

**FUTURE Workshop**  
**“Future of US Marine Seafloor and Sub-Seafloor Sampling Capabilities Workshop”**

**Synopsis:**

The NSF-OCE supported “Future of US Marine Seafloor and Sub-Seafloor Sampling Capabilities Workshop” will be held in Woods Hole, MA from 26-28 March 2024. The goal of the workshop is to discuss critical science questions for the near- to intermediate future, familiarize participants with both the state-of-the-art and the future of seafloor sampling capabilities, and publish a workshop synthesis for a broader community.

Participants will explore approaches to seafloor and sub-seafloor sampling within and beyond US oceanographic assets, including but not limited to rock, sediment, gas, fluid, and (micro)biological sampling, based on their primary science questions. The workshop will familiarize the participants with existing technologies and sample/data repositories that are currently available to support NSF science, and develop clear forward-thinking facility plans that meet present and future requirements. Discussions will have a strong focus on matching critical science questions and goals identified by the community with technological capabilities that could be deployed over-the-side from existing and/or near-future vessels operating in the NSF/UNOLS system (<https://www.unols.org/>).

**On-campus Wi-Fi connection options:**

1. *Eduroam* available (and best stable)
2. *WHOI Guest* with password: **canyon4172**

**For virtual participants:**

**The Zoom link for remote participants will be available starting ~07:45 AM EST. We will use the same zoom link for plenary and breakout sessions everyday throughout workshop.**

Topic: Future of US Marine Seafloor and Subseafloor Sampling Capabilities Workshop

<https://whoi-edu.zoom.us/j/925Rid95724238?pwd=Wm03ZUIXT1kxbUs1SmpGWFdYSnBWUT09>

Meeting ID: 925 9572 4238

Passcode: FuTuRe24!

One tap mobile

+16465588656,,92595724238#,,,,\*408061318# US (New York)

+16469313860,,92595724238#,,,,\*408061318# US

Dial by your location

- +1 646 558 8656 US (New York) • +1 646 931 3860 US • +1 301 715 8592 US (Washington DC) • +1 305 224 1968 US • +1 309 205 3325 US
- +1 312 626 6799 US (Chicago) • +1 507 473 4847 US • +1 564 217 2000 US • +1 669 444 9171 US • +1 669 900 6833 US (San Jose)
- +1 689 278 1000 US • +1 719 359 4580 US • +1 253 205 0468 US • +1 253 215 8782 US (Tacoma) • +1 346 248 7799 US (Houston)
- +1 360 209 5623 US • +1 386 347 5053 US

**Meeting ID: 925 9572 4238**

**Passcode: 408061318**

Find your local number: <https://whoi-edu.zoom.us/u/akCipllTc>

Join by SIP. 92595724238@128.128.247.81

Join by H.323. 128.128.247.81

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### **Travel to WHOI**

Any air/train related travel inquiries, contact:

Janet Allen (janet@commtravel.com)

Cc: Charlie Piltzecker ([charles.piltzecker@whoi.edu](mailto:charles.piltzecker@whoi.edu)) and Masako Tominaga ([mtominaga@whoi.edu](mailto:mtominaga@whoi.edu))

Other travel related inquiries including expense reimbursement, contact:

Charlie Piltzecker ([charles.piltzecker@whoi.edu](mailto:charles.piltzecker@whoi.edu)) and Masako Tominaga ([mtominaga@whoi.edu](mailto:mtominaga@whoi.edu))

*\*Reimbursement instructions will be provided to individual email addresses after conference end*

Lodging specific inquiries, contact:

Sally Houghton ([shoughton@whoi.edu](mailto:shoughton@whoi.edu)) and Masako Tominaga ([mtominaga@whoi.edu](mailto:mtominaga@whoi.edu))

### **Access to the Workshop venues at WHOI Campus (pls see Map.1 and .2)**

Parking info for those who will be driving rental cars:

\*To reduce the local carbon footprint, car-pool is strongly encouraged (this has been already communicated with those who will stay at Holiday Inn).

**\*Parking permit is required to part on WHOI campus parking lots indicated in Map.1 and 2.** Please pick up the permit in the morning of Day-1 at the registration table and place it in the car asap/before the plenary session will be commenced.

