistry Principles (Pagani, Pancost)	Parallel Session I	Cioppino Conference	FREE DAY	Discussion and Integration: Proxies, parallel sessions, and Cioppino
AM-2	The Greenhouse World (Leckie)	Proxies I: Marine Inorganic (Rosenthal/Reichart)	Proxies V: Organic Chemistry Proxies (Pagani, Pancost)	Parallel Session II			Geochemical Modeling I: Fundamental Concepts (Zeebe)
PM-1	Greenhouse to Icehouse transition and the Icehouse state (Zachos)	Proxies II: Marine Inorganic (Rosenthal/Reichart)	Proxies VI: Terrestrial (Bowen)	Parallel Session III			Geochemical Modeling II: Advanced Methods (Zeebe)
PM-2	The Quaternary (Cronin)	Proxies III: Marine Biota (Schellenberg)	Proxies VII: Application and Integration (Schellenberg et al.)	Quaternary dynamics (Haug)			Geochemical Modeling III: Calculations and Simulations (Zeebe)
Night	The Holocene (Rosenthal)		Evening Presentation: paleo-pH and paleo-pCO2 (Pagani)	Cioppino IceBreaker at Poster Session	Cioppino Banquet		
	27-Jul	28-Jul	29-Jul	30-Jul	31-Jul	1-Aug	2-Aug
AM-1	Climate Models I: Principles and Practices (Deconto, Valdes, Von der Heydt)	Climate Models III: Cretaceous (Deconto, Valdes)	Climate Models VII: Cryosphere Dynamics and sea level Vermeersen/Stocchi	Anatomy of a tipping point (Skinner)	FREE DAY	Past to Future I: Meet The Anthropocene (Huber)	Past to Future V: Ocean Acidification (Caldeira)
AM-2		Climate Models IV: Paleogene (Deconto, Valdes)	Climate Models VII: Cryosphere Dynamics and sea level Vermeersen/Stocchi	Carbonate Chemistry and C-cycle (Caldeira)		Past to Future II: Global Warming Caldeira	Past to Future VI: Biotic Responses (Middelburg)
PM-1	Climate Models II: Calculations and Simulations (Deconto, Valdes, Von der Heydt)	Climate Models V: Miocene-Pliocene (Deconto, Valdes)	Climate Models VIII: Quaternary Climate Models (Deconto, Valdes)	Benthic foraminifera (Jorissen)		Past to Future III: Sea Level Rise (Vermeersen)	Past to Future VII: Paleoclimatology, Politics, Policy (Deconto)
PM-2		Climate Models VI: Biosphere Dynamics (Deconto, Valdes)	Climate Models IX: Non-Linearities and G-I Changes (Deconto, Valdes)	Discussion and Integration: Geochemical and Climate Modeling		Past to Future IV: Panel and Discussion	Wrap up
Night							
	Parallel Session	Parallel 1	Parallel 2	Parallel 3			
	Parallel Session I	The continental PETM Bowen	Siliceous microfossils Harwood	Eocene/Oligocene Boundary Wade			
	Parallel Session II	KT boundary Rampino	Planktonic foraminifera Premoli Silva	PETM and Hyperthermals Sluijs			
	Parallel Session III	Nannoplankton Henderiks	Applications of Foraminiferal studies Kroon	Dinoflagellates Brinkhuis/Sluijs			
Lectures	Investigations	Field Work and Analyses	Integration and Discussion	Parallel Sessions	Cioppino Conference	Evening Activities	

## USSP 2011 Structure and Impact (I)

- A first week almost exclusively centered on IODP/JOI elements, mainly including elements of the 'School of Rock' by Mark Leckie (UMass. Amherst, USA). This allowed developing several student-centered investigations within the broader structure of a "virtual IODP leg" and comparison of oceanic sequences with the local succession counterparts.
- Integrated topical lectures by internationally recognized scientists
- Student-centered data-rich exercises, investigations, and presentations on field data and modeling results
- Parallel sessions providing groups of participants with a more focused coverage of selected topics within paleoclimatology
- A regional field excursion to classic Cretaceous and Cenozoic sections
- Intensive discussions of specific palaeoclimate topics in small student working groups facilitated by dedicated instructors.

Student tuition was set at an economical 650 euro.

Sponsorship by

- Italian Ministry for Environment
- European Consortium for Ocean Research Drilling (ECORD)
- European Geophysical Union (EGU)
- United States National Science Foundation (NSF)
- Universities of Urbino and Utrecht
- Netherlands Darwin Center for Geobiology

Additional support offered more than 20 student fellowships.

