



Science Evaluation Panel (SEP) Meeting January 10-11, 2024 – La Jolla, California, and Zoom

Roster

Science Subgroup

Barbara Balestra*	American University
Christoph Beier	University of Helsinki
Clara Bolton	CEREGE
Anne Briais	Institut Universitaire Européen de la Mer
Gerald Dickens*	University of Dublin
Elizabeth Griffith	Ohio State University
Mari Hamahashi	Yamaguchi University
Yumiko Harigane	National Institute of Advanced Industrial Science and Technology
Michelle Harris*	University of Plymouth
Matt Ikari	University of Bremen
Barbara John	University of Wyoming
Joel Johnson	University of New Hampshire
Jessica Labonte ⁺	Texas A&M University at Galveston
Adriane Lam	Binghamton University, SUNY
Zhonghui Liu*	University of Hong Kong
Chris Lowery	University of Texas at Austin
Kathleen Marsaglia	California State University, Northridge
Kenji Matsuzaki	University of Tokyo
Erin McClymont	Durham University
Cecilia McHugh	Queens College, City University of New York
Rie Nakata	University of Tokyo
Hugo Olierook	Curtin University
Stephen Pekar	Queens College - City University of New York
Jennifer Pickering	University of Memphis
Natascha Riedinger	Oklahoma State University
Alessio Sanfilippo	University of Pavia
Rajeev Saraswat*	National Institute of Oceanography
Reed Scherer	Northern Illinois University
Jason Sylvan*	Texas A&M University
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
Laura De Santis	OGS
Irina Filina	University of Nebraska-Lincoln
Jianhua Geng	Tongji University
Gilles Guerin	Columbia University
Jess Hillman	GNS Science

Maria Filomena Loreto	ISMAR
Gregory Mountain	Rutgers University
Nisha Nair	National Centre for Polar and Ocean Research
Robert Pockalny	University of Rhode Island
Jonas Preine	University of Hamburg
Tim Reston	University of Birmingham
Derek Sawyer	Ohio State University
Nick Schofield*	University of Aberdeen
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
Carl Brenner	U.S. Science Support Program
Angelo Camerlenghi	ECORD Science Support & Advisory Committee
George Dubinin	IODP Science Support Office
Nobu Eguchi	MarE3, JAMSTEC
Ron Hackney	Australia-New Zealand IODP Consortium
Kevin Johnson	National Science Foundation
Sarah Kachovich	Australia-New Zealand IODP Consortium
Barry Katz	Environmental Protection and Safety Panel
Larry Krissek	<i>JOIDES Resolution</i> Facility Board
Charna Meth	IODP Science Support Office
Natsumi Okutsu	MarE3, JAMSTEC
Michelle Penkrot	<i>JOIDES Resolution</i> Science Operator
Katerina Petronotis	<i>JOIDES Resolution</i> Science Operator
Ulla Röhl	Bremen Core Repository
Marisa Rydzy	ECORD Science Operator
Sanny Saito	MarE3, JAMSTEC
Angela Slagle	U.S. Science Support Program
Karen Stocks	IODP Science Support Office
Sasha Turchyn	ECORD Facility Board
Michiko Yamamoto	IODP Science Support Office
Alan Yang	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. Agency Reports

National Science Foundation (NSF): Kevin Johnson spoke about NSF plans for the future of U.S. scientific ocean drilling, emphasizing that a continued dialog with the community will be integral to future success.

The *JOIDES Resolution* will demobilize at the end of FY2024, because the current financial model is not viable. During the five-year period after demobilization, NSF will support a wind down of JRSO activities (e.g., post-cruise publications, data archiving, and core repositories). NSF is committed to maintaining access to cores and related data for the U.S. and international science communities.

The process for developing the essential components for a new platform will be informed by the 2050 Science Framework, the forthcoming National Academies of Sciences new decadal survey for ocean sciences, and other ongoing efforts. While this process takes place, NSF will continue to invest in research using existing samples and data, and NSF remains committed to supporting early-career scientists. In August, NSF also asked for expressions of interest to provide the Scientific Ocean Drilling Coordinating Office; a solicitation is forthcoming.

NSF would like subseafloor sampling to be a sustainable enterprise. Achieving this goal requires community input and developing a feasible financial model. Science communities drive which research and infrastructure NSF funds. NSF needs strong proposals for scientific ocean drilling activities to continue to make the case for long-term and near-term investments, and to enable communications with leadership on the relevance of the program to society. NSF also wants to continue longstanding international partnerships through a new financially viable model.

SEP participants asked NSF if reducing the number of expeditions per year would help with creating a viable financial model. Kevin responded that this was discussed with Siem, the ship owner. Siem responded that \$18M per year would be needed to maintain the *JODIES Resolution* in a functional state; additional funds would then be needed for each expedition. NSF can't provide the \$18M, but it is possible for others to do so, allowing NSF and others to provide funds for individual expeditions. In essence, this would turn the *JOIDES Resolution* into a reliable mission-specific platform. Kevin

encouraged members of the community to explore possible new partnerships and avenues for funding along these paths.

