Final Program

OCEANS 2009 MTS/IEEE Biloxi
Ocean Technology for Our Future: Global and Local Challenges

26-29 October 2009
Mississippi Coast Coliseum
and Convention Center
BILOXI, MISSISSIPPI

marine technology SOCIETY
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Welcome from the Honorary Co-Chairs

On behalf of the OCEANS '09 Conference Committees, we would like to welcome you back to the Mississippi Gulf Coast. Our conference theme "Marine Technology for our Future: Global and Local Challenges" reflects the focus of many companies, agencies, and organizations in acting locally and helping globally. The venue for OCEANS '09 Biloxi was selected based on its rich history in the marine industry. More than two dozen federal government agencies are located near the Mississippi Gulf Coast. With such a concentration of activity comes a plethora of large and small businesses, universities offering marine science and related degrees, research and development opportunities, and the largest concentration of oceanographers than anywhere in the world. We are pleased to offer a top-notch technical program and a high-traffic exhibit hall, as well as conference events that feature a southern flair. We invite you to enjoy the OCEANS '09 Biloxi conference – and everything the Gulf Coast has to offer!

RDML David Titley and Charles Zang
Honorary Co-Chairs

Dear Friends:

On behalf of all Mississippians, Marsha and I are pleased to welcome you to OCEANS 2009. We know you will enjoy warm hospitality in your host city of Biloxi, and we look forward to showcasing the features that our beautiful Gulf Coast region and the entire state of Mississippi have to offer.

Marine technology, ocean sciences and oceanic engineering are areas of particular significance to Mississippi because of our state's location along the Gulf of Mexico. As a member of the Gulf of Mexico Alliance, Mississippi works with the other four Gulf Coast states to discuss public policy issues critical to your industry sectors.

In addition to the state's own marine technology cluster, our state is home to a number of businesses in other technology sectors that support the marine industry. Geospatial and remote sensing technology companies are thriving in the state, particularly on the Gulf Coast, and Mississippi's university research centers are working with both public and private partners on projects relevant to the sector.

By bringing together leading marine science professionals, educators and business leaders, OCEANS 2009 can provide you with valuable opportunities for networking, exchanging ideas and building collaborative partnerships with your peers.

Again, we are pleased to have you visiting our state, and I hope that OCEANS 2009 proves a positive experience that opens new doors of opportunity for you.

Sincerely,

HALEY BARBOUR
Governor, State of Mississippi

Useful Information

Transportation to/from Hotels

Gulf Coast Transportation	800-366-8115
Airport Casino Military Taxi Service	228-596-5220
Biloxi City Cab	228-385-7777
Gulf Coast Checker Cab	228-863-1011
Yellow Cab Company	228-392-1111

Hotel Address

Beau Rivage Resort & Casino (Host Hotel) 228-386-7111
875 Beach Blvd.
Biloxi, MS 39530

Best Western Oak Manor (Student hotel) 228-435-4331
886 Beach Blvd.
Biloxi, MS 39530

Transportation from Hotel to Convention Center

Free bus transportation will be provided from the Beau Rivage to the Convention Center. Those staying at the Best Western can cross the street to board the buses.

Convention Center Information

Mississippi Coast Coliseum and
Convention Center 228-594-3700
2350 Beach Blvd.
Biloxi, MS 39531
www.mscoastcoliseum.com

Other Useful Information

Local Currency: US Dollar.
Language: English.

Conference Information

Badges
Badges are required for entrance to any conference event. See the Registration Desk for any questions on conference badges or event tickets.

Registration Hours
Sunday, October 25, 12:00 pm – 5:00 pm
Monday, October 26, 7:00 am – 5:00 pm
Tuesday, October 27, 7:00 am – 5:00 pm
Wednesday, October 28, 7:00 am – 5:00 pm
Thursday, October 29, 7:00 am – 12:00 pm

Hospitality Desk Hours
Monday, October 26, 7:00 am – 5:00 pm
Tuesday, October 27, 7:00 am – 5:00 pm
Wednesday, October 28, 7:00 am – 5:00 pm

Tutorials
Monday, October 26, 8:30 am – 4:30 pm

Exhibit Hall Hours
Tuesday, October 27, 8:00 am – 7:00 pm
Wednesday, October 28, 8:00 am – 5:00 pm
Thursday, October 29, 8:00 am – 3:30 pm
Breakdown: Thursday, October 29, 3:30 pm

Technical Session Hours
Technical Sessions are scheduled for Tuesday October 27, Wednesday October 28 and Thursday October 29 during the following hours:
8:30 am – 10:00 am
10:30 am – 12:00 noon
1:30 pm – 3:00 pm
3:30 pm – 5:00 pm

Student Poster Hours
Tuesday, October 27, 1:30 pm – 5:00 pm
Wednesday, October 28, 8:30 am – 12:00 noon

Coffee Breaks
10:00 am and 3:00 pm daily (Tuesday, Wednesday, and Thursday) in the exhibit hall lounges.

Lunches

IEEE/OES Awards Luncheon Tuesday, October 27, 12:00 pm – 1:15 pm
MTS Awards Luncheon Wednesday, October 28, 12:00 pm – 1:15 pm
Exhibit Hall Luncheon Thursday, October 29, 12:00 pm – 1:15 pm

Social Events

Welcome/Ice Breaker Reception, Beau Rivage outdoors by pool, Monday October 26, 5:30 pm – 7:00 pm.

Exhibitor's Reception, Convention Center Exhibit Hall, Tuesday October 27, 5:00 pm – 6:30 pm.

Local Art Show and Sale, Beau Rivage, Camellia Ballroom, Wednesday October 28, 4:00 pm – 7:00 pm.

"OCEANS in Paradise" Gala Reception, Beau Rivage Magnolia Ballroom, Wednesday October 28, 7:00 pm - 10:00 pm.

Gulf Guardian Awards Ceremony, Beau Rivage Magnolia Ballroom, Thursday October 30, 6:00 pm Reception, 7:00 Ceremony. Tickets are $25 and available at the Registration Desk.

Career Fair

MTS will host a Career Fair at the Beau Rivage, Magnolia Ballroom, Monday October 26, 9:00 am – 6:00 pm.

Internet Access

Wireless is provided throughout the Convention Center for your convenience. Computers are available near the Registration Desk. Out of respect for our speakers, computer use is not allowed in technical sessions.

Cell Phone and Camera Use

Cell phone/cell phone camera use and texting are not permitted during technical sessions. Personal cameras are not permitted in the Convention Center. Cameras for press and other agencies wanting publicity photographs can register their camera at the Registration Desk.

Messages

A message board is available near the Registration Desk at the Convention Center.

Tours

All tours leave from and return to the Beau Rivage Hotel. Please arrive 15 minutes prior to departure time. Sign up online at www.hotard.com/oceans2009 or look for our Hospitality Desk at the Convention Center to sign up for your tours!