**APPENDIX 5****Report****ECORD Summer School on  
"Subseafloor Fluid Flow and Gas Hydrates"**

**September 12 - 23, 2011,  
MARUM & IODP Bremen Core Repository  
University of Bremen  
Germany**

**1 Aims**

The major goal was to bring PhD students and young Postdocs in touch with IODP at an early stage of their career, inform them about the actual research within this international scientific program, and to prepare them for future participations in IODP expeditions. Such training will be achieved by taking the summer school participants on a "virtual ship" where they get familiarized with a wide spectrum of state-of-the-art analytical technologies and core description methods according to the high standards on IODP expeditions. Therefore the course was equally balanced, with half the time dedicated to lectures and discussions and the other half to laboratory exercises.

**2 Location and Organisation**

The ECORD Summer School on "Subseafloor Fluid Flow and Gas Hydrates" 2011 was held September 12-23, 2011 at the MARUM – Center for Marine Environmental Sciences, Bremen University, Germany. It has been organized by Prof. Dierk Hebbeln, Director of the Bremen International Graduate School for Marine Sciences „Global Change in the Marine Realm“ (GLOMAR), by Prof. Dr. Gerhard Bohrmann, head of the Marine Geology group at the University of Bremen, by Prof. Dr. Heiner Villinger, head of the Marine Sensors group at the University of Bremen, and by Dr. Ursula Röhl, head of the IODP Bremen Core Repository (BCR). GLOMAR, MARUM and BCR jointly offered the unique training possibilities used for this summer school by providing laboratory facilities and by providing a seminar room equipped with 20 laptops (internet access, MatLab etc.).



### 3 The Topic

Water and fluids are present throughout Earth's crust and act as a primary medium of exchange between Earth's interior, lithosphere, hydrosphere and atmosphere. Several projects in marine research conducted by the Ocean Drilling Program and the Integrated Ocean Drilling Program documented a massive and dynamic plumbing system which cycles the entire volume of the ocean through the seafloor every 1-2 million years. Seawater circulates through systems of faults, fractures, and other permeable conduits in the crust and redistributes heat and solutes by advection. Due to this process seawater alters the host rocks, influences the chemical composition of the oceans and forms mineral deposits. Scientific drilling has opened up numerous new and exciting methods of exploration and experimentation of vast subseafloor fluid circulation. Correspondingly, the topic covered here is highly relevant in modern marine research and especially in an IODP and ECORD context.

### 4 Program

The two-week course combined lectures and interactive discussions on subseafloor fluid flow and gas hydrates with practical exercises, with the latter mainly using the facilities of the BCR. The scientific lectures and exercises have been confined mostly to the morning sessions, whereas the "virtual ship" related practicals mainly took part during the afternoon sessions.

In the morning sessions the program (see attachment) focused on lectures and discussions which were given and guided by leading scientists from the field (see below). These sessions have been grouped in the following sub-themes:

- Fluid flow in continental margin sediments,
- Gas hydrates deposits,
- Hydrogeology of the ocean crust, and
- Subseafloor fluid flow and deep biosphere.

The afternoon sessions took advantage of the unique facilities of the Bremen IODP core repository and labs and aimed at introducing PhD students and young Postdocs to a full range of IODP related topics from general introduction to the program to compiling of IODP proposals and to get an insight into "shipboard" methodologies applied on the drilling vessels. The focus was on group-based practicals focusing on standard shipboard methodologies such as core description, physical properties, pore water extraction, and borehole logging as well as on more thematically focused approaches with respect to marine heat flow and gas hydrates.

The weekend between the first and the second week was partly used for presentations by the participants introducing their own research (see below) and gave the participants the possibility to explore the city of Bremen at the free Sunday.

On Monday of the second week a field trip with the German RV ALKOR to the western Baltic Sea featuring a "real ship" experience was offered.





## Lecturers:

<b>Name</b>	<b>Institute/University</b>
Gerhard Bohrmann	MARUM / University of Bremen
Sarah Davies	University of Leicester (UK)
Jochen Erbacher	BGR Hannover
Tim Ferdelman	MPI Bremen
Tomas Feseker	University of Bremen
Matthias Haeckel	IFM-GEOMAR Kiel
Walter Hale	Bremen Core Repository / Univ. of Bremen
Dierk Hebbeln	GLOMAR / University of Bremen
Verena Heuer	MARUM / University of Bremen
Nils Jöns	University of Bremen
Holger Kuhlmann	MARUM / University of Bremen
Mahyar Mohtadi	MARUM / University of Bremen
Thomas Pape	MARUM / University of Bremen
Michael Riedel	McGill University / Geological Survey (Canada)
Ulla Röhl	MARUM / University of Bremen
Heiko Sahling	MARUM / University of Bremen
Katja Schmidt	AWI Bremerhaven
Luzie Schnieders	ECORD Science Operator / Univ. of Bremen
Stephan Steinke	MARUM / University of Bremen
Erwin Suess	Oregon State University (USA)
Heiner Villinger	University of Bremen
Thomas Westerhold	MARUM / University of Bremen

**5 Participants**

A total of 24 PhD students and young post-docs from several European countries, Canada, and the USA participated in the ECORD Summer School.

