



## Science Evaluation Panel (SEP) Meeting January 11-14, 2021 – Virtual Meeting

### Roster

#### Science Subgroup

Chandranath Basak	University of Delaware
Maria-Angela Bassetti	CEFREM, Université de Perpignan
Thorsten Bauersachs	Kiel University
Melissa Berke	University of Notre Dame
Julie Bowles	University of Wisconsin - Milwaukee
Adélie Delacour	Université Jean Monnet
Patrick Fulton	Cornell University
Karsten Gohl	Alfred Wegener Institute
Morihisa Hamada	JAMSTEC
Yoshitaka Hashimoto	Kochi University
Mark Kendrick	University of Queensland
Yoon-Mi Kim	KIGAM
Mark Leckie	University of Massachusetts Amherst
Zhonghui Liu	University of Hong Kong
Kenji Matsuzaki	University of Tokyo
Lisa McNeill	University of Southampton
Beth Orcutt	Bigelow Laboratory for Ocean Science
Jeremy Owens	Florida State University
Sandra Passchier	Montclair State University
Molly Patterson	Binghamton University, SUNY
Charity Phillips-Lander	Southwestern Research Institute
Julie Prytulak	University of Durham
Yair Rosenthal	Rutgers University
Niall Slowey	Texas A&M University
Hiroko Sugioka	Kobe University
Kazuyo Tachikawa	CEREGE, Aix-en-Provence, France
Liyang Tian	Chinese Academy of Sciences
Elizabeth Trembath-Reichert	Arizona State University
Paola Vannucchi	Universita di Firenze
Antje Voelker	Centro de Ciencias do Mar
Kosei Yamaguchi	Toho University
Guoliang Zhang	Chinese Academy of Sciences

#### Site Subgroup

Silvia Ceramicola	<i>Instituto Nazionale di Oceanografia e di Geofisica Sperimentale</i>
Jason Chaytor	U.S. Geological Survey
Gail Christeson	University of Texas at Austin
Ann Cook	Ohio State University
Jorge Figueiredo	Federal University of Rio de Janeiro
Jianhua Geng	Tongji University
Andrew Goodliffe	The University of Alabama

**Shuoshuo Han**  
Christian Hübscher  
Gwang-Soo Lee  
Beatrice Magnani  
Uisdean Nicholson  
Ross Parnell-Turner  
Patricia Persaud  
*Michele Rebesco*  
Tim Reston  
Derek Sawyer  
Tillmann Schwenk  
Kazuya Shiraishi  
Eli Silver  
Min Xu  
Yuzuru Yamamoto

**University of Texas at Austin**  
University of Hamburg  
KIGAM  
Southern Methodist University  
Heriot-Watt University  
Scripps Institution of Oceanography  
Louisiana State University  
*Instituto Nazionale di Oceanografia e di Geofisica Sperimentale*  
University of Birmingham  
Ohio State University  
University of Bremen  
JAMSTEC  
University of California Santa Cruz  
Chinese Academy of Sciences  
Kobe University

### **Liaisons and Observers**

Jamie Allan  
Carlos Alvarez Zarikian  
Peter Blum  
Carl Brenner  
Dru Clark  
Emily Estes  
Helen Evans  
Katharina Hochmuth  
Tobias Hoefig  
Steve Hovan  
Kevin Johnson  
Barry Katz  
Gil Young Kim  
Dirk Kroon  
Denise Kulhanek  
Leah Levay  
Mitch Malone  
Charna Meth  
Ken Miller  
Tony Morris  
Clive Neal  
Chris Olson  
Katerina Petronotis  
Sanny Saito  
Angela Slagle  
Karen Stocks  
Gabriele Uenzelmann-Neben  
John Walter  
Trevor Williams  
Michiko Yamamoto  
Alan Yang

National Science Foundation  
*JOIDES Resolution* Science Operator  
*JOIDES Resolution* Science Operator  
U.S. Science Support Office  
IODP Science Support Office  
*JOIDES Resolution* Science Operator  
IODP Science Support Office  
ECORD Science Operator  
*JOIDES Resolution* Science Operator  
National Science Foundation  
National Science Foundation  
Environmental Protection and Safety Panel  
KIGAM  
IODP Forum Chair  
*JOIDES Resolution* Science Operator  
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IODP Science Support Office  
JRFB Working Group on the Science Framework  
ECORD Science Support & Advisory Committee  
*JOIDES Resolution* Facility Board  
IODP Science Support Office  
*JOIDES Resolution* Science Operator  
MarE3, JAMSTEC  
U.S. Science Support Office  
IODP Science Support Office  
ECORD Facility Board  
National Science Foundation  
*JOIDES Resolution* Science Operator  
IODP Science Support Office  
IODP Science Support Office

**Unable to attend**  
*Attending as alternate*

## Meeting Notes

### 1. Welcome and Logistics

The Science Evaluation Panel (SEP) co-chairs Lisa McNeill and Gail Christeson called the meeting to order with a welcome and asked attendees to perform self-introductions. Gail and Lisa reviewed the meeting format for Zoom and Slack, gave a presentation about the 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 pre-proposals, five full proposals, two ancillary planning letters, and one addendum. The review outcomes are in the table below. Lisa and Gail asked panel members to submit external reviewer suggestions for Proposals 885, 955, 967, 976, 979, and 985, and to submit co-chief recommendations for Proposals 973.