Emeril's Gulf Coast Fish House Cooking Demo & Lunch

Saturday, October 24
11:00am – 3:00 pm
$65.00 per person
This tour includes round trip motor coach transportation to and from Emeril's Gulf Coast Fish House in the Island View Casino in Gulfport. An exciting cooking demonstration featuring the recipes of noted Chef Emeril Lagasse will be followed by a delicious three-course lunch. Cash bar available.

Bellingrath Home & Garden Tour with Lunch, Mobile Carnival Museum.

Sunday, October 25
8:30 am – 2:30 pm.
$75 per person.
This tour includes round trip motor coach transportation to and from Mobile, Alabama. You'll tour Mobile's Carnival Museum located in Mobile's historic district; dine at Mary's Place, where you'll enjoy great southern hospitality with a huge helping of the best food around. After lunch, you will visit the historic Bellingrath Home and Gardens, the 1935 English Renaissance home featuring original furnishings, and extensive artwork collection, and surrounded by an array of exquisite gardens bursting with fall color.

Captain Mike's Shrimping Trip

Sunday , October 25
2:00 pm – 3:30 pm
$25.00 per person
This tour includes round trip motor coach transportation to and from the Biloxi Small Craft Harbor for a 70-minute marine expedition aboard the authentic shrimping vessel Sailfish with Captain Mike.

Stennis Technical Tour with Lunch

Monday October 26
9:00 am – 4:00 pm
$45 per person
This tour includes round trip motor coach transportation to and from NASA's Stennis Space Center. Stops on the tour will include the StenniSphere Visitors Center, the Maury Library, NOAA's National Data Buoy Center, the Center for Higher Learning's Visualization Laboratory, NASA's space shuttle engine testing stands. The tour includes lunch and presentations by the Navy and Rolls Royce. This tour closed on October 13. No cameras, cell phones, or recording equipment will be allowed on this tour.

Cajun Encounters Swamp Tour with Lunch

Monday October 26
10:30 am – 4:30 pm
$85.00 per person
This tour includes round trip motor coach transportation, with the first stop for lunch at the beautiful La Provence Restaurant in Lacomb, LA, featuring the rich Louisiana traditions of Chef John Besh (cash bar available). After lunch, it's onto the Honey Island Swamp, where you'll board a custom flat bottom swamp boat. On this exciting adventure, you'll get up close and personal with the beautiful scenery and wildlife found only in the swamps of Louisiana. Following the tour, you'll visit Bayou Country Store where you can pick up some unique Cajun souvenirs on the way back to Biloxi.

Ocean Springs Arts & Museum Tour

Tuesday October 27
10:00 am – 2:00 pm
$65.00 per person
This tour includes round trip motor coach transportation to and from Ocean Springs, Mississippi, a quaint southern town. You will tour the Walter Anderson Museum, dedicated to the works of the Ocean Springs native for whom it was named. Lunch and free time for shopping will follow.

Antebellum Biloxi Tour

(lunch included)
October 28
9:00 am – 2:00 pm
$65 per person
This tour includes round trip motor coach transportation to Beauvoir, the post-war home of Confederate President Jefferson Davis; the Ohr-O'Keefe Museum of Art, featuring works by the Biloxi native for whom it was named; and lunch at Mary Mahoney's Old French House Restaurant. Mary Mahoney's is one of the oldest restaurants on the Gulf Coast.

Biloxi Schooner Wine & Cheese Sunset Cruise

Thursday October 29
5:00 pm – 8:00 pm
Cost $45 per person
This tour includes round trip motor coach transportation to the Biloxi Schooner Pier for a beautiful sunset cruise on an authentic replica of a Gulf Coast oyster schooner, the Mike Sekul. Enjoy soft drinks, wine, and an assortment of cheeses as you sail into the setting sun along the Biloxi beachfront.

Steamboat Natchez Cruise with Lunch & Historic New Orleans

Friday October 30
9:00 am – 7:00 pm
$85.00 per person
This full-day tour includes round trip motor coach transportation to New Orleans for a two-hour cruise aboard the Steamboat Natchez on the mighty Mississippi River, including a Creole buffet lunch onboard. After the cruise, you'll learn the history of the Big Easy on a two-hour city tour, followed by free time to explore and shop in the French Quarter, the only mall that's also a museum.

OCEANS '09 Biloxi Opening Ceremony

Tuesday, October 27, 8:30 am – 10:30 am

Mistress and Master of Ceremonies: Laurie Jugan (MTS) and Ed Gough (IEEE)

National Anthem by Bruce Northridge

Welcome by Honorary Co-Chairs:
Charles Zang (Science Applications International Corporation)
CAPT John Cousins (Commander, Naval Meteorology and Oceanography Command)

Welcome by Governor's Office:
Paul Hurst, Office of Mississippi Governor Haley Barbour

Welcome by Sponsor Society (MTS and IEEE) Presidents:
Elizabeth Corbin, MTS President
Jerry Carroll, IEEE/OES President

Plenary Presentations

Dr. Jerry Miller, Senior Scientist for the White House Office of Science and Technology Policy. "Ocean Science and Technology Policy"

Ed Gough, Technical Director of the Commander, Naval Meteorology and Oceanography Command. "Ocean Data at Your Fingertips."

Dr. John Delaney, Professor of Oceanography, University of Washington. "At the Leading Edge of a Global Environmental Renaissance: Next-Generation Science in the Ocean Basins."

Exhibit Hall Ribbon Cutting Ceremony

Plenary Speaker – Dr. Jerry L. Miller. Ph.D.

White House Office of Science and Technology Policy

Dr. Miller is the White House Office of Science and Technology Policy's senior policy expert for ocean science and technology and related matters including aspects of meteorology, remote sensing, and climate change. Previously, Dr. Miller led the Atlantic Meridional Overturning Circulation effort at the US Climate Variability and Predictability program office, a near-term priority of the national Ocean Research Priorities Plan. Prior to that he was Technical Director and Director of Research at the Consortium for Oceanographic Research and Education where he was responsible for the program offices of the US National Oceanographic Partnership Program, the national and international Census of Marine Life programs, and other community-wide activities. He served as the Associate Director for Ocean, Atmosphere, and Space Sciences at the Office of Naval Research – London. At the Naval Research Laboratory, he developed numerical and observational projects focused on coastal environments. He collaborated with experts in microwave remote sensing to create an airborne surface salinity sensor and generated the first remotely-sensed images of sea surface salinity ever obtained. This technology is now slated for launch on both NASA and ESA satellites.

Plenary Speaker – Mr. Edward C. Gough

Deputy Commander, Technical Director, Naval Meteorology and Oceanography

Mr. Edward C. Gough, Jr., joined the Senior Executive Service in August 2003 as the Deputy Commander and Technical Director of the Naval Meteorology and Oceanography Command, where he develops and executes the Navy's operational oceanography program that includes navigation, hydrography, meteorology, oceanography, precise time, and astrometry. Prior to government service, Ed worked at the University of Washington Applied Physics Laboratory for 15 years, where he led two departments and conducted research in Arctic environmental acoustics, tactical implications of oceanographic variability, and adaptive sonar. While at the University of Washington, Mr. Gough also held positions with the U.S. government with the Office of Naval Research as Science Advisor to United States Pacific Command and as Chief of Naval Operations Staff as the Technical Director of the Anti Submarine Warfare Assessment and Requirements Division. Mr. Gough earned a MS in applied mathematics from the University of Virginia, and a BS in ocean engineering from Florida Atlantic University.