<b>Name</b>	<b>Institute/University</b>	<b>Country</b>
Firoz.k. Badesab	University of Bremen	<b>Germany</b>
Thi Hao Bui	McGill University, Montreal	<b>Canada</b>
Ewa Burwicz	IFM-GEOMAR, Kiel	<b>Germany</b>
Leonardo Contreira Pereira	UPMC – Paris VI	<b>France</b>
Antoine Crémière	LOCEAN, UPMC	<b>France</b>
Anya Crocker	University of Southampton	<b>United Kingdom</b>
Moataz El Shafeiy	MARUM, Bremen	<b>Germany</b>
Andrew Frampton	Stockholm University	<b>Sweden</b>
Jon Furlong	University of Victoria, B.C.	<b>Canada</b>
Joana D.L. Gafeira	British Geological Survey	<b>United Kingdom</b>
Gerardo Herbozo	University of Jena	<b>Germany</b>
Jens Karstens	University of Kiel	<b>Germany</b>
Ulrike Lomnitz	University of Kiel	<b>Germany</b>
Sue Mahony	University of Bristol	<b>United Kingdom</b>
Aaron Micallef	University of Barcelona	<b>Spain</b>
Philipp Nasemann	Leibniz University Hannover	<b>Germany</b>
Asli Özmaral	Istanbul Technical University	<b>Turkey</b>
Francesc Palmer	University of Barcelona	<b>Spain</b>
Ionela Samoila	Marine Resources Exploration International	<b>Romania</b>
Lucia Villar Munoz	IfM GEOMAR, Kiel	<b>Germany</b>

Name	Institute/University	Country
Hong WeiLi	Oregon State University	United States
Stefan Wenau	MARUM, Bremen	Germany
Junhui Xing	University of Bremen	Germany
Guangchao Zhuang	MARUM, Bremen	Germany

Within the summer school, the participants were given the opportunity to present their own projects in 15-minutes talks. Ms **Anya Crocker** (University of Southampton) received the award for the best oral presentation.

## 6 Feedbacks

Questionnaires collected daily recorded the overwhelming positive feedbacks from the participants. Only point of criticism was the duration (1.5 hrs) of the lectures, which was felt by some participants as too long. This will be considered in planning for the ECORD summer school 2012.

## 7 Outlook and ECORD Summer School 2012

It is planned to address the three major topics of the IODP Initial Science Plan in a recurring three year cycle, thereby exploiting the unique facilities in Bremen where about 50 scientists work on the whole width of IODP-related topics. After the first full cycle comprising an "Earth History" topic in 2007 (*ECORD Summer School on Paleooceanography*), a "Deep Biosphere" topic in 2008 (*ECORD Summer School on the Deep Subseafloor Biosphere*), and a "Solid Earth Cycles and Geodynamics" topic in 2009 (*ECORD Summer School on the Geodynamics of Mid-Ocean Ridges*), we started the second cycle in 2010 again with an "Earth History" topic (*ECORD Summer School on the Dynamics of Past Climate Changes*). This year's summer school continued this second cycle with another "Deep Biosphere" topic. In the next year, we will conclude this cycle with the ***ECORD Summer School on the Submarine Landslides, Earthquakes and Tsunamis*** which is scheduled to take place in Bremen from September 10-21, 2012.