ID	Type	Short Title	PI	Recommendation
885	Full2	Ulleung Basin Landslides	Jangjun Bahk	External Review
945	Add3	Brazilian Equatorial Margin Paleoceanography	Luigi Jovane	JRFB
951	Full	Hawaiian North Arch Crust	Susumu Umino	Revise
955	Full2	Axial Seamount Observatory	Julie Huber	External Review
967	Full2	Ontong Java Nui LIP	Takashi Sano	External Review
973	Full2	NW Africa Neogene Climate	Torsten Bickert	Holding Bin
976	Full2	North Iceland Rift Propagation	Hans Christian Larsen	External Review
979	Full2	Arctic Atlantic Gateway Paleoclimate	Wolfram Geissler	External Review
980	APL2	Guatemala Basin Hydrothermal Pits	Keir Becker	Revise
985	Full2	Eastern Fram Strait Paleo Archive	Renata Lucchi	External Review
989	APL2	Tore Seamount Paleoenvironment	Susana Lebreiro	Decline
990	Full	Hyuga-Nada Observatory	Rie Nakata	Revise
995	Pre	Canterbury Bight Offshore Freshened Groundwater	Aaron Micallef	Full
996	Full	Aleutian Basin Formation	Robert Stern	Decline
997	Pre	Mariana Trench Water-Rock interaction	Fengping Wang	Pre2
998	Pre	Antarctic Cryosphere Origins	Robert McKay	Full

### 3. Agency Reports

National Science Foundation (NSF): Jamie Allan encouraged the SEP members to read the presentation NSF OCE Division Director Terry Quinn gave at the 2020 Fall American Geophysical Union Meeting (<http://iodp.org/nsf-presentation-at-agu-2020-iodp-town-hall/file>). Since that presentation, NSF has shifted the Dear Colleague Letter

slightly to ask for an Expression of Interest. Jamie explained that cost remains the central challenge to NSF in approving a new drilling program and for acquiring and operating a drillship similar to the *JOIDES Resolution*. NSF currently expects to continue to support the current program until 2024, but a new drilling program will require a different funding model and new funding sources.

*JOIDES Resolution Science Operator (JRSO)*: Mitch Malone updated the SEP on the JRSO's recent activities, including developing and implementing COVID-19 protocols, responding to schedule changes, and operating Expedition 384 (Engineering Testing). During Expedition 390C, the JRSO completed installing three of six re-entry systems in preparation for Expeditions 390/393; the remaining installations are planned for Expedition 395P.

*JOIDES Resolution Facility Board (JRFB)*: Clive Neal explained that the number of high-quality proposals with the JRFB and at the SEP are more than sufficient to schedule the *JOIDES Resolution* through the end of 2024; therefore, the JRFB is not accepting new proposals that address the current Science Plan. The JRFB will continue to accept revisions to existing proposals and pre-proposals, new APLs, and new Land-2-Sea proposals. Proposals that were deactivated in 2020 with encouragement to resubmit will also be accepted. Clive also stated that the system is not in a position to accept proposals that address the 2050 Science Framework at this time.

Clive discussed two important steps that the JRFB is taking to support planning for a new program: (1) The JRFB has established a working group, led by Ken Miller, to consider requirements and review processes for proposals guided by the 2050 Science Framework and submitted to use a new U.S. drilling platform. (2) The JRFB is requesting information about the international community's intent to write proposals based on the 2050 Science Framework. This request for information (RFI) will open on February 1, 2021, and the responses will provide critical data for showing the community's interest in a new drilling program. Clive emphasized that future success requires that the community be innovative in how it plans to implement a program based on the 2050 Science Framework.

*ECORD Facility Board (EFB)/ECORD Science Operator (ESO) Report*: Gabriele Uenzelmann-Neben introduced Michele Rebesco as a new EFB Science Board member, and she provided an update on expedition planning. Expedition 386 (Japan Trench Paleoseismology) was postponed from 2020 to 2021, and planning continues for implementing Expedition 377 (Arctic Ocean Paleoceanography) for 2022. Katherina Hochmuth added that if COVID-19 conditions improve, the ESO will still be able to implement Expedition 386 this year.

Regarding future planning, the EFB hopes to transfer all mission-specific platform (MSP) proposals to a new program. Lisa shared that the UK-IODP proposal workshop (<https://www.ukiodp.org/mssp-proposal-workshop-2021>) will be recorded and available after the meeting. Tony Morris added that the ECORD Science Support & Advisory

Committee (ESSAC) is aware of limited proposal pressure for MSPs and that the MagellanPlus Workshop Series is dominantly focused on funding MSP proposals.