**Shuttle services** for those who will be staying at Inn on the Square (without rental cars):

For the beginning of Day 1, 2, and 3 (March 26, March 27, and March 28):

\*WHOI shuttle will be run between Inn on the Square <-> Redfield (Day-1)/Clark bld. (Day-2 and -3) starting at 7:20am-8:20am.

For the Day 1 (3/26) reception/poster session:

\*WHOI shuttle will be run between Redfield and AVAST/David Center starting at 5pm ~

\*White Tie shuttle will be run between AVAST/David Center to Inn on the Square 7:30pm~

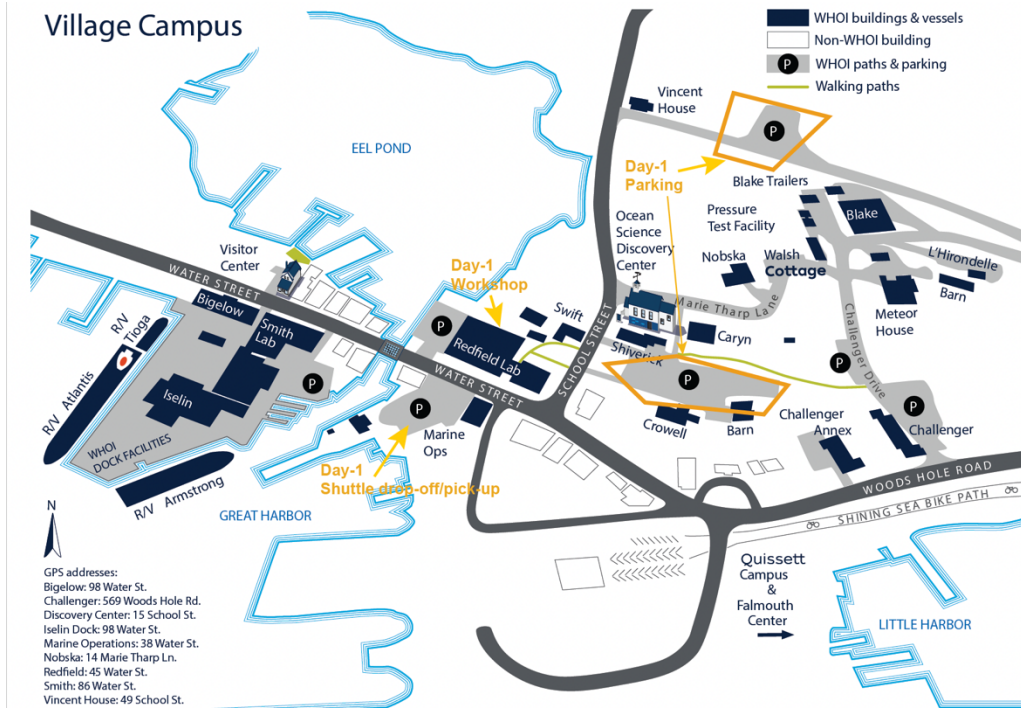
For the end of Day 2 (3/27):

\*White Tie shuttle will be run between Clark and Inn on the Square starting at 4pm ~

