

Summary of ILP meeting June 2014 - Edinburgh

BGS Edinburgh - Murchison House
West Mains Road – Edinburgh - EH9 3LA

Day 1 - Wednesday, June 11 2014

Attendees:

Andrea Moscariello, ILP Chair
Bob Gatliff - BGS Science Director of Energy & Marine Geoscience
Dave McNroy - ESO Science Manager and BGS Marine Geology & Operations
Paul Bellingham - ION Geophysics
David Wilkinson - Exxon Mobil International Limited
Davide de la Moretta - ENI - R&D Geologia & Geofisica
Thomas Wagner - University of Newcastle
Nobu Eguchi - JAMSTEC, representing scientific drilling vessel *Chikyu*
Ruediger Stein - Alfred Wegener Institute for Polar and Marine Research
Dave Smith – ESO Operations Manager and BGS Marine Operations
Alan Stevenson (Day 2 only) – ESO Outreach Manager and BGS Marine Geology & Operations Team Leader

Time	Item	Presenter	Comments
14.00 – 14.15	Welcome and Introductions	A. Moscariello/ R. Gatliff	

A meeting introduction was given by Andrea, followed by self-introductions.

Presentation slides shown at the meeting will be made available to ILP members on the page of the ECORD-ILP where ILP members can access a web page protected by a login and a password at <http://www.ecord.org/ILP/access-ilp.html> (the link is posted at the bottom of the left-side table) such as

login: ilp
password: acex2013

FYI, the public ILP webpage is posted at <http://www.ecord.org/ecord-ilp.html>

Please be aware that the ILP webpage is still under construction. You will be notified in due course when material will be available on the web.

14.15 – 14.35	ECORD overview	G. Camoin	Replaced by A. Moscariello
---------------	----------------	-----------	----------------------------

An overview of ECORD was given by Andrea. Please consult the relevant presentation slides for detailed content. Q&A raised during the presentation are given below. This presentation covered:

- IODP Science Plan themes

- IODP structure
- ECORD structure
 - Q: why are non-European countries in ECORD? A: Because the minimum funding levels for ECORD participation is much less than the other two Lead Agencies.
- ECORD member contributions and typical annual ECORD budget.
 - Q: where does IODP get the rest of its funding? A: USA, Japan and other Associate Members. ECORD pays \$1M to Japan for ECORD scientists to join *Chikyu* expeditions and \$7M to the USA for ECORD scientists to join *JOIDES Resolution* expeditions.
- Fundamentals of ECORD Memorandum of Understanding.
- A brief description of what types of platforms can be used on IODP Mission Specific Platforms (MSPs).
- Summary of ESO partners.
- A presentation of the 5yr MSP operational plan.
 - o Q: how many MSPs have been done to date? A: 5 since 2004. Next one will be in 2015 (IODP Expedition 357: Atlantis Massif Seafloor Processes, Central Atlantic), then aim for one per year thereafter.
- Typical expedition staffing and national balance concept.
- *JR* FY14 and FY15 schedule.
- *Chikyu* FY14 and FY15 schedule.
- Developing new technologies and new opportunities for collaboration.
- ILP terms of reference.

14.35 – 15.00	ESSAC activities status of proposals	R. Stein	Replacing Gretchen Früh-Green
---------------	--------------------------------------	----------	-------------------------------

An overview of ECORD Science Support and Advisory Committee (ESSAC) activities was given by Rüdiger Stein. Please consult the relevant presentation slides for detailed content. Q&A raised during the presentation are given below. This presentation covered:

- A summary of the next few IODP expeditions (all IODP operators: ESO, USIO and CDEX).
 - o Exp 353 Indian Monsoon Rainfall.
 - o Exp 354 Bengal Fan
 - o Exp 355 Arabian Sea Monsoon (CPP)
 - Q: Who is supplying the external funding? A: not sure, suspect it is the Indian Government.
 - o Exp 356: Indonesian Throughflow.
- Summary of proposal submissions.
- Summary of proposals by status / theme / target ocean / lead proponent affiliation / drilling platform.
- Summary of ESSAC outreach activities.