Plenary Speaker – John R. Delaney, Ph.D.

University of Washington (UW)

John Delaney is a professor in the School of Oceanography at the University of Washington and a member of the Astrobiology program. He holds the first Jermone M. Paros Endowed Chair in Sensor Networks. Delaney is the Director at UW for the Regional Scale Nodes cabled observatory for the NSF's Ocean Observatory Initiative. UW will design and install the US's first high power and high bandwidth submarine cabled observatory that will allow real time communication 24/7 to hundreds of sensors on the seafloor and throughout the water column. Delaney studied hydrothermal vents for three decades, was involved in numerous sensor development programs, and was a PI on the first Office of Navy Technology-funded program to generate power from hydrothermal vents. He was Chief/Co-Chief Scientist on more than 30 expeditions using the submersible Alvin, robotic vehicles Jason, Ropos, and Tiburon, and the autonomous underwater vehicles ABE and Sentry. Delaney served on numerous national and international committees for the NRC, NASA, NAE, and NSF. He was the founder of the NSF-funded RIDGE program and international InterRidge Program, serving as chair for both programs. He was founder of the NEPTUNE cabled observatory effort, the precursor to NSF's Regional Scale Nodes cabled observatory.

Keynote Speakers

Special addresses will kickoff the OCEANS'09 Biloxi Local Tracks

Opening Address, Coastal Inundation, by Dr. Don Resio, Coastal and Hydraulics Laboratory, US Army Corps of Engineers, Vicksburg, MS

1:30 pm Tuesday 27 October, Room D12

Opening Address, Disaster and Catastrophe Management, by Prof. Harry Roberts, Coastal Studies Institute, Louisiana State University, Baton Rouge, LA

3:30 pm Tuesday 27 October, Room D12

Opening Address, Operational Oceanography, by CAPT Brian Brown, Naval Oceanographic Office

8:30 am Wednesday 28 October, Room D9

Opening Address, Coastal Restoration, by Dr. John Lopez, Lake Pontchartrain Basin Foundation, Metairie, LA

8:30 am Thursday 29 October, Room D12

Keynote Speaker – Donald Resio, Ph.D.

U.S. Army Corps of Engineers

Don Resio is a Senior Research Scientist at the US. Army Coprs of Engineers's Coastal & Hydraulics Laboratory in Vickburg, MS. He is currently involved in the numerical modeling and forensic analysis of Hurrican Katrina. Dr. Resio's work supports the rapid repair of levee breaches and radpidly installed breakwater systems for logisitics over-the-shore operations. He spearheaded new approaches for hurricane risk assessment along US coasts and is extending the approach to estimate hazards for coastal Nuclear Power Plants.

Keynote Speaker – Harry H. Roberts, Ph.D.

Louisiana State Univeristy (LSU)

Harry Roberts is the former director of Coastal Studies Institute at LSU, an emeritus member of the Dept. of Oceanography and Coastal Sciences (School of the Coast and Environment), and a Boyd Professor. His career in marine geology spans more than 40 years; he worked in many foreign countries as well as in the US. Recently, his research focused on three themes: modern deltaic sedimentation and processes, shelf-edge deltas, and surficial geology of the northern Gulf continental slope.

Keynote Speaker – John A. Lopez, Ph.D.

Lake Pontchartrain Basin Foundation

John Lopez is the Director, Coastal Sustainability Program for the Lake Pontchartrain Foundation. He was president of Delta Science and an adjunct Professor at the Univeristy of New Orleans. Lopez worked in for the Army Corps' Coastal Restoration Branch involved in the Coastal Wetlands Planning, Protection, and Resoration Act and LA Coastal Area Programs. Lopez was employed for more than 20 years at Amoco in New Orleans, specializing in fault interpretation and south LA tectonics.

Keynote Speaker – CAPT Brian Brown, USN

Naval Oceanographic Office

CAPT Brian B. Brown graduated in 1986 from the U.S. Naval Academy with a BS in oceanography. He received his MS in oceanography from the Univ. of California in San Diego, and received a MS in meteorology and physical oceanography from the U.S. Naval Postgraduate School in Monterey, CA. He served as a surface warfare officer before transferring to the oceanography community in 1990. He served a number of assignments at sea and ashore before being named Commanding Officer of the Naval Oceanographic Office in 2009.

OCEANS 2009 Town Halls

JSOST Town Hall; Tuesday October 27 10:45 am, Plenary/Town Hall Session Room

Title: Refreshing Our Ocean Research Priorities

Summary:

The U.S. National Science and Technology Council's Joint Subcommittee on Ocean Science and Technology (JSOST) advises the administration on national issues of ocean science and technology. In 2007, JSOST wrote *Charting the Course for Ocean Science in the United States for the Next Decade: An Ocean Research Priorities Plan and Implementation Strategy (Charting the Course for Ocean Science)*. JSOST developed the unique document in conjunction with its federal partners and the broad ocean science community including academia, industry and NGOs.

JSOST and its member agencies have spent the intervening years working on implementation of the four Near-term Priorities (NTPs) presented in *Charting the Course for Ocean Science:* 1) Forecasting the Response of Coastal Ecosystems to Persistent Forcing and Extreme Events; 2) Comparative Analysis of Marine Ecosystem Organization; 3) Sensors for Marine Ecosystems; and 4) Assessing Meridional Overturning Circulation Variability: Implications for Rapid Climate Change. Implementation activities have included using *Charting the Course for Ocean Science* as a point of departure for commissioning a study by the National Research Council on the types of U.S. ocean infrastructure that will facilitate research in 2030.

In the years since *Charting the Course* was released, much has changed in our understanding of the ocean, its processes and its role in the Earth system as a whole. Much has also changed in our ability to access, explore, observe, and model the ocean and its communities. In light of these changes, JSOST has begun the process of refreshing the priorities in *Charting the Course*. During the summer of 2009, public comments were solicited through a Dear Colleague Letter and a Federal Register Notice. This Town Hall will give members of the ocean S&T community an opportunity to provide input into the refresh process, and discuss progress to date with the chairs of JSOST.

IOOS® Town Hall, Wednesday October 28 9:30 am, Room D-8

Title: IOOS® Public-Private Use Policy

Summary:

On 30 March 2009, President Barack Obama signed into law the Integrated Coastal and Ocean Observing Act of 2009. Among the requirements in the Act is a directive to the National Ocean Research Leadership Council to develop a Public-Private Use Policy. This policy will be written to define the processes for making decisions about the roles of the Federal Government, the States, Regional Associations, the academic community and the private sector in providing to end-user communities environmental information, products, technologies and services related to the Integrated Ocean Observation System (IOOS). The IOOS-OOI Track at the OCEANS'09 Biloxi Conference offers an excellent opportunity to hold a Town Hall meeting to discuss this issue and collect inputs.

