



Science Evaluation Panel (SEP) Meeting January 10-11, 2023 – La Jolla, CA, and Zoom

Roster

Science Subgroup

Barbara Balestra	American University
Chandranath Basak	University of Delaware
Thorsten Bauersachs	Kiel University
Christoph Beier	University of Helsinki
Clara Bolton	CEREGE
Anne Briaais	Institut Universitaire Européen de la Mer
Patrick Fulton	Cornell University
Mari Hamahashi	Yamaguchi University
Yumiko Harigane	National Institute of Advanced Industrial Science and Technology
Yoshitaka Hashimoto*	Kochi University
Matt Ikari	University of Bremen
Barbara John	University of Wyoming
Joel Johnson	University of New Hampshire
Mark Kendrick	University of Queensland
Zhonghui Liu	University of Hong Kong
Chris Lowery	University of Texas at Austin
Kathleen Marsaglia	California State University, Northridge
Kenji Matsuzaki	University of Tokyo
Rie Nakata*	University of Tokyo
Jeremy Owens	Florida State University
Sandra Passchier	Montclair State University
Molly Patterson	Binghamton University, SUNY
Stephen Pekar	Queens College - City University of New York
Natascha Riedinger	Oklahoma State University
Alessio Sanfilippo	University of Pavia
Rajeev Saraswat	National Institute of Oceanography
Jason Sylvan	Texas A&M University
Paola Vannucchi*	Università di Firenze
Antje Voelker	Centro de Ciencias do Mar
Mike Weber	University of Bonn
Kosei Yamaguchi	Toho University
Guoliang Zhang	Institute of Oceanology, Chinese Academy of Sciences

Site Subgroup

Brian Boston	Auburn University
Jason Chaytor	U.S. Geological Survey
Irina Filina	University of Nebraska-Lincoln
Jianhua Geng	Tongji University
Jess Hillman*	GNS
Maria Filomena Loreto	ISMAR
Maria Beatrice Magnani	Southern Methodist University

Gregory Mountain
Nisha Nair
Uisdean Nicholson
Derek Sawyer
Nick Schofield*
Tilmann Schwenk
Kazuya Shiraishi
Robert Pockalny
Tim Reston
Wanda Stratford+
Min Xu
Yuzuru Yamamoto
Natalia Zakharova

Rutgers University
National Centre for Polar and Ocean Research
Heriot-Watt University
Ohio State University
University of Aberdeen
University of Bremen
JAMSTEC
University of Rhode Island
University of Birmingham
GNS
Chinese Academy of Sciences
Kobe University
Central Michigan University

Liaisons and Observers

James Allan
Carl Brenner
Henk Brinkhuis
Angelo Camerlenghi
Tony Chen
Gail Christeson
Dru Clark
Ron Hackney
Kevin Johnson
Barry Katz
Larry Krissek
Leah LeVay
Charna Meth
Natsumi Okutsu
Katerina Petronotis
Marisa Rydzy
Sanny Saito
Angela Slagle
Karen Stocks
Shouting Tuo
Sasha Turchyn
Michiko Yamamoto
Alan Yang

National Science Foundation
U.S. Science Support Program
IODP Forum Chair
ECORD Science Support & Advisory Committee
IODP Science Support Office
National Science Foundation
IODP Science Support Office
Australia-New Zealand IODP Consortium
National Science Foundation
Environmental Protection and Safety Panel
JOIDES Resolution Facility Board
JOIDES Resolution Science Operator
IODP Science Support Office
MarE3, JAMSTEC
JOIDES Resolution Science Operator
ECORD Science Operator
MarE3, JAMSTEC
U.S. Science Support Program
IODP Science Support Office
IODP China
ECORD Facility Board
IODP Science Support Office
IODP Science Support Office

*Unable to attend
+Attended as alternate

Meeting Notes

1. Welcome and Logistics

The Science Evaluation Panel (SEP) co-chairs Kathie Marsaglia and Tim Reston called the meeting to order with a welcome and asked attendees to perform self-introductions. Tim and Kathie reviewed the meeting format for Zoom and Slack, gave a presentation about SEP's proposal review procedures, and reminded those in attendance of their requirement to keep proposal content and discussions confidential.

2. Proposal Reviews

Over the course of the meeting, the SEP reviewed three full proposals and one ancillary planning letter for the *JOIDES Resolution* and two pre-proposals for mission-specific platforms. The review outcomes are in the table below.

