IODP Scientific Technology Panel (STP)

8th Meeting, 6th – 8th March 2009
Embassy Suites Waikiki,
Honolulu, USA

Synopsis

STP met for 3.0 days in Honolulu, USA. 16 members attended: Cedric John attended as alternate for Marc Reichow, Kevin Johnson attended as alternate for Paul Johnson, and there was no representative from China. STP considered items (recommendations, consensus statements and action items) from previous meetings, reports from the IOs including NanTroSEIZE riser drilling and planning and the JR readiness assessment cruise (Expedition 320T), reports from IODP-MI regarding Data Management Coordination Group plans, Subsurface Life Task Force Report Implementation, and QA/QC Implementation. In addition STP further discussed the development of an STP Roadmap and its relation to that proposed by the EDP. A tour of the JOIDES Resolution for the STP was conducted during the meeting.

Conflicts of Interest:

No major conflicts of interest were identified at the start of the meeting.

EXECUTIVE SUMMARY

The STP forwards the following consensus statements and action items to the SPC and/or IODP-MI, and OTF, EDP or SSEP, as appropriate, and for distribution to the IOs as required. STP suggestions for whether items should be forwarded to SPC and/or IODP-MI, OTF, EDP or SSEP, are indicated, as are priorities for action items. Brief overviews/background are provided in italics where appropriate.

STP Recommendations

STP Consensus Statement 0903-01: Use of Magnetic Susceptibility Sonde on IODP Expeditions 320-321
Further to STP Consensus Statements 0807-02 (Magnetic Susceptibility Tool and Downhole Magnetometer Proposal) and 0802-15 (New down-hole magnetic susceptibility tool (MSS)), STP recommends that the recently (Exp. 320T) field-tested Magnetic Susceptibility Sonde (MSS) be deployed on IODP Expeditions 320-321 (PEAT I-II) to help achieve the scientific objectives of the expeditions. STP recognizes that urgent action is required for this approval, feels it is warranted, and notes that one of the tool PIs is sailing on Expedition 320.

Vote: 16 For, 0 Against, 0 Abstention, 0 absent
Priority: URGENT
STP suggests this be forwarded to IODP-MI, USIO, SPC, and OTF; to be dealt with by e-mail.

Background to STP Consensus Statement 0903-01:
The MSS is a third-party tool designed and tested by LDEO-BRG to measure magnetic susceptibility during wireline logging. The use of this tool is integral to achieving the science objectives of Exp. 320, has the support of the co-chiefs (see e-mail from co-chief Heiko Pälike), and was requested in the Exp. 320 Scientific Prospectus.

The MSS has been designed for use within the IODP wireline tool string so it is compatible with existing tools and telemetry. Testing of the MSS has been done in onshore test wells and on the Readiness Assessment Cruise (Exp. 320T). These tests confirm the integrity of the tool in the borehole and its compatibility with the wireline system. MSS data from Exp. 320T shown at STP document the high quality data the tool provides; additionally repeat runs during Exp. 320T show that these data are reproducible.

STP Consensus Statement 0903-02: Establishment of mirror sites for CHRONOS and NEPTUNE databases and subscription to electronic sources of information for micropaleontology
The STP recommends that access be provided to web-based microfossil databases on IODP platforms through establishing mirror sites for the microfossil database NEPTUNE and digital taxonomic dictionaries currently hosted by CHRONOS, in order to improve

micropaleontological QA/QC. In addition, STP recommends that IODP-MI consider the feasibility of paid subscriptions to online catalogs and journals (suggestions listed below).

Vote: 16 Yes, 0 No, 0 Abstentions, 0 absent
Priority: High
STP suggests this be forwarded to IODP-MI and IOs.

Background to STP Consensus Statement 0903-02:
For QA/QC of micropaleontological observations on board ship it is of the highest importance that species are recognized correctly. Observation of type specimens serves as the objective standard for species concepts, and internet access to libraries and online digital taxonomic dictionaries is therefore essential to provide paleontological QA/QC. This is particularly critical for students and other paleontologists with less experience in stratigraphic micropaleontology (i.e., persons less familiar with broader intervals of the geologic record such as may be encountered during an expedition), as documented during 2004 and 2006 meetings of the paleontological working group, and emphasized during the First Meeting of the IODP Paleontology Coordination Group (PCG) (12-13 August 2007, Berlin). The micropaleontology member of the Readiness Assessment Team (RAT) of the renovated JOIDES Resolution (Mark Leckie) reported that internet access to libraries and online digital taxonomic dictionaries is very slow and not generally available to paleontologists working in the Microscopy Laboratory, because internet connections are available on a limited number of computers around the lab stack only. Having the CHRONOS foraminiferal database mirrored on the platforms would be valuable as it would help speed up species identifications and increase accuracy. The database has multi-field search and age lookup capability and the records include original descriptions and numerous images of type specimens. The Neptune database needs to run with the foraminiferal database in order to access the synonymies.
The shipboard micropaleontologists should have access to the most important specialty journals by electronic access, including the Journal of Micropalaeontology, Micropaleontology, and the Journal of Foraminiferal Research. Catalogs listed by PCG include the Ellis & Messina catalogs for diatoms, ostracods and foraminifera (Micropress), the Nannoware (INA) catalog for calcareous nannofossils, the Lentin & Williams catalog and Palynodata, Dinoflaj databases for dinocysts, Paleobase for Deep-Sea Benthic Foraminifera.

STP Consensus Statement 0903-03: STP Tour of the Refurbished D/V JOIDES Resolution
The STP would like to thank the USIO for organizing the tour of the JOIDES Resolution while at port in Honolulu on March 7, 2009. The new facilities are certainly a great investment for future IODP drilling expeditions. We endorse the findings of the Readiness Assessment Team (RAT) and wish to emphasize several items noted during the tour that need to be addressed:

- There was no showerhead in the micropaleontology preparation lab. This is vital for foram analysis.
- Confirmation is needed that all necessary reference books, either digital or print, are available in the micropaleontology lab. These reference books should also be listed, and that list made available to all shipboard scientists.
- A large (15-50 ml; swing rotor) centrifuge is required for the microbiology lab.