IOOS has made significant progress in reaching out and including the oceanographic enterprise and its stakeholders. IOOS engages a diverse group and counts among its membership, federal, state, and local governments; universities, and research institutions; private sector businesses; and individual consumers. Much has been achieved in developing the structure, roles, and responsibilities for a national IOOS, especially with regard to the Regional Associations (RAs). The various components each have strengths and weaknesses and it is now an appropriate time to revisit the structure, roles, and responsibilities of this collaborative partnership to ensure that IOOS is optimally aligned to move forward and meet future challenges.

NOAA Town Hall, Thursday October 29 10:30 am, Plenary and Town Hall Session Room

Title: The Future of Ocean and Coastal Mapping with National Ocean Service Assistant Administrator John H. Dunnigan

Summary:

Accurate mapping of the Nation's coastal watersheds, seafloor and lake bottoms is critical to meeting our economic, security, environmental, and social needs. The ocean and coastal mapping community has the collective responsibility to map an enormous area of U.S. jurisdiction, including both the terrestrial and aquatic portions of our coastal watersheds, the Great Lakes, the U.S. exclusive economic zone and territorial waters, and the extended continental shelf. Using current technology and data management techniques, mapping the full extent of this area would take significant additional resources and several decades to complete. Given this challenge, there is an opportunity to lead the development of a bold, partnership-based vision for ocean and coastal mapping that looks 20 to 30 years into the future. The mapping community must develop a plan to collaboratively map U.S. ocean and coastal areas, and use the resulting data to meet the broadest suite of mandates and missions. An integral component of this vision will be catalyzing a technological revolution in all steps in the ocean and coastal mapping process, including data collection, processing, management, dissemination, and the creation of useful products for decision makers.

This Town Hall meeting provides an important opportunity for Mr. Dunnigan to share his thoughts, and to hear participants' views, on the importance of advancing a National vision for the future of ocean and coastal mapping.

TUTORIALS

All OCEANS '09 Biloxi tutorials take place on Monday, October 26. Full day and morning sessions begin at 8:30 am. Half-day sessions that are scheduled for the afternoon begin at 12:30pm. For descriptions of these tutorials, please visit www.oceans09mtsieeebiloxi.org/main.cfm/EID/14/Tutorials/.

T1. Underwater Cables and Connectors for End Users, Room D6
Instructors: Brock Rosenthal, Ocean Innovations; Cal Peters, Falmat Custom Cables; Kevin Hardy. DeepSea Power & Light
Session length: Full Day

T2. Applied Acoustic Digital Signal Processing, Room D7
Instructor: James Candy, University of California, Lawrence Livermore
Session length: Full day

T3. Ocean Wave Measurement and Analysis, Room D4
Instructor: Theodore Mettlach, National Data Buoy Center/ SAIC
Session length: Half day/morning

T4. AUV Technology and Application Basics, Room D5
Instructor: William Kirkwood, Monterey Bay Aquarium Research Institute (MBARI)
Session length: Half day/morning

T5. Acoustic Seabed Classification with Multibeam and Sidescan Images, Room D8
Instructor: Jon Preston, Questar Tangent Corporation
Session length: Half day/morning

T6. An Introduction to Global Positioning Systems (GPS) and Applications, Room D10
Instructor: Bob Swett, University of Florida
Session length – Half day/Morning

T7. Geospatial Web Services - Ocean Data Visualization, Modeling, and Information Management, Room D4

Instructors: Elias Ioup and John Sample, Naval Research Laboratory - Stennis
Session Length: Half-day/afternoon

T8. Pressure Testing: Best Practices, Room D5

Instructors: Kevin Hardy and Steve Wilson, DeepSea Power & Light; Matt James, Southwest Research Institute
Session length: Half day/afternoon

T9. Design of Synthetic Aperture Sonar Systems for High Resolution Seabed Imaging, Room D8

Instructor: Dr Marc Pinto, NATO Undersea Research Center
Session length: Half day/afternoon

T10. Hyperspectral Imaging – A Powerful Synoptic Tool, Room D9

Instructor: Herbert Ripley, Hyperspectral Imaging Limited
Session length: Full day

T11. Sonar Signal - Image Processing, Room D10

Instructor: John Gann, Chesapeake Technology Inc
Length of Session: Half day/afternoon

Google Training Class – Plenary/Town Hall Session Room

Instructor: Mano Marks, Google Geo Developer Advocate
Length of Session: Half day/morning (Note: No CEUs available for this class)
Provided at no cost by the Naval Meteorology and Oceanography Command

OCEANS 2009 Biloxi Program

Tuesday Speakers' Breakfast
Speaker's Room
Tuesday, October 27 (7:30AM - 8:30AM)
Hosts: Richard *Crout, NDBC*
Stephanie Myrick, *Naval Research Laboratory-Stennis*

Opening Ceremony and Plenary Session
Meeting Hall
Tuesday, October 27 (8:30AM - 10:00AM)

Coffee Break
Exhibit Hall
Tuesday, October 27 (10:00AM - 10:30AM)

TOWN HALL JSOST
Meeting Hall
Tuesday, October 27 (10:30AM - 11:45AM)
Co-Chairs: Richard Spinrad, *NOAA OAR*
Jerry Miller, *Office of Science, Technology, and Policy*

IEEE/OES Luncheon
Banquet Hall
Tuesday, October 27 (12:00PM - 1:20PM)

Marine Geology and Geophysics
D-10
Tuesday, October 27 (1:30PM - 3:00PM)
Co-Chairs: Warren Wood, *Naval Research Laboratory-Stennis Space Center*
Michael Richardson, *Naval Research Laboratory-Stennis Space Center*

Strain-rate dependency of strength of soft marine deposits of the Gulf of Mexico
Andrei Abelev, *Naval Research Laboratory*
Philip Valent, *Naval Research Laboratory-Stennis Space Center*

A multidisciplinary sea-floor observatory in MC118, the northern Gulf of Mexico
Thomas McGee, *University of Mississippi*
James Woolsey, *University of Mississippi*
Carol Lutken, *University of Mississippi*

Leonardo Macelloni, *University of Mississippi*
Laura Lapham, *Florida State University*
Brad Battista, *University of South Carolina*
Simona Caruso, *University of Rome, La Sapienza*
Vaughn Goebel, *Lookout Geophysicsal Company*

Thermal diffusivity and strength of tidal flat sediments during a tidal simulation
Allen Reed, *Naval Research Laboratory-Stennis Space Center*
Jennifer Miselis, *Naval Research Laboratory-Stennis Space Center*
Todd Holland, *Naval Research Laboratory-Stennis Space Center*

The Distribution of Gas and Gas Hydrate at Natural Seeps Inferred from Seismic Data
Warren Wood, *Naval Research Laboratory-Stennis Space Center*

Wave-Induced Scour Burial Experiments in Carbonate Sediments near Oahu, Hawaii
Michael Richardson, *Naval Research Laboratory-Stennis Space Center*
Edward Braithwaite, *Naval Research Laboratory-Stennis Space Center*
Paul Elmore, *Naval Research Laboratory-Stennis Space Center*
Roy Wilkens, *University of Hawaii*