ID	Type	PI	Short Title	Recommendation
941	Full2 (Add2)	Yasuhiko Ohara	Godzilla Megamullion Lithosphere Architecture	Forward to JRFB
992	Full2	Peter Haeussler	Prince William Sound Subduction and Climate	External Review
1002	Full	Taryn Noble	Totten Glacier Climate Vulnerability	Revise to Full2
1004	APL3 (Add)	Uisdean Nicholson	Nadir K-Pg impact Crater	Forward to JRFB
1008	Pre	Eberhard Gischler	Belize Barrier Reef Postglacial Sea-level	Revise to Pre2
1009	Pre	Uwe Balthasar	Timor Sea Palaeoenvironment	Decline

3. Agency Reports

National Science Foundation (NSF): Jamie Allan provided an update from NSF's Ocean Sciences (OCE) Division, beginning with leadership changes. James McManus has started as the new OCE Division Director; Bob Houtman (Integrated Programs Section Head) has retired; and Jamie has started phased retirement, with full retirement scheduled for March 30, 2023. Jamie expects his successor will be announced soon.

Jamie reported that the international research community has demonstrated their desire to have continued access to scientific ocean drilling assets through letters to the NSF Director. However, NSF sees support from international funding agencies waning over recent years. Further, these agencies have demonstrated a lack of commitment for future support through their response to a recent request for Letters of Interest. The lack of international partner funding for scientific ocean drilling has significant resource implications for NSF.

Discussions continue inside NSF on how to move forward effectively while balancing programmatic priorities. OCE intends to solicit broad community input on these issues through a decadal study. The last decadal study ("Sea Change") was published in 2015 and included a recommendation to strive to maintain a balance between OCE facilities

and the science it supports. NSF also intends to respond to the community's report on Science Mission Requirements for a new ocean drilling vessel in March 2023.

Jamie said NSF is committed to maintaining access to cores for the U.S. and international science communities. Memoranda with for maintaining core access are in review between NSF and MEXT/JAMSTEC, and NSF and CNRS. If signed, U.S.-owned cores would be kept at current locations under the same governance through 2029.

The SEP thanked Jamie for his leadership at NSF and service to the ocean drilling programs over the course of his career. The SEP asked Jamie for an update regarding the future of the *JOIDES Resolution*. Jamie explained that the *JOIDES Resolution* could operate from 2025-2028 with minimal risk, but funding remains a significant question. NSF's approach for moving forward is to start by identifying the needs of the U.S. scientific ocean drilling community. NSF will then determine the next steps for the *JOIDES Resolution*, for a possible new ship, and for any intervening period.

The SEP asked about the major outcomes from the decadal study "Sea Change" report. Jamie stated that the report served as a fundamental reason NSF agreed to participate in the current IODP because it prioritized scientific ocean drilling and *JOIDES Resolution* operations. The report also recommended that budget for supporting facilities should be approximately equal to that for science; this recommendation constrained rising OCE facility costs.

JOIDES Resolution Facility Board (JRFB): Larry Krissek explained that the JRFB recommended an FY24 schedule for the *JOIDES Resolution* consisting of proposals 895, 927, 985, and 979; these are now scheduled as Expedition 401, 402, 403, and 404. The scheduling process was challenging as there are many excellent proposals in the ship-track region, and because NSF guidance stated that the four scheduled expeditions need to be of low cost and low operational risk. Larry also noted that the fourth expedition may have to be cancelled if there aren't adequate funds available or if the *JOIDES Resolution* begins to demobilize in FY24.

Larry provided an overview of discussions from the JRFB's May 2022 meeting. Much of the meeting focused on forward looking steps (e.g., proposal handling if operations of the *JOIDES Resolution* is extended), and the minutes, consensus statements, and action items from the meeting are posted on iodp.org. Larry emphasized that the JRFB hopes international collaboration and cooperation remains a hallmark of future scientific ocean drilling programs. The JRFB also fully supports extending the *JOIDES Resolution* beyond IODP.

Larry discussed the JRFB working group on virtual expeditions (WG-VE), beginning with the recognition that the term "virtual expeditions" might not be the best for the activity. The JRFB WG-VE will discuss the term as it completes its tasks, which are (1) to define the minimum requirements for a research effort to be considered a virtual expedition, and (2) to develop recommendations for procedures related to the evaluation, endorsement, and scientific outcomes/scientific legacy of virtual expeditions. The JRFB

WG-VE is still discussing the first task, with a focus on being broad and inclusive because the structure and funding of a future program is currently unknown.

Based on a question from the SEP, Larry elaborated by saying a virtual expedition could be defined as a research activity that is based on existing materials, data sets, and/or borehole instrumentation from any of the scientific ocean drilling programs, but the JRFB WG-VE is still discussing this. Jamie added that NSF currently accepts proposals for using archived and legacy material.

JOIDES Resolution Science Operator (JRSO): Katerina Petronotis presented operational updates from the JRSO, including Expeditions 390 and 393 (South Atlantic Transect), Expedition 397P (Tie-up in Cape Town), Expedition 397T (Transit and Return to Walvis Ridge Hotspot), Expedition 397 (Iberian Margin Paleoclimate). Katerina also reviewed Expedition 398 (Hellenic Arc Volcanic Field), which is currently drilling six sites in the Christiana, Santorini, and Kolumbo volcanic complexes to understand the volcanic history of the region. The pumice and tephra layers have presented some technical issues, but recovery has been good overall.