- A camera is needed to be connected to the epifluorescence microscope in the microbiology lab.
- Protocols for maintaining low contamination levels in the microbiology cold room need to be defined and established.

Vote: 15 Yes, 0 No, 1 Abstentions (Neal), 0 absent
Priority: High
STP suggests this be forwarded to IODP-MI and USIO.

Background to STP Consensus Statement 0903-03:
STP visited the JOIDES Resolution on March 7, 2009 and spent approximately 2 hours onboard looking at the newly upgraded facilities. The Consensus Statement comes from observations made during the tour. The RAT report was provided to the STP meeting participants.

STP Consensus Statement 0903-04: Suggested modifications to the IODP-MI at sea engineering testing time policy
STP endorses the 'at sea engineering testing time policy' proposed by IODP-MI and also already endorsed by EDP (EDP consensus statement 0901-07). The panel suggests the policy be modified to include STP as a recipient of all final test reports, the time needed between request and ship time to be specified, and that specific proponent's responsibilities be made clear. STP notes that scheduling ship time for at sea testing needs to be flagged to the expedition management team by the pre-cruise meeting and be part of the expedition's operation plan.

Vote: 16 Yes, 0 No, 0 Abstentions, 0 absent
Priority: High
STP suggests this be forwarded to SPC, IODP-MI, PMOs, IOs, and EDP.

Background to STP Consensus Statement 0903-04:
STP thanks Bill Ussler for his presentation on the Engineering Development Panel's work towards their Roadmap and for the discussion of the proposed path for a proposal submitted for technology developments that would require some time be allocated for testing during Expeditions. IODP-MI has proposed an 'at sea engineering testing time policy' that involves STP early in the development of 3rd party tools at sea testing requests, however, STP was not included in receipt of final reports. It was also suggested that the approximate time scale between the proponent submitting the proposal and the scheduling of ship time needs to be specified. Finally, proponent responsibilities need to be clearly stated. This modification would include STP in the reporting process upon completion of testing.

STP Consensus Statement 0903-05: Expedition Measurement Plan Review
STP recommends that at each STP meeting, the IOs present the measurement plan for each scheduled expedition for each of the different platforms. This measurement plan should include, but not be restricted to, logging, drilling, sampling by the scientific party, and coring strategies, the inclusion of any 3rd party tool as part of the plan, and any measurement that is not listed in the IODP Measurements document. STP will supply feedback on the measurement plans.

Vote: 16 Yes, 0 No, 0 Abstentions, 0 absent
Priority: High
STP suggests this be forwarded to IODP-MI and the IOs.

Background to STP Consensus Statement 0903-05:
It was realized at the March 2009 STP meeting that discussion of expedition measurements plans could not be carried out because IO reports are now submitted prior to the meeting, without formal presentation. In future meetings, STP will have a specific agenda item to discuss these measurements plans.

STP Consensus Statement 0903-06: Routine sampling for frozen preservation

STP thanks CDEX, ESO, KCC and USIO for their rapid responses on issues related to frozen sample preservation. We request IODP-MI to provide an update at our next meeting on the efforts by IOs and Subsurface Life Task Force (SLTF) towards implementation of routine sampling for frozen preservation for FY-10.

Vote: 16 Yes, 0 No, 0 Abstentions, 0 absent
Priority: High
STP suggests this be forwarded to IODP-MI, SLTF, and IOs.

Background to STP Consensus Statement 0903-06:
CDEX, ESO, KCC and USIO responded and had questions related to STP Recommendation 0807-12: Microbiology Routine Sampling for Frozen Preservation. Takuro Nunoura explained and discussed the recommendation with IODP Curators at the curatorial meeting, Kochi. IOs showed concern about potential serious conflicts between expedition objectives and routine sampling for frozen preservation. Shipping issues were raised for formalin-fixed samples for cell count by the USIO. KCC also noted that over-fixing with formalin may be a problem. STP recognizes these problems and the necessity for further discussion with the SLTF.

STP Consensus Statement 0903-07: Drilling in Territorial Waters

STP asks the USIO to provide further information about specific problems that it has encountered associated with clearance for drilling in territorial waters that may be contingent on countries claiming intellectual property rights for all findings coming from microbiological sample analyses.

Vote: 16 Yes, 0 No, 0 Abstentions, 0 absent
Priority: Medium
STP suggests this be forwarded to IODP-MI and IOs.

Background to STP Consensus Statement 0903-07:
USIO response to STP Recommendation 0807-12 indicated that there had been problems with intellectual property rights for samples taken for microbiology in territorial waters in the past.

STP Consensus Statement 0903-08: Lithology nomenclature

STP recommends that the IODP-MI data manager maintain a list of lithology names and classifications with references to their definition, for reference by future science parties. STP also recommends that the science party for each expedition properly document how lithologies are defined. The IOs will share the finalized expedition-specific classifications with the data manager.

Vote: 16 Yes, 0 No, 0 Abstentions, 0 absent
Priority: Medium
STP suggests this be forwarded to IODP-MI and IOs.

Background to STP Consensus Statement 0903-08:
The discussion by the IODP-MI Data Manager of the SEDIS system demonstrated the need to have a centrally located database of lithology names that allows tracking of how such classifications are modified. The goal of the lithology list is to provide a framework of reference classifications and to encourage consistency in the documentation of the definition of lithologic classifications across the different IODP platforms.

STP Consensus Statement 0903-09: Sea-Surface Magnetometer on JR
STP thanks Youn-Soo Lee for his presentation concerning the situation of magnetometers on refurbished JR. In principle, the STP supports the IAGA petition to continue measurements of the Earth's magnetic field with a towed sea-surface magnetometer on the JR while on transit. As a new magnetometer might not be scheduled for procurement soon, the STP recommends measurements of the Earth's magnetic field be conducted on an expedition-by-expedition basis with third-party tools, especially when operating in poorly surveyed areas.

Vote: 15 Yes, 0 No, 1 Abstentions (Lee), 0 absent
Priority: High
STP suggests this be forwarded to IODP-MI, IOs and IAGA.