Autonomous Underwater Vehicles - 1

D-11
Tuesday, October 27 (1:30PM - 3:00PM)
Co-Chairs: Kenneth Sharp, *Naval Oceanographic Office*
Donald Eickstedt, *Naval Undersea Warfare Center*

The Backseat Control Architecture for Autonomous Robotic Vehicles: A Case Study with the Iver2 AUV
Donald Eickstedt, *Naval Undersea Warfare Center*
Scott Sideleau, *Naval Undersea Warfare Center*

Enabling Autonomous Underwater Vehicles to Reason Hypothetically
Nicodemus Hallin, *University of Idaho, CISR*
Henry Egbo, *University of Idaho, CISR*
Patrick Ray, *University of Idaho, CISR*
Terry Soule, *University of Idaho, CISR*
Michael O'Rourke, *University of Idaho, CISR*
Dean Edwards, *University of Idaho, CISR*

Using Collective Intentionality to Model Fleets of Autonomous Underwater Vehicles
Patrick Ray, *University of Idaho*
Michael O'Rourke, *University of Idaho*
Dean Edwards, *University of Idaho*

A MOOS Module for Autonomous Underwater Vehicle Fleet Control
Clayton Tye, *University of Idaho*
Mark Kinney, *University of Idaho*
James Frenzel, *University of Idaho*
Michael O'Rourke, *University of Idaho*
Dean Edwards, *University of Idaho*

Collaborative search planning for multiple vehicles in nonhomogeneous environments
Thomas Wettergren, *Naval Undersea Warfare Center*
John Baylog, *Naval Undersea Warfare Center*

Inundation Modeling - 1

D-12
Tuesday, October 27 (1:30PM - 3:00PM)
Co-Chairs: Dawn Lavoie, *USGS*
Paul McKay, *Naval Research Laboratory-Stennis Space Center*
Cheryl Ann Blain, *Naval Research Laboratory-Stennis Space Center*

Toward Developing a Hydrodynamic Flow and Inundation Model of the Lower Pearl River
Paul McKay, *Naval Research Laboratory-Stennis Space Center*
Cheryl Ann Blain, *Naval Research Laboratory-Stennis Space Center*

Numerical Modeling of the Lower Mississippi River - Influence of Forcings on Flow Distribution and Impact of Sea Level Rise on the System
Clinton Willson, *Louisiana State University*
Erol Karadogan, *Louisiana State University*
Charlie Berger, *USACE-ERDC, Environmetal Lab*

Modeling the multidimensional & fiscal impacts of storm surge & sea level rise: A compelling view through a powerful interactive 4D data integration, analysis and visualization tool
Christopher Malzone, *NortekUSA*
Jon Marcus, *Myriax Inc*
Tim Pauly, *Myriax Inc*

Array Signal Processing and Array Design - 1

D-2
Tuesday, October 27 (1:30PM - 3:00PM)
Co-Chairs: Milica Stojanovic, *Northeastern University*
John Piper, *Naval Surface Warfare Center Panama City Division*

Underwater Acoustic MIMO OFDM: An Experimental Analysis
Guillem Palou Visa, *Massachusetts Institute of Technology*
Milica Stojanovic, *Northeastern University*

Preprocessor Based on Suprathreshold Stochastic Resonance for Improved Bearing Estimation in Shallow Ocean
Hari Nampoothiri, *Nanyang Technological University*
Anand G.V, *Indian Institute of Science*
Benjamin Premkumar, *Nanyang Technological University*
Madhukumar A.S, *Nanyang Technological University*

Multipath Cancellation Using a Maximum Likelihood Metric Space
John Piper, *Naval Surface Warfare Center Panama City Division*

Aqua-Sim: An NS-2 based Simulator for Underwater Sensor Networks
Peng Xie, *University of Connecticut*
Zhong Zhou, *University of Connecticut*
Zheng Peng, *University of Connecticut*
Hai Yan, *University of Connecticut*
Tiansi Hu, *University of Connecticut*
Jun-Hong Cui, *University of Connecticut*
Zhijie Shi, *University of Connecticut*
Yunsi Fei, *University of Connecticut*
Shengli Zhou, *Univeristy of Connecticut*

Ropes and Tension Members - 1

D-3
Tuesday, October 27 (1:30PM - 3:00PM)
Co-Chairs: Justin Gilmore, *Samson Cordage*
Evan Zimmerman, *Delmar Systems Inc.*

Cyclic Fatigue and Wear in Deepwater Polyester Mooring Systems
Ray Ayers, *Stress Engineering Services*
Saltuk Aksu, *Stress Engineering Services*

High-Temperature Resistant Rope
Neil Fontenot, *Samson Rope*
Amy Solomon, *Teijin Aramid BV*
Otto Grabandt, *Teijin Aramid BV*
Bertil van Berkel, *Teijin Aramid BV*
Deli Kong, *Passive Fire Protection Partners*

Proper Care, Maintenance, and Inspection of Climbing Ropes to Reduce Degradation and Help Determine When to Retire Ropes
Trevor DiMartino, *University of Washington*
Colin Sandwith, *University of Washington*

Buoy Technology - 1

D-4
Tuesday, October 27 (1:30PM - 3:00PM)
Co-Chairs: Chung-Chu Teng, *NOAA NWS NDBC*
Walter Paul, *Woods Hole Oceanographic Institution*
Rick Cole, *University of South Florida*

Development of a NDBC Standard Buoy
Brett Taft, *NOAA NWS NDBC*
Mike Burdette, *NOAA NWS NDBC*
Doug Maxwell, *SAIC*
Rodney Riley, *NOAA NWS NDBC*
Ted Mettlach, *SAIC*
Bill Hansen, *NOAA NWS NDBC*
William Wells, *NOAA Corps*

GATEKEEPER: AN UNTETHERED, PERSISTENT, STATION-KEEPING GATEWAY BUOY
Steven DaSilva, *Falmouth Scientific, Inc.*
John Cleland, *Mil3, Inc.*
Steven Chappell, *Autonomous Underwater Systems Institute*
Mike Graves, *Vehicle Control Technologies, Inc.*

Acoustic Doppler Current Profiler Wave Sentry Buoy
Richard Smith, *QinetiQ North America*
Berry McCormick, *QinetiQ North America*
David McNeal, *QinetiQ North America*

A New Buoy for Oceanographic and Spill Response Applications
John Walpert, *Texas A&M University-GERG*
Norman Guinasso, *Texas A&M University-GERG*
Leslie Bender, *Texas A&M University-GERG*

Data Visualization - 1

D-5
Tuesday, October 27 (1:30PM - 3:00PM)
Co-Chairs: Chad Steed, *Naval Research Laboratory-Stennis Space Center*
Robert Moorhead, *Mississippi State University*

Illustrative Visualization Techniques for Hurricane Advisory Information
Chad Steed, *Naval Research Laboratory-Stennis Space Center*
T.J. Jankun-Kelly, *Mississippi State University*
Edward Swan, *Mississippi State University*

