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Integrated Ocean Science & Technology Workshop

An NPS–Stanford Ocean Sciences Collaboration
May 29, 2026, Stanford, CA

AGENDA AT-A-GLANCE

Meeting starts in Press Building, 425 Santa Teresa St. All times in PDT.

8:30 – 9:00	Registration & Coffee
9:00 – 9:20	Welcome
9:20 – 10:30	Lightning Round 1
10:30 – 10:45	Break
10:45 – 11:45	Lightning Round 2
11:45 – 12:00	Working Group Instructions
12:00 – 1:00	Lunch
1:00 – 1:15	Transition to Working Groups
1:15 – 2:40	Working Groups
2:40 – 3:00	Break/Transition
3:00 – 3:30	Working Group Reports
3:30 – 3:40	Kick-off of Research Pitch Session
3:40 – 4:30	Research Pitches
4:30 – 4:45	Next Steps & Conclusion
4:45 – 5:00	Transition to Mitchell Patio/Mitchell Earth Sciences Building
5:00 – 7:00	Poster Session & Social (Mitchell Patio)

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May 29, 2026, Stanford, CA

DETAILED AGENDA

Meeting starts in Press Building, 425 Santa Teresa St. All times in PDT.

8:30 - 9:00	Registration & Coffee
9:00 – 9:20	Welcome Mr. Chuck Litchfield, CAPT USN(ret) Sr Assoc Dean, Stanford Doerr School of Sustainability
9:20 – 10:30	Lightning Round 1 Unless otherwise noted below, each speaker gets 5 minutes: 4 min presentation, 1 minute Q&A.
10:30 – 10:45	Break
10:45 – 11:45	Lightning Round 2 Each speaker gets 5 minutes: 4 min presentation, 1 minute Q&A.

**Italics: non-presenting participants; this accommodates multiple speaker submissions in similar topic areas. Leads are asked to work with non-presenters to ensure collaborative presentations. White rows = Stanford; blue rows = NPS.*

TIME	PRESENTER	TITLE
9:20-9:25	Barbara Simpson	Real-time hybrid simulation for wave-structure interaction problems
9:25-9:30	Lucas Wilcox	Robust, efficient, differentiable, high-order accurate, physics-based models
9:30-9:35	Oliver Fringer	Nonhydrostatic ocean modeling
9:35-9:55	Kevin Smith, *John Joseph, Derek Olson, Oleg Godin, Ernst Uzhansky, Kai Gemba, Paul Leary*	Critical Undersea Infrastructure Protection (CUIP) The Persistent Smart Acoustic Profiler (PSAP): A novel approach to monitoring ocean soundscapes Acoustic remote sensing of sub-bottom rough interfaces using low-frequency multibeam sonar Distributed fiber-optic sensing (DFOS), including distributed acoustic sensing (DAS) Quantifying acoustic pressure sensitivity of a distributed acoustic sensing cable using a controlled sound source The Kauai Beacon source for Thermometry and PNT Autonomous Undersea Awareness with Acoustic Vector Sensors on Gliding Vehicles
9:55-10:00	Jeremy Goldbogen	Whales as Oceanographers and Sentinels of Environmental Change
10:00-10:05	Justin Brown	The Effect of Topographic Roughness on Mesoscale Flows
10:05-10:10	Earle Wilson	The rise and fall of Antarctic sea ice
10:10-10:15	Annie Kroo	Integrated Spectrometer for Optical Stable Carbon Isotope Measurement
10:15-10:20	Jaclyn Kinney	Modeling Biophysical Processes of High Latitude Marine Systems
10:20-10:25	Brooke Weigel	Kelp forests in a changing ocean
10:30-10:45	**BREAK**	

10:45-10:50	Leif Thomas	Submesoscale Processes in the Surface and Bottom Boundary Layers and Their Impacts on Marine Life
10:50-10:55	Stephen Monismith	Observations of nearshore internal waves and their effects on mixing
10:55-11:00	Timour Radko	Concealed Layering in the Upper Arctic
11:00-11:05	Sanjiva Lele	Stirring-induced Turbulence and Sloshing Waves
11:05-11:10	Mark Cutkosky	Robotic Manipulation in the Ocean
11:10-11:15	Ron Giachetti	Autonomous Mobile Mine for Naval Warfare
11:15-11:20	Zerina Kapetanovic	A Lightweight Expendable CTD Microprofiler for Rapid Drone-Based Ocean Sampling
11:20-11:25	Qing Wang, *David Ortiz-Suslow*	Scientific Needs for Innovative Sampling in the Lower Atmosphere and the Upper Ocean Impacts of Ocean Surface Waves and Breaking on the Marine Atmospheric Surface Layer: Recent Progress from Observations
11:25-11:30	Amin Arbabian	Standoff Imaging of Underwater Structures from Airborne Platforms
11:30-11:35	Roberto Szechtman	Robust false-discovery control for high-dimensional ocean sensing and AI pipelines
11:35-11:40	Fiorenza Micheli	Blue innovations: harnessing the data and tech revolution to take the pulse of the ocean
11:40-11:45	**WRAP UP**	

11:45 – 12:00 Working Group Instructions
12:00 – 1:00 Lunch
1:00 – 1:15 Break/Transition to Working Groups

1:15 – 2:40 Working Groups

Working groups are based on Research Pitches (WG 1,2,4) and proposals from participants (WG 5 - 7).