## Attachment: Overview on the Summer Schools program

## Program of the 2011 ECORD Summer School in Bremen

	Monday Sep 12, 2011	Tuesday Sep 13, 2011	Wednesday Sep 14, 2011	Thursday Sep 15, 2011	Friday Sep 16, 2011	Saturday Sep 17, 2011
9	<b>Welcome &amp; Info &amp; Introduction</b> <i>Bohrmann, Hebbeln</i> <b>Fluid flow at cont. margins</b>	Rev. of prev. day's mat. <b>Fluid flow at cont. margins</b> Biology and chemosynthetic life at cold seeps	Rev. of prev. day's mat. <b>Gas hydrates</b> Basics in gas hydrates <i>Bohrmann</i>	Rev. of prev. day's mat. <b>Gas hydrates</b> Gas hydrate-pore water interactions, isotopes <i>Suess</i>	Rev. of prev. day's mat. <b>Gas hydrates</b> Past climate change, PETM <i>Suess</i>	Rev. of prev.
10	Fluid flow at active continental margins <i>Suess</i> Coffee break	<i>Sahling</i> Group photo Coffee break	Seismic evidence for hydrate deposits <i>Riedel</i> Coffee break	Gas hydrate-pore water interactions, isotopes and GH-carbonates <i>Suess</i> Coffee break	Drilling gas hydrate in India, Korea <i>Riedel</i> Coffee break	Presentations by the participants Coffee break
11	<b>Fluid flow at cont. margins</b> Continuation <i>Suess</i>	<b>Fluid flow at cont. margins</b> Fluid flow of mud	<b>Gas hydrates</b> 25-years GH-research <i>Suess</i>	<b>Gas hydrates</b> Production tests, CO <sub>2</sub> exchange in methane hydrates; SUGAR project <i>Haackel</i>	<b>Gas hydrates</b> Advanced seismic methods to detect GH <i>Riedel</i> Quantification of GH <i>Bohrmann</i>	Presentations by the participants
12	Fluid flow at passive continental margins <i>Bohrmann</i>	volcanoes <i>Feseker</i> Lunch break	Methane budgets by modeling <i>Haackel</i> Lunch break	methane hydrates; SUGAR project <i>Haackel</i> Lunch break	Quantification of GH <i>Bohrmann</i> Lunch break	
13	Lunch break					
14		Presentations by the participants	Presentations by the participants	Presentations by the participants	Presentations by the participants	
15	<b>IODP &amp; ECORD: Structure, objectives and intro to "Virtual ship"</b> <i>Röhl &amp; Erbacher</i> IODP core curation <i>Hale</i> Tea break	<b>Virtual ship</b> Intro: Laboratory #1 - marine heat flow meas. Tea break	Tea break <b>Virtual ship</b> Laboratory #1 to #3 1 <sup>st</sup> session	Tea break <b>Virtual ship</b> Laboratory #1 to #3 2 <sup>nd</sup> session	Tea break <b>Virtual ship</b> Laboratory #1 to #3 3 <sup>rd</sup> session	Free
16	Guided tour trough MARUM & IODP Bremen Core Repository <i>Bohrmann / Hale</i>	<b>Virtual ship</b> Intro: Laboratory #2 - gas hydrates <b>Virtual ship</b> Intro: Laboratory #3 - core description	Laboratory #1: Feseker Laboratory #2: Pape Laboratory #3: Mohtadi			afternoon
17						
18	Icebreaker					

	Sunday Sep 18, 2011	Monday Sep 19, 2011	Tuesday Sep 20, 2011	Wednesday Sep 21, 2011	Thursday Sep 22, 2011	Friday Sep 23, 2011
9		starting at 6:00 h	<b>Hydrogeology of the ocean crust</b> Fluid rock interactions of the oceanic lithosphere <i>Jöns</i>	Rev. of prev. day's mat. <b>Subseafloor fluid flow and deep biosphere</b> Biogeochemistry and fluid flow <i>Ferdemann/Heuer</i>	<b>Virtual ship</b> Laboratory #4 to #6 5 <sup>th</sup> session	How to write an IODP proposal <i>Röhl et al.</i>
10	Free	Research cruise with	Coffee break	Coffee break		Coffee break
11	Sunday	RV ALKOR to the Eckernförde Bay pockmark field	<b>Hydrogeology of the ocean crust</b> Hot vents/energy and mass transport at hydrothermal vent fields <i>Schmidt</i> Lunch break	<b>Hydrogeology of the ocean crust</b> Hydrothermal circulation at ridge flanks and seamounts <i>Villinger</i> Lunch break	Lunch break	How to write an IODP proposal <i>Röhl et al.</i>
12	to					Summer school debriefing, farewell
13	explore				<b>Hydrogeology of the ocean crust</b> CORKs: Monitoring fluids in the crust <i>Villinger</i>	Departure
14	Bremen		<b>Virtual ship</b> Introduction to downhole logging <i>Davies</i> Tea break	<b>Virtual ship</b> Intro: Laboratory #6 - Physical properties Tea break <b>Virtual ship</b> Laboratory #4 to #6 4 <sup>th</sup> session	Tea break <b>Virtual ship</b> Laboratory #4 to #6 6 <sup>th</sup> session	
15						
16			<b>Virtual ship</b> Intro: Laboratory #4 - Deriving heat flow from BSRs <b>Virtual ship</b> Intro: Laboratory #5 - Pore water sampling	Laboratory #4: Villinger Lab. #5: Schnieders Laboratory #6: Riedel & Kuhlmann		
17						
18					Farewell Barbeque	