***Background to STP Consensus Statement 0903-09*:**
Very valuable knowledge on Earth's magnetic field has been acquired during past DSDP, ODP, and IODP expeditions by using a towed sea-surface magnetometer while on transit. The old sea-surface magnetometer was retired without being replaced. Based on this decision, the IAGA (International Association of Geomagnetism and Aeronomy) Executive Committee submitted a petition to IODP in order to reverse the decision to stop the on-board measurements of Earth's magnetic field. The STP sees the need to improve our knowledge of Earth's magnetic field and supports the idea to collect magnetic (and other data) while on transit. Due to financial constraints and limited resources, the USIO, however, needs to prioritize numerous requests. The old magnetometer is not functional any longer and therefore a new system (including winch and cable) would be needed. Estimated costs for a new and an extra systems sum upto ~$100,000.

STP Consensus Statement 0903-10: Depth Scale Implementation
Further to STP Consensus Statement 0612-04 (Uniform Depth Scale), the STP recommends utilizing a common framework for depth scales across all platforms in IODP, based on the IODP document, "IODP Depth Scales Terminology", v.1, June 14, 2007. STP further recommends community education on this Depth Scale via a web site that includes the

different depth scales, their definitions, scientific reasons for establishing them, and the role of IOs in ensuring their consistent implementation. The depth scale documents should be assigned a DOI.

Vote: 16 Yes, 0 No, 0 Abstentions, 0 absent
Priority: High
STP suggests this be forwarded to IODP-MI, DMCG, and IOs.

Background to STP Consensus Statement 0903-10:
Standardizing depth positioning is very important for core-log-seismic integration and depth accuracy of the collected data sets. The STP, at their meeting in Kochi (January 2006), recommended the development of a common framework for depth scales in IODP. The Data Management Coordination Group, at their meeting in Kochi (February 2006), agreed that a special meeting was needed to complete this task. A meeting to discuss and agree on a common depth scale solution tailored for IODP and to be applied consistently across all platforms was convened by IODP-MI, September 25-26, 2006 at TAMU. The document, "IODP Depth Scales Terminology", v.1, June 14, 2007 contains the definitions.

STP Consensus Statement 0903-11: Allocation of rig time for static testing and calibration of newly installed wireline heave compensation system
STP thanks Jennifer Inwood for her presentation on the recent operation and successful test of the newly installed wireline heave compensation system on the JR during Expedition 320T. The STP recommends for upcoming expeditions that appropriate rig time on the JR and Chikyu be allocated at the beginning of logging operations at each site for a static test which is necessary for the further calibration and adjustment of the new wireline heave compensation system.

Vote: 16 Yes, 0 No, 0 Abstentions, 0 absent
Priority: High
STP suggests this be forwarded to SPC, IODP-MI, OTF, EDP, CDEX, and USIO.

Background to STP Consensus Statement 0903-11:
The heave compensation system on the JR and Chikyu provides active correction to the depths of the logging tools that otherwise would be compromised by vertical movements of the ship. STP was pleased to hear that the improved efficiency and safety of the new system reduced logging set up time by 2 hours. In upcoming expeditions, STP recommends that the logging operations be given sufficient time (1 to 2 hours per site) to carry out a static test at the beginning of logging operations. The static test consists of leaving the logging tool (that includes downhole accelerometers) at a constant 'depth' for a period of 1 hour during which adjustment and calibration of surface to downhole motions can be accomplished. The logging operators believe this is necessary to build experience with the unit in differing sea conditions and to improve the quality of logging data generated by IODP.

The same system is employed on the Chikyu; and CDEX also strongly supports this recommendation as the information obtained on the JR will be useful for Chikyu logging operations. CDEX notes that such testing is not easily feasible on Chikyu for non-technical reasons.

STP Consensus Statement 0903-12: NanTroSEIZE Riser Drilling and Stage 1 Review
The STP thanks Chiaki Igarashi and Moe Kyaw Thu for their presentations regarding Chikyu Riser Drilling and planning for the next stages of the NanTroSEIZE project. The STP is impressed with the detailed planning that is going on for the riser drilling and the next stages of the NanTroSEIZE project, and we look forward to receiving the CDEX laboratory review of NanTroSEIZE Stage 1 before our August 2009 meeting.

Vote: 16 Yes, 0 No, 0 Abstentions, 0 absent
Priority: High
STP suggests this be forwarded to IODP-MI and CDEX.

Background to STP Consensus Statement 0903-12:
Two presentations were given to the STP, one focused on preparations for the first scientific ocean drilling riser hole to be drilled, and the second looking at the overall planning that is being conducted by CDEX for the different stages of the NanTroSEIZE project.

STP Consensus Statement 0903-13: EDP Report and White Paper Review
STP would like to thank Bill Ussler for his presentation on the EDP report. STP continues to communicate closely with EDP especially for facilitating the linkage between our two roadmaps. STP is also willing to review the EDP White Paper on the technological needs of scientific ocean drilling for the INVEST meeting. STP will comment on the white paper in a timely manner.

Vote: 16 Yes, 0 No, 0 Abstentions, 0 absent
Priority: Medium
STP suggests this be forwarded to SPC, EDP, and IODP-MI.

Background to STP Consensus Statement 0903-13:
The EDP Vice-Chair Bill Ussler gave STP his presentation regarding status of proposed engineering test procedures, the EDP white paper for the INVEST meeting, the IODP-MI Scoping Studies for required technologies, and the Technology Roadmap. The INVEST Steering Committee requested the EDP to submit a white paper on the technological needs of scientific ocean drilling beyond 2013. Bill Ussler suggested that the STP comments on the white paper would be helpful to meet the technological and scientific needs.

STP Consensus Statement 0903-14: Expedition QA/QC Report
The STP requests that a QA/QC report from each expedition be sent from the IOs through IODP-MI to STP for comment before it goes to the ORTF.

Vote: 15 Yes, 0 No, 0 Abstentions, 1 absent (Krastel)
Priority: High
STP suggests this be forwarded to IODP-MI and the IOs.

