



Science Evaluation Panel (SEP) Meeting June 29-30, 2022 – Southampton, UK, and Zoom

Roster

Science Subgroup

Chandranath Basak	University of Delaware
Thorsten Bauersachs	Kiel University
Christoph Beier	University of Helsinki
Clara Bolton	CEREGE
Anne Briaes	Institut Universitaire Européen de la Mer
Isla Casteñeda ⁺	University of Massachusetts, Amherst
Patrick Fulton	Cornell University
Yumiko Hashimoto*	AIST
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
Yoon-Mi Kim	KIGAM
Mark Leckie	University of Massachusetts Amherst
Zhonghui Liu	University of Hong Kong
Kathleen Marsaglia	California State University, Northridge
Kenji Matsuzaki	University of Tokyo
Rie Nakata	University of Tokyo
Hugo Olierook ⁺	Curtin University
Jeremy Owens	Florida State University
Sandra Passchier*	Montclair State University
Molly Patterson	Binghamton University, SUNY
Stephen Pekar*	Queens College - City University of New York
Charity Phillips-Lander	Southwest Research Institute
Natascha Riedinger	Oklahoma State University
Alessio Sanfilippo	University of Pavia
Rajeev Saraswat	National Institute of Oceanography
Niall Slowey*	Texas A&M University
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*	Columbia University
Jason Chaytor	U.S. Geological Survey
Jianhua Geng	Tongji University
Shuoshuo Han	University of Texas at Austin

Jess Hillman	GNS
Gwang-Soo Lee	KIGAM
Maria Filomena Loreto	ISMAR
Beatrice Magnani	Southern Methodist University
Nisha Nair	National Centre for Polar and Ocean Research
Uisdean Nicholson	Heriot-Watt University
Patricia Persaud	Louisiana State University
Robert Pockalny*	University of Rhode Island
Tim Reston	University of Birmingham
Derek Sawyer	Ohio State University
Nick Schofield	University of Aberdeen
Tilmann Schwenk	University of Bremen
Kazuya Shiraishi	JAMSTEC
Min Xu	Chinese Academy of Sciences
Yuzuru Yamamoto	Kobe University
Natalia Zakharova	Central Michigan University

Liaisons and Observers

Henk Brinkhuis	IODP Forum Chair
Angelo Camerlenghi	ECORD Science Support & Advisory Committee
Gail Christeson	National Science Foundation
Mari Hamahasi	Yamaguchi University
Barry Katz	Environmental Protection and Safety Panel
Larry Krissek	<i>JOIDES Resolution</i> Facility Board
Leah LeVay	<i>JOIDES Resolution</i> Science Operator
Yangyang Li	IODP-China PMO
Lisa McNeill	University of Southampton
Charna Meth	IODP Science Support Office
Katerina Petronotis	<i>JOIDES Resolution</i> Science Operator
Marisa Rydzy	ECORD Science Operator
Sanny Saito	MarE3, JAMSTEC
Angela Slagle	U.S. Science Support Program
Gabriele Uenzelmann-Neben	ECORD Facility Board
Michiko Yamamoto	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. SEP also observed a minute of silence to honor Dick Kroon, former SEP co-chair and global scientific leader, who recently passed away.

2. Proposal Reviews

Over the course of the meeting, SEP reviewed three full proposals, one ancillary planning letter, and two addendums at the request of the EFB. The review outcomes are in the table below.

ID	Type	PI	Short Title	Recommendation
637	Add8	Brandon Dugan	New England Shelf Hydrogeology	Good for SF2050
813	Add2	Trevor Williams	Antarctic Cenozoic Paleoclimate	Good for SF2050
941	Full2	Yasuhiko Ohara	Godzilla Megamullion Lithosphere Architecture	Holding Bin
990	Full2 (Add)	Rie Nakata	Hyuga-Nada Observatory	Holding Bin
1004	APL3	Uisdean Nicholson	Nadir K-Pg impact Crater	Holding Bin
1007	Full	Zhifei Liu	Sunda Shelf Carbon Cycling	Revise