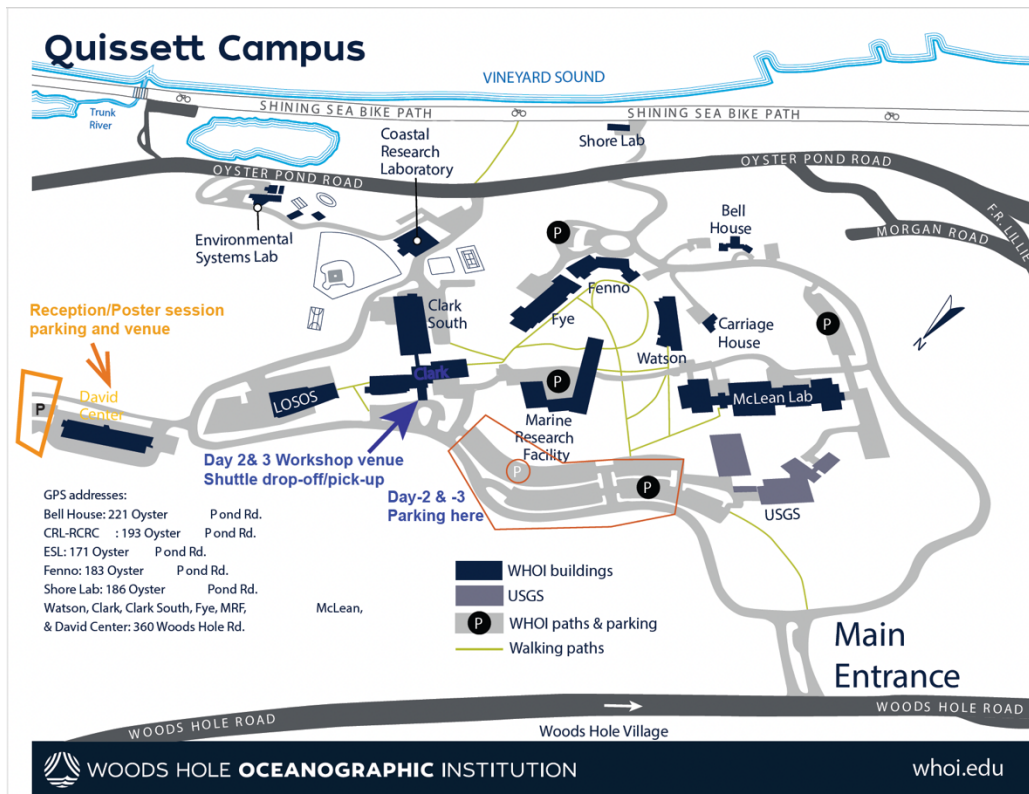
For the end of Day 3 (3/28):

\*WHOI Shuttle will run between WHOI (Clark) and Peter Ban Bus Station

\* White Tie shuttle will be run between Clark and Inn on the Square for 12:30pm-3pm



Map 1. Day 1 parking + workshop venue.



Map 2. Day-1 Reception/Poster Session parking and Day-2 & 3 venue and parking info.

**Rooms will be available during the workshop in supporting participants' privacy for their/family-/child-care needs.**

**Village Campus (Day 1):**

Redfield Rm 245: This is a dedicated "Women's Lounge" – a private space to pump, nurse, or rest.

**Quissett Campus (Day 2 and 3):**

LOSOS building 1st floor: 2 gender-less, private bathrooms with shower, faucet, bench, and a large floor space.

Clark Rm. 325: This is a dedicated nursing room (with a microwave available).

Clark *2nd floor* bathroom (near the main entrance): The bathroom has a lock to make it a gender neutral, and/or a private room with toilet and faucet.

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## Day-1 (March 26)

### “Current seafloor sampling capabilities within the UNOLS Academic Research Fleet (ARF) system”

Redfield Auditorium, WHOI Village Campus (see the [Map 1](#) for Shuttle drop-off + Parking instructions)

07:30~ Breakfast + badge (parking permit) pick-up + poster drop-off

08:30-08:40 Opening remarks (Dr. Rick Murray, WHOI-DDVPSE)

08:40-09:00 Introductions/logistics, and the code of conduct, intro of agencies, facilities/engineers, etc. (Tominaga)

### Key notes I: The Legacy and Challenges of Seafloor Sampling

[Keynotes format: 15 min. Talk, and 5 min. Q&A and transition to the next talk]

**Session chair: Kevin Konrad, Zoom Q&A moderators: Sarah Beethe**

09:00-09:15 Title TBA re: Coring/sediment sampling (Dr. Alan Mix, Oregon State Univ.)

09:20-09:35 Title TBA re: Dredging/rock sampling (Dr. Dan Fornari, WHOI)

09:40-09:55 “Discoveries and opportunities in illuminating Geohazards: The essential role of seafloor and subseafloor sampling and monitoring” (Dr. Demian Saffer, UTIG, Univ. Texas, Austin)

10:00-10:15 “Exploration and discovery in Gulf of Mexico hypersaline brines”  
(Dr. Mandy Joye, Univ. Georgia) [Remote]

-Break-

### Key notes II: The State of Seafloor Sampling

**Session chair: Kevin Konrad, Zoom Q&A moderators: Sarah Beethe**

10:30-10:45 Coring/sediment sampling (Dr. Mo Walczak, Oregon State Univ.)

