

Special Sessions – Wednesday

Pacific Salon 1

Ultra-Deep Ocean Science and Enabling Technology (1): Overview

Date: Wednesday 25 September

Time: 8:20-10:00

Location: Pacific Salon 1

Chairs: Kevin Hardy, OCEANS 13 Conference Co-Chair

Interest and excitement in the exploration of the deepest ocean realm was rekindled with James Cameron's heroic solo manned dive in March 2012. This track examines the fundamental scientific questions and the new enabling technologies, both manned and robotic, which make the present day the right time to go deep. Both regular and invited technical papers provide an overview of the science and technology involved with the ultra-deep ocean.

Ultra-Deep Ocean Science and Enabling Technology (2): Science Opportunities and Other Missions

Date: Wednesday 25 September

Time: 10:30-11:50

Location: Pacific Salon 1

Chairs: Robert Wernli, First Centurion Enterprises

In the second Ultra-Deep session, both regular and invited technical papers discuss the science opportunities and other missions focusing on the ultra-deep ocean.

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Ultra-Deep Ocean Science and Enabling Technology (3): Vehicles and Payloads

Date: Wednesday 25 September

Time: 1:20-3:00

Location: Pacific Salon 1

Chairs: Barbara Fletcher, OCEANS 13 Technical Program Chair

In the third Ultra-Deep session, both regular and invited technical papers discuss the vehicle and payload technologies required to reach the ultra-deep ocean.

Research and Technology Needs for Stewardship of the Deep Sea

Date: Wednesday 25 September

Time: 3:30-4:50

Location: Pacific Salon 1

Chairs: Lisa Levin, Scripps Institution of Oceanography

The deep ocean is the largest habitat on the planet; it is also the least known. The deep ocean is increasingly recognized as a vast repository of energy, mineral, fishery and genetic resources. This creates an urgent need for environmental (ideally ecosystem-based) management in this realm. But its remoteness offers technological and economic challenges to discovery, exploitation, monitoring and enforcement of law and policy as it applies to the areas within and beyond national jurisdictions. A panel discussion is proposed to highlight the multisectoral needs for new approaches and technologies that enable us to manage and maintain the integrity of deep ocean ecosystems and their resources. Topics will include: What are the ecosystems and services most vulnerable, and in need of management in the deep ocean? What science needs to be done to properly manage deep-sea resources and ecosystems? What tools and strategies are available for ecosystem-based management of the deep sea? What are the regulatory and jurisdictional challenges and gaps? How can technology aid development, management and enforcement of deep-sea policy?

Special Sessions – Wednesday

Pacific Salon 2

The Blue Economy – The Great Unknown

Date: Wednesday 25 September

Time: 8:20-10:00

Location: Pacific Salon 2

Chair: Michael B. Jones, President, The Maritime Alliance

The Blue Economy is indeed a great unknown as even a consensus definition is elusive. The Maritime Alliance (TMA) takes an expansive view of the Blue Economy – perhaps broader than most others since it covers 14 sectors including desalination & clean water technology. It is hard to “draw a line” between sectors; there is much convergence among sectors; and as most technologies are truly multi-use, they often cut across sectors; they are seen as interwoven.

The Importance of Maritime Technology Clusters

Date: Wednesday 25 September

Time: 10:30-11:50

Location: Pacific Salon 2

Chair: Michael B. Jones, President, The Maritime Alliance

The oceans are our last great frontier and maritime technology clusters around the world are needed to organize the companies and technologies needed to address humankind’s greatest challenges. Clusters draw advantage from connections of interconnected firms and institutions in geographic concentrations. With their focus on the oceans, maritime clusters do not focus on arbitrary 12- or 200-mile boundaries, rather must have an international orientation. Sustainable development of the oceans is a common responsibility and requires enlightened leadership. International collaboration among maritime technology clusters is needed to help meet the world’s challenges.

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International Business Special Session: Technology Innovation to Operate Effectively in the Arctic

Date: Wednesday 25 September

Time: 1:20-3:00

Location: Pacific Salon 2

Chair: Mario Diez, Trade Commissioner, Consulate of Canada

With increased activity levels in the Arctic there are new challenges and demands for technology innovation in this harsh environment. This session focuses on Canadian efforts on marine data collection and transmission requirements and questions in the Arctic from several perspectives including situational awareness, emergency response, science, and sustainable development of the Arctic.