HabitatSpace: Multi dimensional characterization of pelagic essential fish habitat
Sharon Mesick, *NOAA NCDDC*
Tiffany Vance, *NOAA AFSC*
CJ Beegle-Krause, *Applied Science Associates Inc.*
David Stube, *Applied Science Associates Inc.*

Using FlowVis Techniques to Study Ocean Flows
Keqin Wu, *GeoSystems Research Institute, High Performance Computing Collaboratory*
Song Zhang, *GeoSystems Research Institute, High Performance Computing Collaboratory*
Phil Amburn, *GeoSystems Research Institute, High Performance Computing Collaboratory*
Robert Moorhead, *GeoSystems Research Institute, High Performance Computing Collaboratory*

Improving the Understanding of Hurricanes: Visualizing Storm Surge
Derek Irby, *Mississippi State University*
Mahnas Mohammadi-Aragh, *Mississippi State University*
Robert Moorhead, *Mississippi State University*
Phil Amburn, *Mississippi State University*

Geospatial Visualization Using Hardware Accelerated Real-Time Volume Rendering
Michael Berberich, *CERN*
Elton Amburn, *Mississippi State University*
Robert Moorhead, *Mississippi State University*
Jamie Dyer, *Mississippi State University*
Manfred Brill, *University of Applied Sciences Kaiserslautern*

Coastal Radars

D-6
Tuesday, October 27 (1:30PM - 3:00PM)
Co-Chairs: Dennis Trizna, *Imaging Science Research, Inc.*
Malcolm Heron, *James Cook University*

Coherent Microwave Marine Radar Measurements of Directional Ocean Wave Spectra and Mean Current Fields
Dennis Trizna, *Imaging Science Research, Inc.*

Bi-static and multi-frequency experiments of HFSWR
Florent Jangal, *Onera*
Michel Menelle, *Onera*
Valérie Bazin, *Onera*
Gilbert Auffray, *Onera*
Daniel Lecoz, *Onera*

Bistatic HF Ocean Radar: errors and limitations
Malcolm Heron, *James Cook University*
Yves Barbin, *University of Toulon*

Coherent Microwave Marine Radars for Deterministic Wave Profile Mapping, Coastal Current Mapping, and Ocean Wave Spectra Measurements
Dennis Trizna, *Imaging Science Research, Inc.*

E-M Sensing

D-7
Tuesday, October 27 (1:30PM - 3:00PM)
Chair: Will *Avera, Naval Research Laboratory-Stennis Space Center*

UXO Survey using Vector Magnetic Gradiometer on Autonomous Underwater Vehicle
Yuan Hang Pei, *DSO National Laboratories*
Hock Guan Yeo, *DSO National Laboratories*

Electric Diver Detection in Harbor Environments
Ron Lennartsson, *Swedish Defence Research Agency, FOI*
Eva Dalberg, *Swedish Defence Research Agency, FOI*
Tim Fristedt, *Swedish Defence Research Agency, FOI*
Elin Nolander, *Swedish Defence Research Agency, FOI*
Leif Persson, *Swedish Defence Research Agency, FOI*

MAGNETIC NOISE ASSOCIATED WITH OCEAN INTERNAL WAVES
Will Avera, *Naval Research Laboratory-Stennis Space Center*

Patrick Gallacher, *Naval Research Laboratory-Stennis Space Center*
William Teague, *Naval Research Laboratory-Stennis Space Center*
Robert Liang, *Naval Research Laboratory*
Bradley Nelson, *National Research Council Canada*

Hunting Sea Mines with UUV-Based Magnetic and Electro-Optic Sensors
Glenn Sulzberger, *Naval Surface Warfare Center Panama City Division*
John Bono, *Naval Surface Warfare Center Panama City Division*
Ted Clem, *Naval Surface Warfare Center Panama City Division*

US IOOS and OOI - A Broad Look Across the Program

D-8
Tuesday, October 27 (1:30PM - 3:00PM)
Co-Chairs: Zdenka Willis, *NOAA*
Shelby Walker, *NOAA*

US IOOS - Program Update
Zdenka Willis, *NOAA*

The Ocean Observatories Initiative: Scientific Investigation in a Changing Ocean from Anywhere on Earth
Timothy Cowles, *Consortium for Ocean Leadership*
Shelby Walker, *NOAA*
Bauke Houtman, *National Science Foundation*

Enhancing the Gulf of Mexico Coastal Ocean Observing System Regional Association: Activities of the GCOOS Education and Outreach Council
Christina Simoniello, *GCOOS*
Joe Swaykos, *USM Center of Higher Learning*
Robert Swett, *Florida Sea Grant*
Jessica Kastler, *USM Gulf Coast Research Laboratory*
John O'Connell, *Texas Sea Grant*
Ann Jochens, *Texas A&M University*
Michael Spranger, *Florida Sea Grant*
Sharon Walker, *USM J.L. Scott Marine Education Center*

National High Frequency Radar Network: Update
Jack Harlan, *NOAA IOOS Program*
Eric Terrill, *Scripps Institution of Oceanography*
Bill Burnett, *NOAA NWS NDBC*

Operationalizing a sub-regional ocean observing asset for the U.S. Integrated Ocean Observing System (IOOS).
Krish Narasimhan, *Lockheed Martin Corporation*
Brian Cooper, *Lockheed Martin Corporation*
Vembu Subramanian, *University of South Florida*

Student Posters

Central Lobby
Tuesday, October 27 (2:00PM - 6:30PM)
Co-Chairs: Stephan Howden, *University of Southern Mississippi*
Greg Eisman, *SAIC*

Harnessing the SHM of Ocean Waves
Ame(Scott) Arakaki, *University of Hawaii at Manoa*
Reza Ghorbani, *University of Hawaii at Manoa*

Design and Finite Element Analysis of an Ocean Current Turbine Blade
Nicholas Asseff, *Florida Atlantic University*
Hassan Mahfuz, *Florida Atlantic University*

The Design of a Self-propelled Jack-up Drilling Rig for the Chukchi Sea
John Bandas, *Texas A&M University*
Sarah Schlosser, *Texas A&M University*
Sean Finn, *Texas A&M University*
Nathan Garza, *Texas A&M University*
Jeff Phillips, *Texas A&M University*
Andy Lister, *Texas A&M University*

Incorporating Prior Bathymetric Maps with Distributed Particle Bathymetric SLAM for Improved AUV Navigation and Mapping
Stephen Barkby, *Australian Centre for Field Robotics*
Stefan Williams, *Australian Centre for Field Robotics*
Oscar Pizarro, *Australian Centre for Field Robotics*
Michael Jakuba, *Australian Centre for Field Robotics*

Polarimetric Remote Sensing of Ocean Waves
Becky Baxter, *Georgetown University*
Brett Hooper, *Arete Associates*
J. Zandy Williams, *Arete Associates*
John Dugan, *Arete Associates*