10:50-11:05 “A Brief Overview of Current US Seafloor Rock Sampling Infrastructure” (Dr. Kevin Konrad, Univ. Nevada, LV)

11:30-11:45 “Sampling fluids and volatiles at and below the seafloor” (Dr. Susan Lang, WHOI)

11:50-12:05 ROV/HOV Alvin (microbe) (Dr. Matt Schrenk, Michigan State Univ.)

12:10-12:25 Seafloor samples archives/database introduction (Dr. Brendan Reilly, LDEO Columbia Univ.)

12:30-13:15 Lunch

### Afternoon:

13:15-13:30 Intro for breakout sessions “Critical science questions that require seafloor sampling”

**Session chair: Brendan Reilly**

14:00-16:00 Breakout sessions (6 groups + 1 virtual session)

16:20-17:00 Plenary session: report out, start taking shuttle to AVAST/David Center (poster presenters first)

**Session Chair: Mo Walczak**

AVAST/David Center (WHOI Quissett Campus. See the [Map 2](#): Shuttle drop-off + Parking instructions)

17:30-20:30 Reception and Poster Session

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**Day-2 (March 27)**

**“Present and FUTURE science community needs for seafloor sampling”**

**Clark 507, WHOI Quissett Campus (see the Map 2: Shuttle drop-off + Parking instructions)**

07:30~ Breakfast

**Key notes III: Current and Future Infrastructure Needs**

[Keynotes format: 15 min. Talk, and 5 min. Q&A and transition to the next talk]

**Session chair: Matt Schrenk Zoom Q&A moderators: Ally Peccia**

8:30-8:45 “Getting what we need in the U.S. Academic Research Fleet” (Bruce Appelgate, UNOLS Chair-elect, Scripps Institution of Oceanography)

08:50-09:05 Title TBA re: NSF MARSSAM (MARSSAM, Oregon State Univ.) [Remote]

09:10-09:25 “Tension Member Considerations for Seafloor and Subseafloor Sampling”  
NSF Wire Pool (Mr. Rick Trask, WHOI)

0930-10:20 National Deep Submergence Facility AUV Sentry, ROV Jason & HOV Alvin programs  
(Messrs. Sean Kelley, Matt Heintz, and Bruce Strickrott, NDSF-WHOI)

-Break-

10:30-10:45 “OOI Regional Cabled Array: Nearing 10 Years of Real-Time Ocean Observations”  
(Princ. Eng., Dana Manalang, Univ. Washington)

10:50-11:05 title TBA re: CORK/borehole observatory (Dr. Patrick Fulton, Cornell Univ.)

**Key notes IV: Extra-UNOLS capabilities**

**Session chair: Matt Schrenk Zoom Q&A moderators: Ally Peccia**

11:10-11:25 Lander Based Seafloor Drill (Mr. Ross Hein, Leidos, USAP)

11:30-11:45 MeBO (Dr. Tim Freudenthal, MARUM, Germany)

11:50-12:05 R/V Kaimei and seafloor sampling capabilities (Dr. Nobu Eguchi/Mr. Itaru Kawama,  
MarE3/JAMSTEC)

12:10-12:25 SWAIS-2C (Dr. Molly Patterson, Binghamton University)

12:30-13:15 Lunch

**Afternoon:**

13:15-13:30 Intro for breakout sessions **“Aligning seafloor sampling technology with critical science questions “**

**Session chair: Masako Tominaga**

14:00-16:00 Breakout sessions (6 groups + 1 virtual session)

16:20-17:00 Plenary session: report out, start taking shuttle to AVAST/David Center (poster presenters first)

**Session Chair: Mo Walczak**

17:00 Workshop Day-2 adjourn

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**Day-3 (March 28)**

**“Present and FUTURE science community needs for seafloor sampling”**

**Clark 507, WHOI Quissett Campus (see the [Map 2](#): Shuttle drop-off + Parking instructions)**

07:30~

Breakfast

08:30-09:00

Summary from Day-1 and Day-2. Introduction to workshop report/publication.