Background to STP Consensus Statement 0903-14:
This consensus statement reflects a need to have STP remain involved in the QA/QC process.

This refers to the STP Consensus Statement 0807-04 (Edmonton).

STP Consensus Statement 0903-15: Takuro Nunoura
STP thanks Takuro Nunoura for his dedicated defense of IODP's efforts to characterize the microfauna of the deep subseafloor be they charismatic or not really very interesting at all. He has been an earnest guardian of their right to be counted, classified, measured, picked, probed, assessed, extracted, amplified, reverse transcribed, sequenced, t-RFLPed, and included in metagenomes. He retires from STP with what appears to be an enduring sense that there will be resolution one day, that microbiologists will eventually arrive in a "land of milk and honey", and (to paraphrase Winston Churchill) that IODP will do what is right when they have exhausted all of the alternatives.

Vote: 14 Yes, 0 No, 1 Abstentions (Nunoura), 1 absent (Krastel)
Priority: High
STP suggests this be forwarded to SPC.

STP Action Items

STP Action Item 0903-16: Digital resources for IODP Platforms
STP is to give feedback to IODP-MI and the IOs with regard to the availability of digital reference resources in the areas of, but not limited to, thin section mineral identification (both transmitted and reflected light), smear slide description, and other micropaleontological taxonomies not included in STP Consensus Statement 0903-02 *Establishment of mirror sites for CHRONOS and NEPTUNE databases and subscription to electronic sources of information for micropaleontology*.

Details should be sent to the STP chair by May 1st, 2009.

Priority: High
Leads: All STP members
Deadline: May 1st 2009

Background to STP Action Item 0903-16:
IODP-MI has requested advice from STP with regard to the nature and availability of digital reference materials for use in IODP operations.

STP Action Item 0903-17: Expert input for Formation Factor Determination
STP is to give feedback to IODP-MI and the IOs with regard to determination of formation factor. This feedback is to be in the form of the names, institutions, and e-mail addresses of such experts, along with a sentence or two detailing their specific expertise.

Details should be sent to the STP chair by April 1st, 2009.

Priority: High
Leads: All STP members

Deadline: April 1st 2009

Background to STP Action Item 0903-17:
IODP-MI has requested advice from STP with regard to the best way to determine Formation Factor and how to conduct QA/QC on its determination.

STP Action Item 0903-18: Tracking system for STP Recommendations, Consensus Statements, and Action Items
STP is to establish a tracking system for the fate of all Recommendations and Consensus Statements from each STP meeting. This tracking system includes, but is not limited to, a specific agenda item at each meeting reviewing the status of each recommendation, consensus statement, and action item and the establishment of a spreadsheet containing these details.

Priority: High
Leads: Neal, Saito
Deadline: By next STP meeting

Background to STP Action Item 0903-18:
STP realizes that a better system for tracking the products from each of our meetings is necessary and the proposed actions address this.

STP Action Item 0903-19: Core Recovery and Core Quality Report to EDP
STP thanks Sanny Saito for his excellent presentation and recognizes that core recovery and core quality issues are critical to achieve the IODP scientific objectives. STP continues to collaborate with EDP and the IOs to address these problems. Upon request from EDP, STP will submit a report regarding core recovery and core quality issues prior to the 9th EDP meeting.

Priority: High
Leads: Saito and Neal; All STP members
Deadline: June 15, 2009

Background to STP Action Item 0903-19:
Upon the request from EDP Consensus Statement 0901-11, case studies on the core recovery and core quality issues were discussed during the STP meeting. A report will be drafted by Saito, Neal, and Dugan by the end of April and distributed to the panel in May for revision. A DVD and other documents related to core disturbance may be attached to the report.

8th IODP Scientific Technology Panel Meeting
March 6th-9th, 2009
Embassy Suites Waikiki,
Honolulu, USA

Final Agenda

Day 1 – March 6, 2009:

1. Welcome, meeting logistics, safety, introduction, Robert's Rules, COI
2. Approval of meeting agenda
3. Approval of Minutes from STP Meeting #7
4. Preliminary discussion of next meeting locations and dates; panel rotations.
5. Review status of previous meeting action items and recommendations (IODP-MI: Kawamura)
6. SPC Report (IODP-MI: Kawamura)
7. SAS Activity: SSEP, EDP (IODP-MI)
8. Consideration of issues from routine reports, supplied pre-meeting, from IODP-MI, SPC, lead agencies, & IOs; discussion focused on issues raised by Panel Members (no formal presentations)
9. Report from the IODP Curators Meeting (Röhl)
   9a. Report on Microbiology curation (Nunoura)
10. First scientific riser drilling (CDEX: Igarashi/Moe)
11. INVEST – update and STP's role (Discussion)
12. STP-IOs-IODP-MI Working Relationship (IODP-MI: Kawamurs + Discussion):
    - Formalizing STP feedback;
    - STP Watchdog system.
13. IODP Subsurface Life Task Force Report Implementation (IODP-MI: Kawamura)
14. Data Management Coordination Group plans (Collier/IODP-MI).
    Discussion:
    - IODP-MI Data Management Update for STP;
    - SEDIS I and II update on status;
    - SEDIS III discussion of strategy and groundwork for SEDIS III data delivery;
    - Update on IODP Depth Scale Terminology implementation;
    - Update on IODP progress on coordinating lithology names list;
    - Discussion of standard reference materials recommendation
    - Development of guidelines for Publication of Core Description Graphics.