The JRSO will begin relaxing some of its COVID-19 protocols starting in February 2023 due to less severe variants, the toll of quarantine procedures on ship crew and JRSO staff, and the substantive financial cost. The JRSO has already started managing cases onboard for essential personnel without significantly impacting operations. The most up-to-date protocols will be posted on the JRSO webpage.

The SEP was impressed with the recovery from the new PDC bits, which have improved XCB recovery and core quality on multiple expeditions.

ECORD Facility Board (EFB)/ECORD Science Operator (ESO): Sasha Turchyn, the new EFB chair, reviewed the EFB membership, the proposals residing at the EFB, and future MSP operational plans. Expedition 389 (Hawaiian Drowned Reefs) is scheduled for 2023, and Expedition 406 (New England Hydrogeology) is scheduled for 2024. EFB is expecting proposal pressure for MSPs to increase based on the number of recent and upcoming MagellanPlus workshops.

ECORD and Japan are continuing to plan for a joint drilling program following the conclusion of IODP, and many of details are still under discussion, including a science support office, facility boards, data and core management, and implementing organizations. ECORD and Japan hope to enter into an alliance with other partners to continue global partnerships. To support future program planning, Sasha requested that the SEP ask proponents with new MSP proposals to provide a link to the 2050 Science Framework in their next revision; this follows from EFB previously asking the same of all MSP proposals that were already in the system.

Marisa Rydzy discussed the personal sampling party and upcoming activities for Expedition 386 (Japan Trench Paleoseismology), procurement of the seafloor drill and

permitting for Expedition 389 (Hawaiian Drowned Reefs), and initial planning for Expedition 406 (New England Hydrogeology).

Chikyu and Chikyu IODP Board (CIB) Report: Sanny Saito reported that CIB scheduled proposal 835 (Expedition 405, Japan Trench Tsunamigenesis) at their August 2022 meeting in Kobe, Japan. MarE3 will create a project coordination team to plan implementation, as well as to review if proposal 939-APL3 could be completed along with the expedition. Sanny reviewed the CIB membership and *Chikyu* operation plans through 2025. He also stated that the CIB supports transferring *Chikyu* proposals to a post-2024 scientific ocean drilling program and supports international collaboration for implementing the 2050 Science Framework. Sanny reminded the SEP about the workshop starting next week looking at the future of scientific ocean drilling with MSPs and *Chikyu*.

IODP Science Support Office (SSO): Charna Meth described the roles of the SSO and recent SSO activities, including updates to the website, support for the JRFB Working Group on Virtual Expeditions, and improvements to the Proposal Database (PDB) and Site Survey Databank (SSDB). She reminded SEP members about the Post-IODP Planning section of the website, the Google Earth resources, and the confidentiality policy, and she encouraged SEP members to contact the SSO if there are additional tools they need. Charna also provided statistics on proposals submitted to IODP.

IODP Forum Report: Henk Brinkhuis discussed the role of the IODP Forum and the IODP Forum chair in the current program and in facilitating discussions about future programs. Henk reviewed the consensus statements from the previous IODP Forum meeting, which took place at the Lamont-Doherty Earth Observatory. These statements are also available in the IODP Forum section on iodp.org and focus on operations, core curation, and education and outreach. In discussing the post-2024 programs, the IODP Forum learned more about the current planning status and direction for each of the IODP partners; this update is available in the Post-IODP Planning section of iodp.org. Henk thanked the SEP for their reviews and emphasized the importance of their function.

The next IODP Forum meeting will take place in Vienna, Austria, just prior to the EGU General Assembly. Jamie stated that Jim McManus is particularly interested in the meeting, and he acknowledged the completion of the hull of the new Chinese ship.

3. Science Talk

Ross Parnell-Turner (Scripps Institution of Oceanography) provided an overview and update on Expedition 395 (Reykjanes Mantle Convection and Climate), which aims to understand the relationships between the Iceland mantle plume and V-shaped ridges, North Atlantic Ocean circulation, and hydrothermal alternation. Ross discussed the geologic context and hypothesis of the investigation, and the proposal history of the project. He thanked the SEP for their proposal reviews and support over the years, noting that the reviews improved the proposal at each stage.

Due to the COVID-19 pandemic, the initial part of the investigation was conducted during Expedition 395C, with Leah LeVay serving as the onboard science party. Ross reviewed some of the initial results from the 2.4 km of core that were collected at five sites. The remainder of the operations will take place this summer, along with possible work at new alternate sites if time allows.

4. Next Meeting and Thank You

Alessio Sanfilippo will host the next SEP meeting both at the University of Pavia and virtually on June 28-29, 2023. If logistics allows, Alessio is also planning a field trip for June 27, 2023.

Kathie and Tim thanked Thorsten Bauersachs, Paola Vannucchi, Antje Voelker, Uisdean Nicholson, and Tilmann Schwenk – who are all rotating off of the SEP soon – for their hard work and contributions; the SSO team for hosting the meeting; and the full SEP membership their participation.