**Session chair: Mo Walczak**

09:00-09:30

Sample repository and database: accessibility of samples and data recovered/discovered

**Session chair: Brendan Reilly**

09:30-10:15

Cruise/Proposal Primer with NSF and Q&A [science (particularly cruise) proposal process with current marine seafloor/subseafloor sampling capabilities.]

**(Dr. Gail Christeson, NSF-OCE [Moderator Tominaga])**

-Break-

10:30-12:00

Final discussion – science pushes technology, technology pushes science. Science goals and technology needs. All-hands, open-microphone session.

**Session chair: Matt Schrenk and Kevin Konrad**

12:00~

End of formal program. Lunch will be available and free form discussion – conveners and report writers will be available to take more notes.

13:00-17:00

Report writing hackathon [FUTURE 2024 Conveners and the contributing writers]

**[Moderator Tominaga]**

*The report draft will be shared for the open-comment period with all the participants for the April – May timeframe.*

### **Breakout Sessions plans:**

In-person participants are assigned to one of the 6 breakout session groups for the Day-1 and -2. The groups are designed to broadly encapsulate science targets but not to limit the freedom of expansion beyond their group title. Participants should be open-minded and freely explore their science questions and technologies that are necessary to address the questions with their session peers. [Bold letters: session chair/co-chair, \*\*: note takers]

The session chairs will report out the summary of the breakout discussion in the plenary session. The chairs and note takers will be also leading the writing sessions in Day-3 afternoon.

### **DAY 1: Critical science questions that require seafloor sampling**

The goal of this first breakout session is to identify and document the critical science questions workshop participants are most interested in. Technological considerations will be discussed on Day 2, so participants are encouraged to focus on the motivating scientific questions and objectives that guide their research irrespective of if those goals are feasible with current US marine geology infrastructure. The breakout session will begin with introductions and will encourage all participants, particularly early career researchers, to share their overarching research interests. All groups are given a common set of questions to help guide this discussion.

- 1) What is the spatial and temporal extent that define your research questions?
- 2) What are the components (e.g., what bugs, muds, etc...) of your system?
- 3) Are you satisfied by the current sample coverage of the spatial/temporal environment where your science targets are located? If not, what is lacking?
- 4) How are current repositories and databases used to address your science questions?
- 5) What is the justification for acquiring new materials?
- 6) What are the science questions that can be addressed now (5 - 10 years) versus longer timescales (10-20+ years)?

### **DAY 2: Aligning seafloor sampling technology with critical science questions**

The goal of this second breakout session is to identify and document what tools, technologies, and resources are required to address the critical science questions discussed on Day 1. Participants are encouraged to consider both currently available and new technologies that could be deployed 'over-the-side' from research vessels within and beyond the present US Academic Research Fleet. All groups are given a common set of questions to help guide this discussion.

- 1) What currently available tools, technologies, and resources are essential to your research?
- 2) Are there tools, technologies, or resources for which the technology already exists (e.g., existed in the past, utilized by other countries) that are needed to address your critical science questions?
- 3) What are these largest challenges to acquiring the types of samples required for your research, from the smallest scales (e.g. DNA from a bug), to regional scales (e.g. characterization of complex depositional systems), to ephemeral properties (e.g. preserving redox chemistry of the seafloor)?
- 4) Given current US resources, to what extent are you capable of obtaining the materials needed to address your science goals? If capabilities are lacking, what is the justification for acquiring or developing new technologies?
- 5) What types of sample curation, preservation, and data system infrastructure are needed to maximize the benefit of seafloor sampling campaigns? To what extent can existing resources be used? What new approaches or resources should be developed?



Ocean-Seafloor Interfaces Science

<b>Matt Schrenk</b>	MSU
<b>Kassandra Costa</b>	WHOI
Aldiyar Mukhatzhanov	Rutgers University
Amber Boettiger	Scripps Institute of Oceanography
Andrew Steen	U. Tennessee / U. Southern California
Ann Dunlea	WHOI
Bruce Strickrott	HOV Alvin Program National Deep Submergence Facility
Charna Meth	Scripps Institution of Oceanography
Chris Conroy	University of New Haven (LISMaRC)
Elizabeth Sibert	WHOI
Emily Wei	Louisiana State University
Hanna Bridgham	FAU Harbor Branch Oceanographic Institute
Karen Merritt	Maine Maritime Academy
Katherine Squires	MIT-Woods Hole Oceanographic Institution Joint Program
Laura Wehrmann	Stony Brook University
Mandy Joye	University of Georgia
Mohammed Hashim**	WHOI
Rebecca Robinson	University of Rhode Island
Sami Cargill**	Oregon State University
Sunita Shah Walter	University of Delaware
Tim Shank	WHOI
Xinyuan Zheng	University of Minnesota
Yean Das	University of Southern Mississippi