Day 2 – March 7, 2009:

15. QA/QC Implementation (IODP-MI: Kawamura + Discussion):
    - Relationship with ORTF.
16. (a) Measurement plans for IODP Expeditions (input from Co-Chiefs; IODP-MI).
    (b) Expedition planning: scientific technology issues (measurements and objectives) – rasied by STP, IOs and/or IODP-MI
17. Report on the JR Readiness Assessment Cruise (USIO, Neal).
18. STP Tour of the JOIDES Resolution

Day 3-4 – March 8-9, 2009:

19. Discussion regarding the Magnetometer on the JR (Neal/Lee)
20. Discussion of JR tour (Neal).
21. Report from the Engineering Development Panel (Ussler, Vice Chair EDP + Discussion).
22. Core recovery and core quality (Saito).
    Discussion: Core Disturbance Case Studies (EDP Consensus 0901-11 to STP).
    "The EDP requests that the STP develop a set of examples that illustrate core quality issues that compromise scientific drilling objectives. These might include drilling biscuits, sapropels, chert/chalk interbeds, and core disturbance"

23. Development of STP Roadmap – session 1; breakout groups
24. Development of STP Roadmap – session 2; breakout groups
25. Development of STP Roadmap – session 3; plenary
26. Panel Rotation – expertise discussion and communication to PMOs (Neal)
27. Select Meeting Location and determine preliminary agenda (Neal)
28. Finalize Consensus Items and Recommendations (All)
29. Adjourn.

Meeting participants:

Panel Members

Name	E-mail	Status	Affiliation
Colwell, Rick	rcolwell at coas.oregonstate.edu	M	STP
Dugan, Brandon	dugan at rice.edu	M	STP
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Schmitt, Doug	doug at phys.ualberta.ca	NM	STP
Thomas, Ellen	ellen.thomas at yale.edu	NM	STP
Young, Martin	Martin.Young at csiro.au	NM	STP
TBA (China)		M ***	STP

(M: member, NM: new member, *chair, **vice-chair; *** unable to attend)

Alternates Attending:

John, Cedric	cedric.john at imperial.ac.uk	(alternate for Reichow, Marc)
Johnson, Kevin	kjohnso2 at hawaii.edu	(alternate for Johnson, Paul)

Liaisons and Guests Attending:

Allan, Jamie	jallan at nsf.gov	L	NSF
Collier, Jamus	jcollier at iodp-mi-sapporo.org	L	IODP-MI
Higgins, Sean	sean at ldeo.columbia.edu	L	USIO
Houpt, David	houpt at iodp.tamu.edu	L	USIO
Goldberg, David	Goldberg at ldeo.columbia.edu	L	USIO
Igarashi, Chiaki	igarashic at jamstec.go.jp	L	CDEX
Inwood, Jenny	ji18 at leicester.ac.uk	L	ESO
Kawamura, Hiroshi	science at iodp-mi-sapporo.org	L	IODP-MI
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Williams, Trevor	trevor at ldeo.columbia.edu	L	USIO

(L: liaison, G: guest, H: local host, *** unable to attend)

8th IODP Scientific Technology Panel Meeting

March 6-8, 2009
Honolulu, HI

6 March 2009

09:00
Neal called meeting to order. Introductions.

Neal updated that one of benefits of the meeting location was to tour the newly retrofitted JOIDES Resolution. Dugan will take minutes.

Reichow, P. Johnson could not attend. Cedric John attending as alternate for Reichow. K. Johnson attending for P. Johnson. New STP members: Thomas, Young, Schmitt.

Neal presented agenda.

09:13
Agenda approved

09:14
Edmonton minutes approved

Lee volunteered to host 9Th STP Meeting in Jeju, South Korea. Lee gave brief overview of region and meeting location. Lee suggested around 20th August as potential time for meeting.

09:20
Saito provided an overview of Robert's Rules of Order and the STP Mandate.

Thomas asked about how we communicate with SPC and with IODP-MI. Neal commented that STP chair or vice-chair represents STP at SPC and that everything goes to IODP-MI through HC Larsen.

09:29
Neal inquired if any conflicts of interest. Schmitt commented that he will be sub-contracted for NJ shelf project; doesn't think it will be a conflict but wanted us to be aware.

09:30
Kawamura-san reviewed STP Consensus Statements from July 2008 meeting and how they will be revisited at this meeting (i.e., who will present responses form IOs, IODP-MI etc or referenced the responses STP has received).

09:35
Kawamura-san gave SAS overview.

- review of IODP proposal process
- SAS meeting schedule

- proposal submission statistics as of 15 January 2009 – 105 active proposals; Kawamura-san explained active proposals and means to de-activate proposal (direct de-activation by SAS or passive de-activation due to no proposal activity for 3 years)
- member rotation
- other news – Suyehiro, current Executive Director of Research at JAMSTEC, will become next president of IODP-MI starting 16 May 2009; INVEST meeting will be 23-25 September 2009 at University of Bremen, Germany
- New proposal category – Complementary Project Proposal (CPP) – requires third party funding for ~70% of platform operating costs; receives fast-track consideration by SAS, must have good quality science and be relevant to ISP and must satisfy SSP and EPSP requirements
- No IODP-MI workshops funded for FY2009
- Thematic review – Deep Biosphere and Subseafloor Ocean (Sept 2009)
- Previous thematic reviews – Ocean Crustal Structure and Formation (Oct 2008); Climate Variability (Aug 2007)

10:05
Kawamura-san gave SASEC/SPC report as SPC chair (Mori) could not attend.

- SASEC Meeting 20-21 Jan 2009 (Lisbon, Portugal):
  (1) INVEST, and Timeline for IODP renewal – new science plan draft using input by INVEST by late 2010, finished by 2011; approval by national science boards 2011/2012; approval by funding agencies by 2012
  (2) Thematic Reviews,
  (3) Budgetary Issues [only ~7 mos per yr operation for JR and Chikyu for next few years; need to look for alternate funding opportunities]
- SPC Meeting 25-27 Aug 2008 (Sapporo, Japan):
  (1) NanTroSEIZE; (2) DPG on Asian Monsoon;
  (3) Complementary Project Proposals;
  (4) Proposal Ranking plan for March 2009 SPC meeting (new proposals forwarded by SSEP; existing SPC proposals; Tier 2 proposals residing with OTF not on approved schedule);
  (5) Balance in Scientific Program;
  (6) Discussion on next riser project at March 2009 meeting [537B CRISP-B, 698 IBM, 618 East Asian Margin, (595 Indus Fan)];
  (7) STP Issues;
  (8) SAS Panels
- (9) Proposal priority by ocean region, readiness for drilling (Tier 1, Tier 2 proposals)