Chikyu IODP Board (CIB) Report: Sanny Saito reported that Japan recognizes the critical importance of *Chikyu* to implementing the 2050 Science Framework and that Japan is committed to providing the ship in the future. *Chikyu* will serve as an onshore platform for ESO for Expedition 386, which is currently planned for October-November 2021. Due to COVID-19, the CIB meeting has been postponed.

IODP Science Support Office (SSO): Charna Meth introduced herself as the new Executive Director of the SSO. She described the SSO mandate, Site Survey Databank (SSDB) updates, and future plans for improving the SSDB; provided statistics on proposals submitted to IODP; and showed a preview of the RFI submission form in the Proposal Database System (PDB).

IODP Forum Report: Dick Kroon discussed that funding for a new program continues to be its biggest challenge; new funding streams need to be found. The IODP Forum will help coordinate the approach to finding new funding streams. Dick also summarized the consensus statements from the last IODP Forum meeting.

#### **4. Questions from the JRFB Working Group**

Lisa and Gail presented two questions from the JRFB Working Group on Science Framework Proposal Requirements and Assessments (WG-SFP). Lisa and Gail will present a summary of the discussion at the next WG-SFP meeting.

##### 1. How should Flagship Initiative proposals be handled (by SEP) and how should they be initiated?

There was significant support from the SEP for using workshops to initiate Flagship Initiatives, establishing a leader or leadership committee for each Flagship Initiative, being flexible to the needs of different Flagship Initiatives, and having the SSO provide a dedicated liaison for overall support and history tracking.

The Flagship Initiative process could start with an initial workshop that sets broad goals, defines science-based milestones, and stimulates proposal ideas. Follow-up workshops could occur periodically (at regular intervals?) to check or adjust goals, evaluate progress and milestones, and engage new scientists. SEP could be asked to comment on or vet workshop reports (as opposed to proponents submitting an umbrella proposal for an entire Flagship Initiative, which provides less flexibility).

The SEP felt that leadership, potentially as individuals or a committee, for each Flagship Initiative would be important to help coordinate related proposals, but agreed that this coordination needs to be done in a way that is inclusive and open. The leadership should change with time, particularly as some of these initiatives may take decades to complete, and the leadership/leadership committees should include early career

researchers. PMOs could issue regular calls for committee membership, similar as they do for panel membership. One suggestion was pairing a more senior scientist with an early career research scientist in the leadership roles, with these roles then rotating periodically.

2. How should Enabling Elements be incorporated into proposals and evaluated (and which of the general elements should be required)? Enabling Elements are: Broader Impacts and Outreach; Land to Sea; Terrestrial to Extraterrestrial; Technology Development and Big Data Analytics

*Broader Impacts and Outreach:* The SEP feels that outreach is too important to leave to the inconsistencies inevitable in individual drilling proposals. Outreach is best done as a dedicated enterprise with central coordination, perhaps by science communication experts and implemented nationally by the PMOs. Science communication experts could include PR specialists, and the SEP supported continuing efforts to sail education and outreach specialists on expeditions. Sailing science journalists on expeditions was also mentioned.

To support science communication of the program and outreach activities, proponents could be asked to include a non-technical/plain language summary when they submit their drilling proposal and/or in the prospectus. This summary could include societal relevance and could be updated after an expedition. These summaries would be a valuable resource for engaging non-scientists in the work and impact of ocean drilling and a useful resource for teachers. Others at the SEP meeting felt that non-technical summaries are normally better written by or with science communication experts and support from SciCom teams in PMOs could be useful. But the SEP noted that these summaries are required for a lot of other proposals so many scientists are practiced (some are better than others!). If implemented, such a required section could include identifying societal relevance and stakeholders who might benefit from an expedition's results. This section would not be part of the proposal's word count, and communication goals could also be included in the proposal's success criteria section. While there was agreement that it is important to identify broader impacts, there was also concern that such a section could become a box-ticking exercise by proponents.

*Technology Development and Big Data Analytics:* The SEP discussed some questions in the area of technology development and big data analytics. For example, are there plans for a centralized big-data environment that will support proponents or would data management be something that each proponent group would need to setup (the former being more efficient if it can be funded)? What will be provided by a support office and will it be sustainable? The SEP feels it would be better for data to be coordinated, curated, and maintained with consistent metadata. The SEP also questioned how the future program will harvest data from the existing IODP archive of shipboard-generated data and shorebased-generated data, including very large data sets.

## **5. Meeting Close**

Gail and Lisa concluded the meeting by thanking the members rotating off of the panel: Jorge Figueiredo, Maria Angela Bassetti, Adelia Delacour, and Kazuyo Tachikawa. The next meeting will be hosted by the IODP Science Support Office in July 2021; the meeting is currently planned to take place at the Scripps Institution of Oceanography, but virtual access will be provided if travel restrictions are still in place.