Deep Crust Processes Science

<b>Brandon Dugan</b>	Colorado School of Mines
<b>Hiroko Kitajima</b>	Texas A&M University
Alice Staro	Boston University
Brandi Kiel Reese	Dauphin Island Sea Lab/University of South Alabama
Demian Saffer	UTIG
Itaru Kawama	JAMSTEC
Jason Chaytor	U.S. Geological Survey
Justin Dodd	Northern Illinois University
Lowell Stott	University of Southern California
Man-Yin Tsang**	University of Washington
Mark Leung	Bureau of Ocean Energy Management
Melody Lindsay**	Bigelow Laboratory for Ocean Sciences
Nobu Eguchi	MarE3/JAMSTEC
Patrick Fulton	Cornell University
Sarina Mitchell	The University of Tennessee, Knoxville
Sean Higgins	LDEO
Tim Freudenthal	MARUM

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Climate -Anthropogenic Activities Science

<b>Maureen Walczak</b>	Oregon State University
<b>Jeff Donnelly</b>	WHOI
Amy Gusick	Natural History Museum Los Angeles County
Anya Hess	WHOI
Brianna Hoegler	Brown University
Brittany Hupp	George Mason University
Camilo Ponton	Western Washington University
Celeste Pallone**	Lamont-Doherty Earth Observatory, Columbia University
Chris Lowery	University of Texas Institute for Geophysics
Clint Edrington	Northern Gulf Institute / NOAA National Centers for Environmental Information
Dan McCorkle	WHOI
Deepa Dwyer**	Oregon State University
Jesse Farmer	University of Massachusetts Boston
Jordan Todes	University of Chicago
Margaret Morris	UC San Diego, Scripps Institution of Oceanography
Peggy Delaney	UC Santa Cruz
Peter Chutcharavan	University of Minnesota - Twin Cities
Rick Trask	NSF Wire Pool
Rosaura J. Chapina	NOAA Ocean Exploration
Shannon Klotsko	University of North Carolina Wilmington
Stephanie Dohner	Naval Research Laboratory
Yi Wang	Tulane University

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Ridge-Axis Processes Science

<b>Julie Huber</b>	WHOI
<b>Lucien Nana Yobo</b>	Texas A&M University
Ally Peccia	Columbia University, Lamont-Doherty Earth Observatory
Alysia Cox	Montana Technological University
Andrew Cross	WHOI
Anna Michel	WHOI
Ben Urann	WHOI
Dan Fornari	WHOI (Day-1)
Dana Manalang	University of Washington
Deborah Eason	University of Hawaii at Manoa
Frieder Klein	WHOI
Haley Cabaniss	College of Charleston
Jeff Seewald	WHOI
John Ajayi	University of Connecticut
Jordyn Robare**	Arizona State University
Kenna Rubin	Graduate School of Oceanography, URI
Kristin Dickerson	University of California, Santa Cruz
Matt Heintz	WHOI
Michael Rappe	University of Hawaii Manoa
Molly Anderson	WHOI
Namitha Kumar**	WHOI
Olivia Nigro	Hawaii Pacific University
Saebyul Choe	Columbia University - LDEO
Susan Humphris	WHOI
Susan Lang	WHOI
Vicki Ferrini	Columbia University - LDEO

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Solid Earth Processes Science