10:25
Break; Reconvene at 10:45

10:47
Rohl presented report from IODP Curatorial Meeting (27-28 Feb 2009, Kochi)

- this was 2nd IODP curatorial meeting; 1st was in Bremen in 2007
- Status of IODP Legacy cores among 3 repositories; curatorial techniques; core curation; core displays/replicas; databases and software for curation; closer co-operation of 3 repositories

- Community-Whole Rounds (COM-WR) as a special archive; set aside for 5 years in contrast to 'permanent archive'
- Follow-up of requester's sample obligation (IODP publication list; sample request number); discussion of ample request decision making onboard ship, return of un-used samples, sharing of unused samples with third prty after end moratorium
- Updates on JCORES, DESC, discussion of status of Sample Material Curation System (SMCS)

11:07
Nunoura-san presented report on Microbial Curation from curatorial meeting at Kochi, and commented on ESO and USIO response:

- shipping cost for frozen samples - special rule can be considered
- sampling procedure – syringe sampling similar to head space gas
- long term storage - <-80^{o}C can be used fro DNA based analysis for >10 yrs
- repository – considering costs and accidental risks (e.g. power outage), preservation in multi-repository is recommended
- Risks: Community Acceptance – frozen sample taken by syringe for APC like coring; outer portion can be used for other routine science
- Discussion whether there is indeed enough material away from outer, drilling disturbed part of the core to be used in analysis
- Risks: Under-utilization of samples - STP and SLTF recognized poor accessibility is one reason for poor utilization of frozen samples
- Discussion – we need to make sure that list of frozen samples is easily accessible to all potential users from many portals (IODP website, IO websites, etc)
- Risks: Quality of Service – contamination test is not only for microbio but also for IW geochem
- Discussion – IW sample provides a sensitive test for core contamination using tracers; it is possible if you have contamination of IW sample, you may not have microbio contamination; only thing you really test is whether drilling fluid has contaminated the core to give estimate of how pristine the sample is
- GCR has list of available frozen samples, need to check for other core repositories
- **Action Item** – Colwell and Nunoura-san will discuss sampling technique and coupled IW-microbio sampling procedures for future discussion.
- KCC Pilot Study: establish handling/sampling procedures for frozen cores; storage tests (different T) are in progress

11:33
Igarashi presented CDEX report on first scientific riser drilling

- repair work on thrusters completed on Chikyu
- riser tensioners were re-installed
- outreach event during port call Kobe on 15 Feb 2009
- sea trial Feb – May 2009; 319 and 322 scheduled from May to Oct 2009
- 319 is first scientific riser drilling
- presented accessibility of gas monitoring to science party; included breakout of monitoring for safety and for science
- showed mud circulation, gas collection flow for integration of other tools to be added as desired/needed

- Questions – what is time delay for collecting cuttings from mud and getting gas analysis? How fast for safety and how fast for science needs? Depends on depth and circulation rate

11:48
Moe presented NanTroSEIZE Stage 1Review and Stage 2 Preparations

- evaluation from science party, Expedition Project Managers, lab team, lab techs, operation and technology teams
- three lab dry runs (Sept and Dec 2008; Mar 2009)
- current issues: dynamic position system, vortex-induced vibrations, stick-slip of drill pipe, borehole conditions, loss of BHA
- summary of operation time was presented
- lab improvements – summary of new instruments and lab manuals and procedures
- Chikyu expedition-based QC process
- Have had ORTF meeting; report is online at http://www.iodp.org/ortf
- wireline logging for first riser drilling – summary of past, current and new wireline and LWD tools and the measurement they make
- CDEX logging services – logging planning (tool selection, logging contract); onboard science support (QC, interpretations, reports, etc), post-cruise support
- Onboard support – three workstations with core-log-seismic integration software, 3D log-seismic interpretation and visualization facility, COREWALL Suite available in coming expeditions
- Summary of Riser drilling to come: NanTroSEIZE Stage 2 (2009~), 3 (2011~), and 4 (2012~)
- Riser-specific preparations: spot coring, cuttings, gas monitoring, wireline logging
- Summary of wish-list/action plans – core splitter, faster/more efficient phys props, X-CT data software accessibility, gas monitoring, improved core recovery, core-log-seismic integration
- STP will receive review next summer, before next meeting

12:25
Break for lunch. Reconvene at 13:45.

13:45
Discussion on INVEST for STP input on INVEST

- Where does IODP-MI see role for STP in the process? Steering committee would like STP roadmap available for INVEST participants and would like STP input on new science plan from technology side as plan evolves
- Is there anything STP needs to send to INVEST committee that they need to focus on as they plan for renewal? What are the things we did well or not so well (STP-wise) in IODP that are directly related to reaching objectives of ISP?
- EDP is preparing a white paper on technological needs of present and anticipated science needs for renewal. STP should perhaps review and comment on this white paper. Ussler will inquire with EDP if they would like feedback from STP on the white paper.

14:05
Kawamura-san presented on STP-IOs-IODP-MI Working Relationship

- general overview of information flow, advice/recommendation pathways, consultation, and reporting pathways
- should we have an STP watchdog system for recommendations to enable discussion between meetings or should the information flow be funneled through chair/vice-chair as an alternate way (we can respond quickly with this model)
- Question – how do we track and complete the recommendation or consensus statements to make sure things don't fall through the cracks? [STP Chair/VC have addressed this]

14:32
Kawamura-san presented Subsurface Life Task Force Report Implementation; http://www.iodp.org/SLTF

- brief summary of history of SLTF, STP consensus, and SPC consensus
- ESO responses – fiscal constraints, storage location
- USIO responses – community acceptance, sample utilization, costs
- IODP-MI – continuing dialog with IOs, SAS, and SLTF and will ask IOs to include costs in FY10 budgets
- Neal would like to hear from IOs on the practicality of pulling together realistic cost estimates and technical support
- Some STP panel members have additional concerns about time/personnel issues with taking microbio samples routinely