Design of an ROV for Precision Sea Floor Vehicle Mobility and Entry in the 2009 MATE International ROV Competition
Samuel Bingham, *University of Wisconsin-Milwaukee*
Trevin Erdmann, *University of Wisconsin-Milwaukee*
Mark Matsen, *University of Wisconsin-Milwaukee*
John Ringstad, *University of Wisconsin-Milwaukee*

Texas A&M Student Design Project - East Central Gulf of Mexico Truss Spar
Clint Dunbar, *Texas A&M University*
Jonathan Cotten, *Texas A&M University*

Distribution of Suspended Particulate Matter in the Surface Waters of the Northern Gulf of Mexico: Interim Report
Sarah Epps, *University of Southern Mississippi*
Steven Lohrenz, *University of Southern Mississippi*
Kevin Martin, *University of Southern Mississippi*
Merritt Tuel, *University of Southern Mississippi*

A New Reliable Minimal Volume/Weight Environmental Friendly Power Unit Design Using Microchannel Vaporizer Fuel Cell Processors and Slice Hulls for Super and Mega Yachts
Girges Fath-Allah, *Alexandria University*
Joule Mikhael, *Alexandria University*

Modeling and Motion Analysis of the MARES Autonomous Underwater Vehicle
Bruno Ferreira, *Engineering of University of Porto*
Miguel Pinto, *Engineering of University of Porto*
Aníbal Matos, *Engineering of University of Porto*
Nuno Cruz, *Engineering of University of Porto*

Adaptive Control of Small Outboard-Powered Boats for Survey Applications
Aaron Fisher, *Florida Atlantic University*
James VanZwieten, *Florida Atlantic University*
Tannen VanZwieten, *NASA Marshall Space Flight Center*

Slocum Glider Observations during the Spring Bloom in the Strait of Georgia
Rowan Fox, *Institute of Ocean Sciences*
Jim Gower, *Institute of Ocean Sciences*
Terry Curran, *Institute of Ocean Sciences*

Design, Construction, and Initial Testing of an Autonomous Surface Vehicle for Riverine and Coastal Reconnaissance
Thomas Furfaro, *Florida Atlantic University*
Jeff Dusek, *Florida Atlantic University*
Karl von Ellenrieder, *Florida Atlantic University*

The impact of hypoxia on bioturbation rates in the Louisiana continental shelf, northern Gulf of Mexico
Valerie Hartmann, *University of Southern Mississippi*
Kevin Briggs, *Naval Research Laboratory-Stennis Space Center*
Shivakumar Shivarudrappa, *University of Southern Mississippi*
Kevin Yeager, *University of Southern Mississippi*
Robert Diaz, *Virginia Institute of Marine Science*

Fuzzy logic based behavior fusion for multi-AUV formation keeping in uncertain ocean environment
Xiaodong Kang, *Shenyang Institute of Automation*
Hongli Xu, *Shenyang Institute of Automation*

Application Scenario of Nautical Ad-hoc Network for Maritime Communications
YoungBum Kim, *Inha University*
JongHun Kim, *Inha University*
YuPeng Wang, *Inha University*
KyungHi Chang, *Inha University*
Jong-Won Park, *MOERI/KORDI*
Yong-Kon Lim, *MOERI/KORDI*

Long-Term Deployment of Liquid-Cooled High Frequency (HF) Radar
William Kirkey, *Clarkson University*
Christopher Fuller, *Texas A&M University*
Temitope Ojo, *Clarkson University*
James Bonner, *Clarkson University*

Design of a Next Generation Surface Piercing Propeller Test Stand
Justin Lorio, *Florida Atlantic University*
Luis Altamirano, *Florida Atlantic University*
Michael Tall, *Florida Atlantic University*
Karl vonEllenrieder, *Florida Atlantic University*

Measuring Coastal Sea-Surface Salinity of the Louisiana Shelf from Aerially Observed Ocean Color
Virgilio Maisonet, *University of Southern Mississippi*
Joel Wesson, *Naval Research Laboratory-Stennis Space Center*
Derek Burrage, *Naval Research Laboratory-Stennis Space*

Center
Stephan Howden, *University of Southern Mississippi*

Minimal Fuel Consumption and Highly Maneuverable Marine Vessels Designed Based on ASAP Hull Technology and Sontag Non-Linear Feedback Stabilization
Joule Mikhael, *Alexandria University*
Girges Fath-Allah, *Alexandria University*

Real-time Environmental Monitoring from a Wind Farm Platform in the Texas Hypoxic Zone
Ruth Mullins, *Texas A&M University*
Steven DiMarco, *Texas A&M University*
Norman Guinasso, *Geochemical and Environmental Research Group (GERG)*
John Walpert, *Geochemical and Environmental Research Group (GERG)*

Marine Mammal Habitat in Ecuador: Seasonal Abundance and Environmental Distribution
Julia O'Hern, *Texas A&M University*
Keith Mullin, *NOAA Southeast Fisheries Science Center*
Kevin Barry, *NOAA National Marine Fisheries Service*
Edwin Uscocovich, *Instituto Oceanográfico de la Armada - INOCAR*

A Preliminary Study of the Influence of Regional Winds on Bering Strait Transport
Chudong Pan, *University of Southern Mississippi*
Dmitri Nechaev, *University of Southern Mississippi*
Gleb Panteleev, *International Arctic Research Center, University of Alaska*

Mixture Theory Model Sensitivity to Effective Viscosity in Simulations of Sandy Bedform Dynamics
Allison Penko, *Naval Research Laboratory-Stennis Space Center*
Joseph Calantoni, *Naval Research Laboratory-Stennis Space Center*
Donald Slinn, *University of Florida*

Using Side Scan Sonar to Relative Navigation
Miguel Pinto, *Engineering of University of Porto*
Bruno Ferreira, *Engineering of University of Porto*
Aníbal Matos, *Engineering of University of Porto*
Nuno Cruz, *Engineering of University of Porto*

Using Qdot conjugates to detect proteins in situ in highly autofluorescent cyanobacterial cells
Shanshan Ren, *University of Southern Mississippi*
Karen Orcutt, *University of Southern Mississippi*
Kjell Gundersen, *University of Southern Mississippi*

Using Acoustic Tomography to Monitor Deep Ocean Currents in the Eastern Gulf of Mexico
David Rosenfield, *University of Southern Mississippi*
Jerald Caruthers, *University of Southern Mississippi*
Dmitri Nechaev, *University of Southern Mississippi*
Natalia Sidorovskaia, *University of Louisiana at Lafayette*
George Ioup, *University of New Orleans*
Juliette Ioup, *University of New Orleans*
Max Yaremchuk, *Naval Research Laboratory-Stennis Space Center*

Visual-Based Navigation of an Autonomous Tugboat
Patrick Rynne, *Florida Atlantic University*
Michael Tall, *Florida Atlantic University*
Justin Lorio, *Florida Atlantic University*
Karl von Ellenrieder, *Florida Atlantic University*

Benthic Community Response to Hypoxia: Baseline Data
Shivakumar Shivarudrappa, *University of Southern Mississippi*
Kevin Briggs, *Naval Research Laboratory-Stennis Space Center*
Valerie Hartmann, *University of Southern Mississippi*