3. Agency Reports

National Science Foundation (NSF): Gail Christeson stated that the National Science Foundation (NSF) has funding available to support the *JOIDES Resolution* through FY24 (the end of IODP) and that up to four expeditions should be possible if international partners follow through on Memorandum of Understanding pledges. NSF is considering *JOIDES Resolution* operations under a new model of equitable cost per berth for 2025-2028. Factors NSF is using to make a decision include: international contributions, the June 2022nship inspection in Cape Town (which went well), the mid-award review of the *JOIDES Resolution* Science Operator, and the outcomes of the upcoming 45-year drydock. If NSF divests from the *JOIDES Resolution*, NSF will continue to support the preservation of scientific ocean drilling cores and samples.

NSF is also, separately, considering acquiring a new drillship for a post-2028 program. A new U.S. drillship is widely supported by U.S. oceanographic institutions and the U.S. scientific community. The next step in planning for a new drillship is to define the Science Mission Requirements (SMRs), which is underway. Gail explained the SMRs that NSF accepts would serve as the basis for conceptual design within the NSF Major Facility Design process, and the entire process could take 10 or more years. While the post-2028 program would be U.S.-led, NSF would seek international partnerships, as well as partnership with other U.S. agencies. The IODP Forum indicates continued

interest by international partners. Gail emphasized that a project entering conceptual design does not guarantee a project will be built. Acquisition of a new scientific drilling vessel is an enormous effort and requires sustained science community support and assistance to NSF.

Gail shared that Jim McManus will begin on July 17, 2022, as the new OCE Division Director, taking over for Terry Quinn. There is also an open search for a Program Director to work with Jamie Allan.

JOIDES Resolution Facility Board (JRFB): Larry Krissek explained that the JRFB recently recommended an FY24 schedule for the *JOIDES Resolution* consisting of proposals 895, 927, 985, and 979. 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 recent 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 will be posted on iodp.org soon. Larry emphasized that the JRFB hopes international collaboration and cooperation remains a hallmark of future scientific ocean drilling programs.

JOIDES Resolution Science Operator (JRSO): Katerina Petronotis presented the JRSO's response to the COVID-19 pandemic, which includes the COVID Mitigation Protocols Established for Safe *JOIDES Resolution* Operations (COPE) and expedition adjustments due to travel and port restrictions. The JRSO was able to make operational progress with Expedition 390C and 395E (South Atlantic Transit) and Expedition 395C (Reykjanes Mantle Convection). Expedition 396 (Mid-Norwegian Continental Margin Magmatism) was the first to sail with a science party again, although reduced, along with subsequent expeditions. Katerina reviewed operations for Expedition 391 (Walvis Ridge Hotspot), Expedition 392 (Agulhas Plateau Cretaceous Climate), and Expeditions 390/393 (South Atlantic Transect), and she discussed the upcoming schedule through the end of IODP.

Katerina stated that the requirements for a 45-year drydock are currently not clear because it is not known if the operational time for the *JOIDES Resolution* will be extended beyond FY24. Siem Offshore (the ship owner) has formally stated that they are interested in post-2024 operations.

Kathie thanked the JRSO for their effort to continue operations during the difficult and uncertain times of COVID.

ECORD Facility Board (EFB)/ECORD Science Operator (ESO) Report: Gabriele Uenzelmann-Neben reviewed the EFB membership, the proposals residing at the EFB,

and future MSP operational plans. Most recently, Expedition 377 (Arctic Ocean Paleooceanography; ArcOp) has been postponed to due to safety concerns. Expedition 389 (Hawaiian Drowned Reefs) is scheduled for 2023, and 2024 will be scheduled at the next EFB meeting in September. The EFB has decided to transfer all proposals to a future MSP program, and they expect additional new proposals to come from the upcoming MagellanPlus workshops. ECORD and Japan are planning for a joint future drilling program and many of the aspects are under discussion, including a science support office, facility boards, data and core management, and implementation organizations and approaches. ECORD/Japan hope to enter into an alliance with other partners to continue global partnerships.