14:50
Break. Reconvene at 15:05

15:05
Collier presented on Data Management Group plans

- SEDIS update, activities related to STP recommendations, activities of note; http://sedis.iodp.org/
- SEDIS – central portal for IODP data, publications, and services discovery; goal to make integrated data easily available for large community (research, education, students, etc); dynamic and persistent data
- SEDIS - Phase I completed in spring 2008; Phase II on schedule for spring 2009 completion; Phase III RFP to be released in late-spring 2009
- SEDIS may provide a new tool to monitor compliance of sample request/publication policy
- Actions on STP Recommendations: IODP-MI is working with IOs to create list of reference materials in digital format; digital references will be available for ship- and shore-based scientists; creation of physical reference materials will be reviewed with IOs – what are the keys that are needed? where are digital references OK? what training can be used to help gain more consistency?; STP should provide IODP-MI a list of resources that we know exist for digital references; IOs should try to coordinate mirror sites of known web-based databases; IODP-MI forwarded taxonomic name list (TNL) to specialists for review/revision; TNL database enables query of holes; need flexibility to add sources and links to other databases; have developed a list of lithology classifications and lithology terms; USIO has put a lot of effort on making lithology databases for new core description system so that should be provided to IODP-MI for help in their database generation; STP can provide some insight on

level of details that we should put in lithology classification and terms – consensus statement should be limited to the published classifications but then how is the database updated as new classifications are published – IOs provide new updates to IODP-MI who keeps the master list; list of microbio samples has been posted at IODP-MI and IO websites; IODP sample request from now allows microbio requests; IODP-MI is revising Sample, Data and Obligations Policy for DNA sequence metadata to be submitted to SEDIS

- VCD Lithology Symbology Guidelines – IODP-MI is coordinating VCD guidelines for publication graphics; upcoming MSP/Chikyu (313/325, 319/322) will retain symbology in previous expeditions for consistency; IODP-MI recommends standard scheme for VCD lithology graphic and will work with IOs to implement in Strater®; ad hoc group has agreed to develop users manual for J-CORES VCD based on Exp 314-316 ORTF meeting; seems each IO has pretty good record of what they use – should be reasonable to come up with one uniform symbology across platforms; can IOs provide STP with the symbols they use? **Action Item** – Naruse, Gorin, John write a consensus statement on STP viewpoint of symbology and a consensus statement on the lithologic characterization/terminology
- IODP Depth Scale Terminology – IOs are prepared to use standardized terminology; CDEX records additional depth measurements and will propose a revision of IODP Depth Scale Terminology to include at least one of the J-CORES depth terms; there is an education problem in getting the community to buy into the new terminology instead of the old standard MBSF; what do we need from STP to make sure this new depth scale is implemented correctly; we need a web-page/handbook of the different scales, what they are and why they exist; staff scientists play a key role in education the science party; could create DOI for each depth scale document for each expedition

17:50
Meeting is adjourned. We will reconvene at 08:30 on 7 March 2009.

7 March 2009

08:30
Neal called meeting to order.

08:35
Saito reviewed Roberts Rules of Order to make sure everybody can stay involved in the discussions.

08:35
Neal provided overview of JR tour. Meet in the lobby at 14:00 and must wear closed-toe shoes. Bus will take us to/from JR. Must have a photo ID to get on the JR. Agenda for the day was summarized.

Kawamura-san presented on QA/QC Implementation

- Discussion on if ORTF should have STP representation. Janecek stated that in general ORTF does not do much scientific measurement evaluation but they will invite liaisons as necessary for specific reviews

- Flow chart QA/QC data/information was provided
- What is time-line for QA/QC report? How will STP suggestions/comments in QA/QC report be implemented?
- STP should have access to QA/QC summary immediately after expedition to help provide feedback for ORTF
- Separate QA/QC report should come to STP right after the expedition; if we wait up to one year for expedition or technical reports, what value does the QA/QC report have?
- STP needs to put a time-frame for QA/QC report generation and distribution; this will modify STP Statement 0807-04 on QA/QC to clarify timing and parallel nature of reports (QA/QC, Expedition and Technical Reports)

09:00
Allen (NSF) presented comments on Readiness Assessment Team (RAT) report that has been distributed to STP.

- RAT played a fundamental role in making sure JR/USIO and facilities are ready for international scientific drilling
- Thanked to all on RAT and on STP on getting things ready and for getting quality data

09:02
Measurement plans for IODP Expeditions

- STP has not received any plans for review and comment for upcoming expeditions
- Has this fallen through the cracks? STP needs to start receiving these again especially as we are developing QA/QC protocols and trying to get history of plans and ultimate measurements
- Prospectus for each expedition is always posted, so how to make sure STP can start looking? Measurement plans are developed at pre-cruise meeting, how does STP get that plan?
- IOs used to come to STP with measurement plans but no only do when requested. STP should formalize that IOs come with presentation on upcoming measurement plans.

09:13
Higgins provided overview of Exp 320T

- SODV status, sea trials assessment summary, FY09 exp schedule, project updates
- Sea trials at Site 807; 7 days of drilling/coring, temperature measurements, logging, core analysis
- Tool upgrades – sediment temperature/pressure tool (SETP) replacement to DVTPP, incorporates common data acquisition tool; sediment temperature tool (SET)
- Wireline heave compensator – initial testing completed successfully
- Multifunction Telemetry Module (MFTM) – replacement to universal data telemetry mode; standardized downhole telemetry interface
- Magnetic Susceptibility Sonde was tested successfully
- Magnetic Magnetometer Module (MMM) is part of FY2010 draft engineering plan
- PEAT 1 is requesting to use (have available for use) MSS in Exp 320, but it is a 3rd party tool. STP needs to discuss and decide on our consensus toward MSS and PEAT 1

09:31
Inwood presented summary of logging operations on 320T

- testing wireline heave compensation system; logging runs with 3 different tool strings; test of MSS
- overview of repeat log data (MSS, resistivity) showed high quality and repeatable data were acquired
- FMS logs allowed QA/QC on heave compensation showing it works quite well which will increase results of log data

09:46

- Neal returned to point that STP now must discuss use of MSS. STP noted that MSS is third party tool; discussion of TPT policy. Also discussion whether STP supports allocation of rig time for more heave compensation system tests. How much time is required for testing? Probably about 1-2 hours at beginning of each logging operation, but it should be noted that new logging set up saves about 2 hours compared to old wireline set-up
- Chikyu and JR have same heave compensation system so this testing could be useful for both vessels
- STP needs a recommendation that captures value of 1-2 hrs of test time per logging run at each site, heave compensator improves data quality, and CDEX supports; Schmitt will lead writing statement

10:00
Ussler presented EDP Consensus 0901-07 endorsing IODP-MI policy for allocating engineering testing time at sea on IODP platforms on an as-needed basis

General STP support of MSS deployment during PEAT 1. How do we make this happen (has to get SPC/OTF) approval soon as Exp leaves in 3 days. STP can write urgent consensus to SPC for hopeful for e-mail approval. Additional support from one of the co-chiefs to include with statement would be useful. Dugan will write consensus statement.