**Kevin Konrad** UNLV  
**Maurice Tivey** WHOI

Agno Rubim de Assis University of Southern Mississippi  
Andrea Balbas California State University Long Beach  
Andrea Thomer University of Arizona  
Bruce Applegate Scripps Institution of Oceanography  
Dan Fornari WHOI (Day-2)  
Denali Kincaid Pennsylvania State University  
Geoff Wheat University of Alaska Fairbanks  
Janine Andrys Boise State University  
Jeff Obelcz NRL-SSC  
Jianhua Gong Indiana University  
Kuan-Yu Lin University of Delaware  
Lauren Harrison Colorado State University  
Peng Jiang University of Hawaii at Mānoa  
Rudi Lien\*\* University of Oregon  
Sarah Beethe\*\* Oregon State University  
Sean Kelley WHOI  
Thomas Morrow NOAA Ocean Exploration  
Valerie Finlayson University of Maryland College Park  
Victoria Preston Northeastern University  
Vincent Salters Florida State University

High Latitude Science

**Brendan Reilly** LDEO  
**Kurt Panter** Bowling Green State University  
Alan Mix Oregon State University  
Alice Doyle UNOLS - ARV subcommittee  
Bumsoo Kim Brown University  
Claire Jasper Lamont-Doherty Earth Observatory, Columbia University  
Danny W. Anderson Brown University  
Erica Maletic Polar Rock Repository (supported by NSF)  
Ethan Roth University of Alaska, Fairbanks  
Holly Bik University of Georgia  
Isabel Dove University of Rhode Island, Graduate School of Oceanography  
John Jaeger University of Florida  
Julia Wellner University of Houston  
Katherine Stelling\*\* Oregon State University  
Larry Krissek Ohio State University  
Molly Patteron SUNY Binghamton  
Nicole Greco University of Florida  
Olga Libman-Roshal\*\* Montclair State University  
Ross Hein US Antarctic Program/Leidos  
Stefanie Brachfeld Montclair State University  
Thomas Ronge JRSO-IODP Texas A&M University

Interdisciplinary Ocean Sciences (Virtual Room)

<b>Matt Jackson*</b>	UC Santa Barbara
<b>Daniel Heaton*</b>	Oregon State University
Alex Hangsterfer	Scripps Institution of Oceanography
Allyson Tessin	Kent State University
Amy Leventer	Colgate University
Andressa Nauter Alves	University of Rochester
Ashley Marranzino	NOAA Ocean Exploration
Beatriz Mejia-Mercado	Florida State University Coastal and Marine Lab
Bernard Coakley	University of Alaska
Brandon Shuck	Lamont-Doherty Earth Observatory
Chris Ritter	GFOE
Chris Fanshier	Oregon State University
Chris German	WHOI
Daryl Swensen	Oregon State University
Danielle Cares	University of Rhode Island, GSO
Dan Powers	USGS
David Lovalvo	GFOE
Desmond Yeo	Brown University
Sushmitha TJ	National Institute of Ocean Technology, Govt. of India
Elva Escobar	Universidad Nacional Autónoma de México
Isaac Bondzie-Selby	University of Southern Mississippi
James Broda	Woods Hole Oceanographic Institution
Jeanette deCuba	Binghamton University
Jennifer Biddle	University of Delaware
Jesse Scholpp	University of Tennessee
Johanna Weston	WHOI
Jonas Preine	University of Hamburg
Jon Mefford	GFOE
Karl McLetchie	GFOE
Katie Bigham	University of Washington
Katherine Inderbitzen	currently unaffiliated
Kenneth R. Rosen	Simon & Schuster
Kira Mizell	USGS
Lars Murphy	GFOE
Levi Unema	GFOE
Lindsey Monito	Univ Florida
Lloyd Keigwin	WHOI
Luan Heywood	University of Washington
Lucah Davis	HPU
Luis Altamirano	The University of Southern Mississippi
Mabel Zhang	Open Robotics team at Intrinsic
Marcus Chaknova	University of Oregon
Mark Krippner	Sartell - St. Stephen High School
Max Titcomb	Scripps Institution of Oceanography
Murray Stokes	Texas A&M University
Nicole Raineault	Florida Institute of Oceanography
Nimah Osho-Abdulgafar	University of Southern Mississippi
Patrick Rafter	University of South Florida