Marisa Rydzy discussed the hybrid onshore phase Expedition 386 (Japan Trench Paleoseismology), and upcoming operations for Expedition 377 (Arctic Ocean Paleooceanography) and Expedition 389 (Hawaiian Drowned Reefs). She also shared updates on a new database system (mobile DIS, mDIS) at MARUM, the ECORD Puffer Sphere, ECORD Summer Schools, and staff changes at ESO.

Chikyu and Chikyu IODP Board (CIB) Report: Sanny Saito reviewed the *Chikyu* operation plans through 2025, including that the Expedition 386 (Japan Trench Paleoseismology) personal sampling party will take place on the *Chikyu* later this year. Sanny discussed the CIB membership and that the CIB will meet next in August 2022. At the meeting, CIB will consider riserless proposals that could be implemented by the *Chikyu* in 2024/2025, the fate of unimplemented proposals to the CIB, new proposal submission guidelines for a post-IODP program, and Japan's commitment to post-IODP programs.

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 Science Framework Proposal Requirements and Assessments, and improvements to the Proposal Database (PDB) and Site Survey Databank (SSDB). She encouraged SEP members to provide feedback on the SSDB improvements and to provide comments on the draft Proposals Guidelines for the next U.S. drillship. Charna also provided statistics on proposals submitted to IODP.

IODP Forum Report: Henk Brinkhuis discussed that the IODP Forum is an overarching platform for connecting all the aspects of IODP. The last IODP Forum meeting was held in Vienna in April and the consensus statements from the meeting are posted on iodp.org. As the program nears 2024, the IODP Forum will continue to provide a platform for discussing remaining programmatic items, as well as facilitate open discussion about future scientific ocean drilling plans, including partnerships and collaborations. The next IODP Forum meeting will take place at the Lamont-Doherty Earth Observatory in September, where more information might be known about the future of the *JOIDES Resolution*. Henk also mentioned the U.S. Scientific Ocean Drilling Alliance (US-SODA), a community-driven group lead by Anthony Koppers to support future scientific ocean drilling in the United States. US-SODA is encouraging U.S.

institutions to write letters to NSF about the importance of scientific ocean drilling, and they are encouraging the global community to sign the online petition (us-soda.org).

3. Science Talk

Roz Coggon (University of Southampton) provided an overview and update on Expeditions 390/393 (South Atlantic Transect), a multidisciplinary investigation along a crustal flow-line across the western flank of the Southern Mid-Atlantic Ridge. The expeditions have three major scientific objectives: (1) quantify the timing, duration, and extent of ridge flank hydrothermal fluid-rock exchange, (2) investigate sediment and basement-hosted microbial community variation with substrate composition and age, (3) investigate the responses of Atlantic Ocean circulation patterns and Earth's climate system to rapid climate change during the Late Cretaceous. Roz reviewed the scientific rationale for the expeditions, the operation plans, and some of the initial results from Expedition 390. Expedition 393 is currently sailing and contributing to the overall success of the objectives.

4. Next Meeting and Thank You

SEP members discussed possible formats for future meetings. SEP members encouraged the continuation of offering a hybrid meeting format as long as there are at least two days of work; meetings should be all virtual if only one day. The in-person aspect brought many benefits, resulting in a more efficient meeting that improved conversations about the proposals. SEP members feel they learn more about the program and the panel when attending in person, and the review process was improved by having more watchdogs assigned to each proposal. SEP members found the time allocated for watchdog discussions extremely useful, and they appreciated the field trip and hearing from a recent expedition.

Charna will host the next SEP meeting both at the Scripps Institution of Oceanography and virtually on January 10-12, 2023. The meeting may be shortened or may switch to 100% virtual; decisions will be made after the next proposal deadline.

Kathie and Tim thanked Patricia Persaud, Beatrice Magnani, Shuoshuo Han, Niall Slowey, Charity Phillips-Lander, Mark Leckie, Gwang-Soo Lee, Yoon-Mi Kim, and Yoshitaka Hashimoto – who are all rotating off of SEP soon – for their hard work and contributions; Lisa for hosting the meeting; Chris Barker, Andy Gale, and Neil Gostling for the field trip; and the full SEP membership for their participation. On behalf of the facility boards, Larry further thanked SEP for their diligent work, particularly during uncertain times.