LOCATION + ASSIGNED PARTICIPANTS TO BE INSERTED

1. **Arctic Exploration and Oceanographic Studies** (Gemba/Smith)
   Facilitator: Kai Gemba, Kevin Smith
   Location: Press Room [insert area]
   - Associated with Arctic Exploration with Autonomous Systems Research Pitch (Smith)

2. **Autonomous Systems and Advanced Sensors for Ocean Observations**
   Facilitator: Fio Micheli
   Location: Press Room [insert area]
   - Associated with Underwater Robotics and Advanced Tech for Ocean Observations Research Pitch (Leary/Micheli)
   - Includes Blue innovations: harnessing the data and tech revolution to take the pulse of the ocean (Micheli)
   - Includes New Generation of Submarine Robots (Cutkosky)

3. **[Removed; will be reordered at end following online submissions & WG assignments]**

4. **Critical Undersea Infrastructure Monitoring and Protection** (Simpson)
   Facilitators: Barbara Simpson and Haeyoung Noh
   Location: Press Room [insert area]
   - Associated with Entanglement sensing of deep-water mooring lines Research Pitch (Simpson)
   - Includes Sensing and monitoring marine energy devices (Simpson)

5. **Ocean Modeling**
   Facilitator: Wieslaw Masloski
   Location: Harley Conference Room (?)
   - Includes ocean model development/improvement for sub-seasonal to seasonal to decadal (S2S2D) predictions and predictability (Maslowski)

6. **Coastal Oceanography**
   Facilitators: Rob Dunbar & Dave Ortiz-Suslow
   Location: Braun Geology Corner/Building 320, Room 326
   - Includes Coupling Classical Wind-Driven Coastal Upwelling with Wind Stress and Topostrophy (Ortiz-Suslow)
   - Includes Coastal physical oceanography including turbulence and internal waves (Monismith)

7. **Applications of AI/ML to Larger Oceanographic Data Sets**
   (*SEEKING LEAD*)

2:40 – 3:00 Break/Transition

3:00 – 3:30 Working Group Reports
Groups 4 - 7 are asked to share highlights from their discussions & next steps. (5 minutes each)

3:30 – 3:40	Kickoff of Research Pitch Session Dr. Arun Majumdar Dean, Stanford Doerr School of Sustainability
3:40 - 3:55	Research Pitch 1: Arctic Exploration with Autonomous Systems (NPS POCs: Kevin Smith, Kai Gemba, Nick Durofchalk, Ben Reeder, John Joseph, Wieslaw Maslowski, Jaclyn Kinney; Stanford collaborators TBD)
3:55 - 4:10	Research Proposal Pitch 2: Underwater Robotics and Advanced Tech for Ocean Observations (NPS POCs: Paul Leary, Mara Orescanin, Derek Olson; Stanford POCs: Fiorenza Micheli, Jeremy Goldbogen, Stephen Monismith)
4:10 - 4:25	Research Proposal Pitch 3: Entanglement sensing of deep-water mooring lines (Stanford POC: Barbara Simpson, Haeyoung Noh; NPS collaborators TBD)
4:30 - 4:45	Next Steps & Conclusion
4:45 - 5:00	Transition to Mitchell Patio/Mitchell Earth Sciences Building

5:00 - 7:00 Poster Session & Social
(Mitchell Patio/Mitchell Earth Sciences Building)
Poster leads to be present from 5 - 6 PM.

POSTERS

Kristen Davis (Stanford), Observations of shoaling nonlinear internal waves with Distributed Temperature Sensing (DTS)

Rob Dunbar, Gene Massion, Dave Mucciarone (Stanford): Development of an autonomous bottom-anchored water column profiling float for coastal oceanography

Lyla Englehorn (NPS): NPS Innovation: Naval Innovation Center and Warfare Innovation Continuum

Zerina Kapetanovic, Bill Yen (Stanford): A Lightweight Expendable CTD Microprofiler for Rapid Drone-Based Ocean Sampling

Jaclyn Clement Kinney (NPS): Modeling Biophysical Processes of High Latitude Marine Systems

Annie Kroo (Stanford): Integrated Spectrometer for Optical Stable Carbon Isotope Measurement

Sanjiva Lele, Ryan Hass (Stanford): Stirring-induced Turbulence and Sloshing Waves

William Meng (Stanford), A 256 Element Acoustic Phased Array for Airborne Sonar Imaging in Hydrodynamic Conditions

Joseph Morgan (NPS): An Optimized Mask for Undersea Acoustic Sources

Ella Nightengale-Luhan (NPS): Legal Analysis: Intersection of Advisory Opinions, Executive Orders and UNCLOS

Manu Prakash (Stanford): Low-cost ocean carbon flux monitoring: Mapping biological knobs in sedimentation driven transport

Dave Ortiz-Suslow (NPS): Impacts of Ocean Surface Waves and Breaking on the Marine Atmospheric Surface Layer: Recent Progress from Observation

Brooke Pauken, Oliver Fringer (Stanford): Numerical investigation of sand wave formation by internal solitary waves

Amanda Isabel Vanegas Ledesma (Stanford): Influence of Subsurface Ocean Dynamics in Shaping Blue Whale Foraging Habitat

Qing Wang (NPS): The Development of Atmospheric Boundary Layer Dropsondes

Bill Yen (Stanford): OSPREE: Democratizing Ocean Research Through Low-Cost, Drone-Deployable Wireless Sensors