Building Successful Inter-Sector Partnerships with the National Oceanographic Partnership Program (NOPP)

Date: Wednesday 25 September

Time: 3:30-4:50

Location: Pacific Salon 2

Chairs: Nicholas Obolensky, JD, MMA, Special Assistant, Knauss Sea Grant Fellow, NOAA Office of Oceanic and Atmospheric Research

The National Oceanographic Partnership Program (NOPP) was created by Congress in 1997 and was established to promote national goals through improved knowledge of the oceans and to coordinate and strengthen oceanographic efforts in support of those goals by facilitating partnerships among various stakeholders in the community –namely federal agencies, academia, and industry. The NOPP is implemented through the Interagency Working Group on Ocean Partnerships (IWG-OP), which focuses on oceanographic topics that are too big for a single agency to accomplish, cut across multiple missions, and/or require government-private/industry-academic partnership for success.

This special review session will focus on how successful partnerships between members of a variety of sectors within the oceanographic community are created and successfully implemented. It will provide an introduction to the NOPP program and IWG-OP. In the wake of the current state of funding within the scientific community and throughout the United States, the ability to successfully build and implement inter-sector partnerships will be vital to the survival and success of the oceanographic research community. This session is ideal for anyone wanting to learn how to engage additional partners in their work or who want to learn how to reach members of a different sector in the oceanographic community.

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Pacific Salon 3

Analysis, Management, and Distribution of Georeferenced Oceanographic Data and Bathymetry in a Marine Geographic Information System

Date: Wednesday 25 September

Time: 8:20-10:00

Location: Pacific Salon 3

Chairs: Karen Hart, Senior Hydrographic Consultant, CARIS ; Josh Mode, Technical Solutions Provider. CARIS

The workshop will cover how to analyze and manage marine spatial data using CARIS Bathy DataBASE and how to provide data distribution these data via CARIS Spatial Fusion Enterprise. CARIS will demonstrate how to compile and visualize the following spatial data types: oceanographic data such as temperature, salinity, dissolved oxygen, etc. along with bathymetric and topographic surfaces and point clouds, water column imagery including georeferenced gas seeps and dangers to navigation for mariners, geomorphologic slope analysis surfaces, and/or seafloor sediment analysis maps. Spatial compilation of these water column oceanographic data with georeferenced bathymetry and other maps of the seafloor can provide valuable knowledge of any benthic, pelagic, or littoral environment. These tools coupled with the ability to distribute these products via a custom web interface can allow anyone access to marine spatial data.

Students at Sea

Date: Wednesday 25 September

Time: 10:30-11:50

Location: Pacific Salon 3

Chairs: Karlina Merkens, Scripps Institution of Oceanography

Historically, fieldwork and time at sea have been an integral part of an oceanographer's training. Current trends show fewer scientists going to sea as a result of a shrinking science fleet, stagnated budgets, and increasing costs (Kintisch 2013). At-sea training provides a specialized learning environment and valuable at-sea experience in which students can ask their own scientific questions, collect their own data, and apply their own expertise. Current students at Scripps Institution of Oceanography have been participating in a variety of research cruises, including cruises led and executed entirely by students. Cruise locations range from the Gulf of Mexico to Hawaii to waters of the Southern California Bight. Student-led projects on board these cruises concern a wide range of topics from marine mammal and coral reef acoustic studies to environmental impacts on local fishery species.

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In this session, we highlight research done by students, the value of field-driven oceanographic research today, and the need in the US for highly qualified oceanographers in the future.

Wet Diving in the Industrial and Scientific Shallows

Date: Wednesday 25 September

Time: 1:20-3:00

Location: Pacific Salon 3

Chairs: Michael Max, Chair, Diving Committee, Marine Technology Society

Although the focus of diving has tended to follow industry activity into deeper water where wet diving is no longer practicable, a great deal of demand for wet industrial and scientific diving persists. This is because the upper photic zone, including coral reefs are extremely important to biosystems on which a substantial part of our food chain is dependent and because of the increased industrial activity in shallow water including docks, harbors, pipeline and cable terminations on land, and assisting launch and recovery of a myriad of geophysical and sampling apparatus. The focus of this informal meeting is to allow open discussion of the principle methodologies being used today. Suggestions for technology development will be assessed on a cost - benefit analysis.