15.00 -15.45	Technology Update from ESO : Sea Floor	D. Smith	
--------------	--	----------	--

	Drilling		
--	----------	--	--

A seafloor drill technology update (BGS RD2 and MARUM MeBo) was given by Dave Smith. Please consult the relevant presentation slides for detailed content. Q&A raised during the presentation are given below. This presentation covered:

- Explanation of BGS RD2 and developments.
- Explanation of MeBo.

Q: does MeBo leave the drill string in the hole. A: no, it is an option.

Rüdiger Stein then gave a verbal update on the development of the Polarstern II.

15.45 -16.00	Coffee break		
16.00 – 16.30	The Chikyu opportunity	Nobu Eguchi	JAMSETC

A summary of *Chikyu* activities and opportunities was given by Nobu Eguchi. Please consult the relevant presentation slides for detailed content. Q&A raised during the presentation are given below. This presentation covered:

- Introduction to JAMSTEC.
- JAMSTEC mission and vision.
- JAMSTEC facilities – research sector /development and operations sector.
- JAMSTEC R&D areas.
- 8 research vessels of JAMSTEC.
 - o New research vessel (ready 2016) could take seafloor drills, and could be an MSP in Western Pacific.
- *Chikyu* operational structure.
- IODP scientific drilling & commercial drilling from the *Chikyu*.
- Funding facts/sources of funding.
 - o CPP 70% funding, but can be flexible.
- *Chikyu* capabilities.
- *Chikyu* general arrangement. Summary of scientific labs.
- Riser Fairing (to deploy riser in high current areas). Suppresses vortex movement.
- Riser fatigue monitoring system.
- Investigating new materials for riser system and compact BOP to extend to 4000m WD (currently 2500m WD). Some modification of storage areas required.
- *Chikyu* coring systems, includes Hybrid PCS which maintains in-situ pressure in the core barrel.
 - o New: Turbine Driven Coring System & Small Diameter RCB (slim hole, large core).
- Summary of NanTroSEIZE project.
- Summary of Deep Hot Biosphere project.
- Summary of JFAST project.
- Summary of Deep Coal Bed Biosphere project.
- Summary of *Chikyu* +10 workshop

Q: how long until the *Chikyu* is ready to drill to +6000 mbsf? A: don't know, won't happen in two years.

Q: has Chikyu considered drilling sub-continental mantle? A: scientists prefer sub-oceanic mantle.

Q: what is the scientific interest in the top of the mantle? A: it is to understand the oceanic crust.

Q: will it really only be <250 deg C BHT for these mantle projects? A: will check.

- Suggestions for sponsoring and supporting projects.
 - o *Chikyu* will need industry hire as well as scientific projects to come to the Mediterranean. Need at least 2 years of industry and science projects.

16.30 - 17.30	Arctic Proposal	R. Stein	
---------------	-----------------	----------	--

A summary of future IODP drilling in the Arctic was given by Rüdiger Stein. Please consult the relevant presentation slides for detailed content. Q&A raised during the presentation are given below. This presentation covered:

- A summary of core data collected prior to IODP Expedition 302 (ACEX), what ACEX recovered and the discovery of major hiatuses.
- ACEX investigated early Eocene Arctic paleogeography, and discovered black shales near the North Pole. In the Eocene the Arctic was isolated from the world ocean, a restricted Black Sea-type situation.
 - o The ACEX chronology is still under debate – the biostratigraphic and geochemical age models disagree with each other.
- A summary of IODP Arctic Proposals (please also see PDF of maps showing MSP proposal locations).
- A summary of the ACEX2 proposal.

Q: are there any goals to evaluate basement type? A: we expect acoustic basement to be Cretaceous, like ACEX.

It was suggested that IODP could target areas where basement is shallower for industry. Then we could get acoustic basement, and possibly actual basement.
- A summary of the Polarstern cruise 2014, which will visit AMEX sites, then ACEX2 sites, then across Siberian shelf.