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Pete Barry	WHOI
Pete Dal Ferro	USGS
Peter Davidson	GEOMAR Helmholtz Centre for Ocean Research
Robert Mohr	GFOE
Sarah Mayer	University of Rhode Island
Scott Wieman	WHOI
Sean Jungbluth	San Francisco State University
Sean Kennison	GFOE
Sean Toczko	JAMSTEC/MarE3
Sharon Cooper	Lamont Doherty Earth Observatory
Sierra Landreth	Florida State University
Steven Clemens	Brown University
Susannah Cogburn	Florida Gulf Coast University
Tiago Jose Pereira	University of Georgia
VijayaRaghavan Rangamaran	National Institute of Ocean Technology, India
Viviane dos Santos Rocha	Northern Illinois University
William Moffatt	University of Oklahoma
Yakup Niyazi	The University of Western Australia

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**Poster Session (full list TBD):**

*A 21st Century Look at Mass Transport on the Subaqueous Delta of the Mississippi River*

Emily Wei, Louisiana State University

*A multivehicle approach for ecological characterization*

Agno Rubim de Assis, University of Southern Mississippi

*Abyssal peridotites from different tectonic regimes record contrasting closure temperatures and cooling rates*

Kuan Yu Lin, University of Delaware

*Bathymetric evidence of ice grounding and retreat from an inter-ice stream margin, west Greenland*

Shannon Klotsko, University of North Carolina Wilmington

*Deep, Hot, Barite-forming Fluid in the Nankai Accretionary Prism*

Man-Yin Tsang, University of Washington

*Determining the strength of the oceanic lithosphere: a geochemical and microstructural*

*Investigation of ODP Hole 735B, Southwest Indian Ridge*

Namitha Kumar, Woods Hole Oceanographic Institution

*Development of Real-Time and Data Processing Software for the Next Generation of Instruments for Heat-Flow Measurements in Sedimented Seafloor*

Kristin Dickerson, University of California, Santa Cruz

*Fish as an indicator of marine ecosystem structure and function in deep time*

Elizabeth Sibert, Woods Hole Oceanographic Institution

*Geochronology of Western Pacific Seamounts: Future Directions for Hardrock Seafloor Sample Acquisition*

Sarah Beethe, Oregon State University

*Geomagnetic Network Analysis (GNA): A new paleomagnetic approach for detailed regional stratigraphic alignment to facilitate development of multi-record chronologies*

Deepa Dwyer, Oregon State University

*Mapping the San Dieguito Paleochannel and Younger Dryas Landscape*

Margaret Morris, Scripps Institute of Oceanography, University of California San Diego

*Renewed Volcanism at the Hawaiian-Emperor Bend at ~31 Ma*

Lauren N. Harrison, Colorado State University

*Rock magnetic tracers of ocean-ice sheet interactions during the Mid-Pleistocene Transition spanning MIS 33-30 in the Scotia Sea, Antarctica*

Olga Libman-Roshal, Montclair State University

*Seismicity near the ridge-transform fault intersections and its implication for fluid flow within oceanic crust*

Jianhua Gong, Indiana University

*Spatiotemporal Variability of Northern Gulf of Mexico Sediment DOC, dFe, Organic Matter, CDOM, and Diffusive Flux*

Hanna Bridgham, FAU Harbor Branch Oceanographic Institute

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*Submarine volcanic terraces at the base of the Galápagos Archipelago- New Field studies using Alvin and multibeam mapping*

Janine Andrys, Boise State University

*The Reykjanes Ridge-Plume System Deep Biosphere: Initial Results from IODP Expeditions 395 and 395C*

Melody Lindsay, Bigelow Laboratory for Ocean Sciences

*Trace element proxies in olivine reveal the 'missing pyroxenite' and metasomatism in the mantle beneath the East Pacific Rise*

Peng Jiang, University of Hawai'i at Mānoa

*Taking CT to Sea: Real-time input from 3D Computed Tomography while coring west Greenland deglacial sediments*

Katherine Stelling, Oregon State University

*Variability of Antarctic Iceberg Rafted Debris Fluxes in the Heart of "Iceberg Alley" before and during the mid Pleistocene Transition*

Claire Jasper, Lamont-Doherty Earth Observatory, Columbia University

*When, Where, and How Much Arctic Sea Ice Was Present in the Past: Insights from Multiple Sea Ice Proxies in Ocean Drilling Sediments*

Bumsoo Kim, Brown University

*\*\*Title TBD*

James Broda, Woods Hole Oceanographic Institution