JOIDES Resolution Facility Board (JRFB): Larry Krissek updated SEP on JRFB activities since the previous SEP meeting, focusing on Ocean Drilling Legacy Assets Projects (LEAPs). Larry stated that the foundation for the LEAPs concept arose from the scientific ocean drilling community's repeated discussions about virtual expeditions, fourth platforms, and big data analytics. The JRFB subsequently formed an international working group to define LEAPs and to discuss how to implement such a program in an intentionally collaborative manner post-IODP.

LEAPs present an opportunity for focused multidisciplinary research using legacy assets at scales larger than conventional single or multi-PI research projects. They can encourage new involvement and participation from the community; open new funding sources, resources, and partnerships; and enhance visibility of project outcomes.

Larry reviewed the LEAP requirements and lifecycle for the LEAPs pilot program, which is taking place during the current IODP. The first call for LEAP pre-proposals had a deadline of November 1, 2023 and was preceded by three very well attended webinars. Five proposals were submitted, representing a range of IODP partner countries, legacy assets, and scientific objectives. Larry concluded by reviewing the status of action items from the May 2023 JRFB meeting.

JOIDES Resolution Science Operator (JRSO): Katerina Petronotis presented operational updates from the JRSO. Expedition 395 (Reykjanes Mantle Convection and Climate) cored at six sites, collecting almost 6km of core to support the expedition's objectives aimed at understanding mantle upwelling, climate and ocean circulation, and hydrothermal alternation. Expedition 400 (NW Greenland Glaciated Margin) aimed to examine the long-term response of the Greenland Ice Sheet to past climate warming and its role in Earth's climate system. Six sites were cored while monitoring the movements of 62 icebergs.

Following Expedition 400, the *JOIDES Resolution* spent two months in a required dry-dock in Amsterdam. The scope of the upgrades was reduced given that operations of the ship will end in 2024. The JRSO is currently implementing Expedition 401 (Mediterranean-Atlantic Gateway Exchange), the first Land-2-Sea project. Future ICDP drilling will recover Miocene sediments exposed on land in Spain and Morocco. If time allows, Expedition 401 will try to deepen U1385 into the Late Miocene; this site was added as a contingency site at the request of Expedition 397.

Katerina provided an update on COVID-19 protocols and the future schedule for the *JOIDES Resolution*. After the last expedition ends on August 2, 2024, the *JOIDES Resolution* will demobilize in Amsterdam. Post-IODP activities for the JRSO are proposed to include completing post-expedition work, providing curatorial and related services, completing required publications, and instrumenting the Gulf Coast Repository.

SEP participants asked for how long the instrumented Gulf Coast Repository will be available. Katerina responded that the current proposal is for five years, but the long-term storage plans for the cores is currently unknown.

SEP participants asked if there is an event planned to celebrate the *JOIDES Resolution* in Amsterdam after its last IODP expedition. Katerina stated that the JRSO has not yet planned anything official. Henk Brinkhuis added that the Dutch research community is considering options, and that the IODP Forum will discuss this topic as well.

ECORD Facility Board (EFB)/ECORD Science Operator (ESO): Marisa Rydzy updated SEP on Expedition 389 (Hawaiian Drowned Reefs), which investigated the link between changes in global sea-level and climate. The offshore phase took place September to October 2023 and included the 100th mission-specific platform (MSP) drilled site. The onshore science party will take place in February. She also discussed Expedition 406 (New England Shelf Hydrogeology) and how it had to be cancelled due to a lack of bids on the tender.

Sasha Turchyn, the EFB chair, reviewed EFB activities since the SEP meeting in Pavia. She discussed the development of the new procedure for transferring proposals between facility boards. The EFB also participated in a working group to develop proposal guidelines and recommendations for the International Ocean Drilling Programme (IODP³), the joint ECORD-Japan post-IODP program. IODP³ will not have ancillary planning letters (APLs) as an option because MSP expeditions can be of any length. Sasha then discussed the consensus statements from the last EFB meeting, the conclusions from the operations review of Expedition 386 (Japan Trench Paleoseismology), current active proposals requesting to use an MSP, and the future EFB meeting schedule, including those that will be held jointly with the CIB.

Chikyu and Chikyu IODP Board (CIB) Report: Sanny Saito presented the report on behalf of Nobi Seama (CIB Chair), Nobu Eguchi (MarE3, JAMSTEC), and himself. Sanny announced that planning is underway for Expedition 405 (Japan Trench Tsunamigenesis), which will be the last *Chikyu* expedition in IODP. The operational period will last about three months and the science party is currently being selected.