10:25
Break. Will reconvene at 10:45.

10:45
Neal presented on JR and JR Readiness Assessment Cruise

11:25
Neal presented consensus statements from Gorin/John and Thomas for evaluation

- Establishment of mirror sites for CHRONOS and Neptune databases; we should also add IOs should look at subscription-based databases and report on feasibility; we should add names of other databases so they can be evaluated – Thomas will rewrite statement based on our comments
- Lithologic Nomenclature; helpful if STP can evaluate lists that have been completed as master list is being generated – statement was updates; 16 voted in favor. No votes against, no abstentions. Background information will be updated.

- Lithologic Symbols – STP decided that IOs are doing symbols well and documenting them in each volume so we do not need to write a recommendation. IOs should keep doing symbols as they are currently being done.

12:10
Agenda item 15 (magnetometer) will be first item for 08 March. Break for lunch. Reconvene at 14:00 for tour of JR.

08 March 2009

08:30
Meeting called to order. Houpt thanked us for touring the JR and said that we (as scientists) can contact him if we have additional questions about the lab stack facilities on the JR.

Lee-san presented on re-instating the magnetometer on the JR.

- showed ship-tracks where data are rich and poor; total cost ~$44,000 for sea surface magnetometer
- presented importance of knowing variation in intensity of geomagnetic record
- 3-axis, 3-component magnetometer will help get better data (~$60,000)
- always want a spare with you, so total costs could be double
- who uses this data if it isn't getting a specific scientific target?
- what about deploying one on a case-by-case basis as necessary if one for loan/use is available?
- Lee-san, Lin-san, Krastel will write a consensus statement about the magnetometer

09:05
Neal opened floor for discussion/questions of JR tour

- library has been separated and it may take some time to figure out best/most appropriate locations for all volumes; USIO has list of what they have for evaluation; USIO is open to suggestions to get volumes that are needed – Action Item to ensure that we know whether everything is there so it can be organized
- problems in microbio lab – no camera on epifluorescence microscope (camera has been allocated and will be replaced on scope); need large centrifuge (two in paleo lab, perhaps one could be moved to microbio lab); cold labs are hard to keep clean so USIO must keep up on maintaining cleanliness

09:30
Neal summarized recs/consensus statements for today and other homework for STP

- magnetometer (Lee, Lin, Krastel)
- QA/QC implementation and report to include timeline (Colwell, Nunoura)
- Depth scale implementation and web cheat sheet and reason for different scale (Johnson)
- Curators meeting (Ikehara, Nunoura)
- Consensus statement on JR observations from panel (Young)
- Update on microbio sampling needs will occur after lunch
- STP needs to provide a list of names that can serve as formation factor experts to provide a recommendation – STP members should email names (and email and institution) of experts to Neal/Saito

09:40
Ussler gave EDP report to the STP

- INVEST has requested white paper from EDP on technology needs for ocean drilling
- Consensus on core disturbance case studies
- Consensus on test time for engineering tests on IODP vessels
- EDP roadmap V3.0 will be ready by July 2009
- Should add /STP to right side of IODP Engineering Testing at Sea box regarding who gets engineering test results
- IODP Engineering Testing should include proponent need to specify/follow environment that is appropriate for testing specific tool
- How does one put a timeline on the scheduling of engineering time on IODP Engineering Testing
- Need a consensus statement from STP summarizing our input/thoughts on IODP Engineering Testing (Schmitt will draft statement)

10:45
Break. Reconvene at 10:55

10:57
Saito presented on core recovery and core quality

- EDP requested that STP develop set of examples that illustrate core quality issues that compromise science objectives
- To improve our coring there are systems to investigate but most of them require drill string stabilization (e.g., seabed frame) for successful implementation
- K. Marsaglia compiled a set of images on core disturbance; Higgins has copy; STP should review
- STP should draft report for submission to EDP one month before EDP meeting #9
- Need input from STP members soon (early April) so draft report can be generated and circulated for review
- Saito will draft consensus statement

11:40
Neal gave overview of breakout group goals: narrative of how priorities were organized, and generate final version of roadmap; make special note of overlap and importance of overlap

11:50
Break for lunch. Reconvene in roadmap working groups at 13:00

15:30
Reconvened from Roadmap breakout groups. Summaries by each group.

15:55
Neal presented summary of Panel Rotations.

- Nunoura rotates off this meeting and Colwell after next meeting, so we need some more microbiology expertise
- Other needs – hard rock, inorganic geochemistry, organic geochemistry, paleomag
- Neal will send out request for areas of expertise to the PMOs

16:00
Neal presented on next plans for STP meetings

- 9th meeting, Jeju Korea, 17-20 August 2009, Lee host
- 10th meeting, Jan/Feb 2010; Europe? Australia?

16:10
Neal presented consensus statement/recommendations for voting. Tallies recorded in final statements. Neal abstained from Consensus Statement 0903-03 (JR tour) as he was member of RAT. Lee abstained from Consensus Statement 0903-09 (sea-surface magnetometer) as he signed the IAGA petition. Krastel was absent for voting of 0903-14 (Expedition QA/QC Report) onward. Nunoura abstained from 0903-15 as statement was in his honor.

19:20
Meeting adjourned.