Q: why are ACEX2 sites at the Russian end of the Lomonosov Ridge? A: easier sea ice conditions, but if additional data can be acquired at the Danish side that look promising for Cenozoic sediments, then drilling there could become an option.
- An outline of future IODP and Polarstern proposals to be submitted by Rüdiger and his co-proponents.

It was suggested that IODP could possibly undertake coring activities in the Barents Sea for industry on the way to the Arctic.

17.30 - 17.45	Discussion	A. Moscariello	How we can work
---------------	------------	----------------	-----------------

			together ?
--	--	--	------------

Postponed to Day 2.

17.45	End of the meeting		
-------	--------------------	--	--

Day 2 - Thursday, June 12 2014

Time	Item	Presenter	Comments
8.30 – 8.45	reconnect	A Moscariello	
8.45 – 9.30	Mediterranean Proposal	A. Moscariello	DREAM project

A presentation on the Mediterranean DREAM proposal was given by Andrea: “Uncovering a Salt Giant”. Please consult the relevant presentation slides for detailed content. Q&A raised during the presentation are given below. This presentation covered:

- DREAM is a multi-phase umbrella proposal.
 - o Q: how fixed are the locations. A: very flexible.
- Current proposal calls for 2 holes (East Med. & West Med.) to 3 km to reach the pre-salt. Perhaps the top 1km could be open-holed.
- In the West, the area around the Balearics is the main target area. Gulf of Lion site has been abandoned.
- In the East, Site 7 in the Levantine Basin is the main target.
 - Q: Is there an opportunity for IODP to hire 2-3 weeks of an industry rig to core the salt, if an industry project is nearby?
 - A: it is possible in principle. However, in practice the company drillers are conservative and want to get the job done as fast as possible.
 - It was commented that the last ILP meeting revealed that industry will expect the science program to insure the risk of not being able to continue the hole after the science part is finished.
 - Q: can any objectives be reached from land? A: onshore sequences are condensed and are likely to have hiatuses. Biosphere objectives cannot be met onshore either.
 - Q: how much is saved if you use the *JR* for shallow coring, then open-hole with the *Chikyu* for deeper coring later. A: a saving, yes, but not much.
 - Q: is there any interest in industry using the *Chikyu* in the Mediterranean?
 - Q: what is the timeline for potentially getting the *Chikyu* to the Mediterranean? A: possibly 5-6 years. More likely 5-10 years.
 - Q: any cost estimates for the DREAM wells? A: yes, it is very expensive.
- IODP would also welcome industry cooperation with regard to 3D survey access.

9.30 - 10.30	Niger Transform Margin	T. Wagner	
--------------	------------------------	-----------	--

A presentation on the Niger Transform Margin, and other upcoming South Atlantic proposals, was given by Thomas Wagner. Please consult the relevant presentation slides for detailed content.

Following the presentation, there was a discussion on Proposal 840 CPP and data support from Shell Nigeria (supported by an MoU drawn up by Shell). Thomas asked who the MoU should go to: IODP / NSF / JR Facility Board / USIO / Support Office? Since the MoU concerns opening some of the Shell database to support the proposal, the MoU should possibly go to the Support Office first. Future MoUs that concern funding, participation, management and data ownership should probably go to NSF.

10.30-10.45	Coffee break		
-------------	--------------	--	--

10.45-11.30	Discussion and way forward	A. Moscariello	How we can advance any ECORD-Industry collaboration ?
-------------	----------------------------	----------------	---

Time was limited so this item was limited to a few closing comments. Comment from industry: some of the timelines are a bit beyond industry horizons, so it would be good to see the imminent proposals. For next meeting, the ILP needs clear plan of what it should accomplish in terms of upcoming opportunities, how to become more visible, and identifying joint benefits. Although highly interesting, focusing on proposed research updates may not be using the ILP to its full potential. Further comment: industry needs a greater choice/flexibility of collaboration methods (not just CPP). ESO/ECORD will explore further methods for industry to collaborate with IODP.

11.30-12.45	Visit BGS warehouse	D. Smith	
12.45	LUNCH		

End of meeting after lunch