Sanny then presented the consensus and action items from the most recent CIB meeting, which was held in Kobe, Japan. Many of the discussions at the meeting took place in joint sessions with the EFB, as both facility boards are looking toward the transition to IODP³. In particular, the CIB and EFB agreed to form a working group to develop proposal guidelines for IODP³. The IODP³ Planning Working Group is currently finalizing these proposal guidelines and expects that the first IODP³ proposal deadline will be in January 2025. The first interim MSP Facility Board meeting will be held March 14-15, 2024 to identify proposals for IODP³ to implement in 2025-2026.

IODP Science Support Office (SSO): Charna Meth described the roles of the SSO and described how these SSO activities contributed to the development of LEAPs, including

supporting the JRFB Working Group on Virtual Expeditions (WG-VE), developing the proposal guidelines, hosting the webinars, and creating new components for the IODP websites, Proposal Database (PDB), and Site Survey Databank (SSDB). She reminded SEP members about the IODP confidentiality policy. Charna also provided statistics on drilling and LEAP proposals submitted to IODP.

IODP Forum Report: Henk Brinkhuis discussed the role of the IODP Forum in the current program and in facilitating broader discussions. Henk reviewed some of the consensus statements and action items from the previous IODP Forum meeting that took place in Wollongong, Australia, in October 2023. He highlighted the IODP Forum’s appreciation for the development of a new process for transferring proposals between facility boards. He also discussed how the IODP Forum is considering and documenting lessons learned from the current program, include perspectives on operational lessons, science facilitation, and program structure.

3. Proposal Reviews

Over the course of the meeting, the SEP reviewed one full proposal and one preliminary proposal for mission-specific platforms; four addenda transferring proposals from the JRFB to the EFB; one ancillary planning letters (APL) for the *Chikyu*; and five LEAP preliminary proposals. The review outcomes are in the tables below.

Reviewed new and revised proposals:

P#	Type	PI	Short Title	Recommendation
1010	APL2	Ikehara	JTRACK Deep-Time Paleoseismology	Forward to CIB
1014	Pre	Balthasar	Timor Sea Paleoenvironment	Decline
1015	Full	Lowery	Campeche Bank Sediment Drifts	Revise to Full2
001	PreLEAP	Musgrave	Ontong Java Plateau Collision	Revise to Full
002	PreLEAP	Guo	Volcanic Ash Deposits AI Classification	Decline
003	PreLEAP	Doan	Exploiting Drilling Data Time Series	Decline
004	PreLEAP	Herbert	N. Atlantic Stratigraphic Integration	Revise to Full
005	PreLEAP	Kirtland-Turner	Cenozoic Carbonate Fields Reconstruction	Revise to Full

Addenda reviewed for facility boards:

P#	Type	PI	Short Title
864	Add3	Dunkley Jones	Equatorial Atlantic Gateway
971	Add	Sanfilippo	Kane Megamullion Deep Drilling
979	Add3	Geissler	Arctic Atlantic Gateway Paleoclimate
1004	Add2	Nicholson	Nadir K-Pg impact Crater

4. Discussion on LEAPs Proposal Review Process

Following the review of the LEAP proposals, SEP discussed the mechanics of the review process and the clarity of the proposal guidelines. SEP agreed that the proposals were well structured to answer the review questions and that the review questions were the correct questions to ask for this new type of proposal.

SEP offered the following suggestions for future LEAP deadlines:

- Ensure that proponents link to the 2050 Science Framework in the proposal text.
- Strengthen language in the proposal guidelines telling proponents to contact the legacy asset manager (core curator, data manager, etc.). It might be useful to develop a form to help curators evaluate information.
- Include an option that allows proposals to focus on tool development, procedure development, and/or data-set preparation.

SEP expressed its strong support for LEAPs and expressed concern about the fate of the program post-IODP. While the exact nature of how LEAPs may continue is unknown, Larry and Charna commented that all current IODP partners are supportive of programs that use legacy assets and they were all involved in the development of LEAPs. Larry added that the number of proposals, quality of proposals, and quality of the reviews show the value of LEAPs going forward. Angelo Camerlenghi provided a summary of IODP³'s plans for SPARCS, a similar concept to LEAPs with a one-step proposal and seed funding for IODP³ members. SEP stated that they would like to see a future legacy asset program stay under one collaborative umbrella.

Charna thanked SEP for their comments, input, and reviews. Some of the recommendations can be implemented before the next LEAPs proposal deadline and some will require further discussion with program partners. All of the comments are valuable.

5. Next Meeting and Thank You

Kathie and Tim thanked the SSO for hosting and support of the meeting, and they thanked the SEP membership for their participation. Christoph Beier will host the next SEP meeting at the University of Helsinki in Finland on June 18-19, 2024.