Application of an automatic event-controlled sampler for biological analysis and monitoring: studies on plume tracking in Milwaukee Harbor, Wisconsin
Marcia Silva, *Great Lakes Water Institute*
Francisco Schlenker, *Great Lakes Water Institute*
Samuel Bingham, *Great Lakes Water Institute*
Jessica Chepp, *Great Lakes Water Institute*
David Cox, *Great Lakes Water Institute*

Geotechnical investigations of sandy seafloors using dynamic penetrometers
Nina Stark, *MARUM - University of Bremen*
Sylvia Stegmann, *Ifremer*
Hendrik Hanff, *MARUM - University of Bremen*
Roy Wilkens, *SOEST - University of Hawaii at Manoa*
Achim Kopf, *MARUM - University of Bremen*

Wave energy and public opinion in Oregon, U.S.A.
Maria Stefanovich, *Oregon State University*

Brent Steel, *Oregon State University*
Michael Harte, *Oregon State University*
Denise Lach, *Oregon State University*

Underwater Optical Ranging: A Hybrid LIDAR-RADAR Approach
Dennis Waldron, *Lafayette College*
Linda Mullen, *Naval Air Systems Command*

ARV Navigation and Control System at Arctic Research
Baoju Wu, *Shenyang Institute of Automation, CAS*
Shuo Li, *Shenyang Institute of Automation, CAS*
Xiaohui Wang, *Shenyang Institute of Automation, CAS*
Yiping Li, *Shenyang Institute of Automation, Chinese Academy of Sciences*
Junbao Zeng, *Shenyang Institute of Automation, CAS*

Coffee Break
Exhibit Hall
Tuesday, October 27 (3:00PM - 3:30PM)

Hydrography, Seafloor Mapping, and Geodesy
D-10
Tuesday, October 27 (3:30PM - 5:00PM)
Co-Chairs: Paul Elmore, *Naval Research Laboratory-Stennis Space Center*
Allen Reed, *Naval Research Laboratory-Stennis Space Center*

Navigation system using seafloor geodetic mirror transponders and full-swath mapping system with synthetic aperture and triangle-arrayed interferometry techniques for autonomous underwater vehicle
Akira Asada, *Institute of Industrial Science*
Tamaki Ura, *Institute of Industrial Science*

Preliminary Results of an S5000 V2 Bathymetric Side Scan Sonar
Kenneth Kiesel, *L-3 / Klein Associates*

Uncertainty Estimation of Historical Bathymetric Data from Bayesian Networks
Paul Elmore, *Naval Research Laboratory-Stennis Space Center*
David Fabre, *Naval Oceanographic Office*
Raymond Sawyer, *Naval Oceanographic Office*
R. Wade Ladner, *Naval Oceanographic Office*

Reproducibility as a tool for assessing classification quality
Jon Preston, *Quester Tangent Corp.*
Art Gleason, *University of Miami*
Steve Bloomer, *University of Victoria*

Autonomous Underwater Vehicles - 2

D-11
Tuesday, October 27 (3:30PM - 5:00PM)
Co-Chairs: Art Kleiner, *C&C Technologies*
Peter King, *Memorial University of Newfoundland*

An AUV Fuzzy Obstacle Avoidance Method under Event Feedback Supervision
Hongli Xu, *Shenyang Institute of Automation, CAS*

Obstacle Detection, Avoidance and Anti-Collision for MEREDITH AUV
Ken Teo, *DSO National Laboratories*
Kai Wei Ong, *DSO National Laboratories*
Hoe Chee Lai, *DSO National Laboratories*

Development of a New Unmanned Semi-Submersible (USS) Vehicle
Pete Alleman, *C&C Technologies, Inc.*
Art Kleiner, *C&C Technologies, Inc.*
Chad Steed, *Naval Research Laboratory-Stennis Space Center*
Dan Hook, *Autonomous Surface Vehicles, Ltd.*

Inundation Modeling - 2

D-12
Tuesday, October 27 (3:30PM - 5:00PM)
Co-Chairs: Paul McKay, *Naval Research Laboratory-Stennis Space Center*
Dawn Lavoie, *USGS*
Cheryl Ann Blain, *Naval Research Laboratory-Stennis Space Center*

NWS Tools to Forecast River Stages in the Coastal Zones
David Reed, *NWS Lower Mississippi River Forecast Center*
Jeffrey Graschel, *NWS Lower Mississippi River Forecast Center*
David Welch, *NWS Lower Mississippi River Forecast Center*
David Ramirez, *NWS Lower Mississippi River Forecast Center*

Effect of Storm Size on Predicted Hurricane Storm Surge in Southeast Louisiana
Martin Guillot, *University of New Orleans*

A proposed new storm surge scale
Pat Fitzpatrick, *Mississippi State University*
Nam Tran, *Mississippi State University*
Yee Lau, *Mississippi State University*
Yongzuo Li, *Mississippi State University*
Chris Hill, *Mississippi State University*

Array Signal Processing and Array Design - 2

D-2
Tuesday, October 27 (3:30PM - 5:00PM)
Co-Chairs: Timothy Duda, *Woods Hole Oceanographic Institution*
Jean-Pierre Hermand, *Université libre de Bruxelles (U.L.B.)*

Narrowband Detection of Acoustic Source in Shallow Ocean using Vector Sensor Array
Murali Krishna, *Indian Institute of Science*
Gargeshwari Anand, *Indian Institute of Science*

The performance analysis of diversity technologies for underwater channel environments using the experimrntal data
Hak-Lim Ko, *Hoseo University*
Min-sang Kim, *Hoseo University*
Seung-Goo Lee, *Hoseo University*
Nam-Chul Lee, *Hoseo University*
Jong-Won Park, *MOERI*
Yong-Kon Lee, *MOERI*

Reinventing Submarine Signature Measurements: Installation of the High Gain Measurement System at SEAFAC
Jennifer Snyder, *SAIC*
Richard Chwaszczewski, *SAIC*
Michael Slater, *SAIC*
Eric Tietje, *SAIC*
Robert Green, *NSWC CD-Bremerton*

Ropes and Tension Members - 2

D-3
Tuesday, October 27 (3:30PM - 5:00PM)
Co-Chairs: Rollin Stirman, *Miami Cordage*
Evan Zimmerman, *Delmar Systems Inc.*

Endless Winding Technology for Lightweight Synthetic Mooring Lines
Wilco van Zonneveld, *FibreMax BV*
Matthijs van Leeuwen, *Teijin Aramid BV*

Improved Mooring Line Technology for Tankers and Gas Carriers at Exposed Berths
Stephen Banfield, *Tension Technology International*
John Flory, *Tension Technology International*

Buoy Technology - 2

D-4
Tuesday, October 27 (3:30PM - 5:00PM)
Co-Chairs: Walter Paul, *Woods Hole Oceanographic Institution*
Rick Cole, *University of South Florida*

Performance of the First Year of the Completed NOAA Operational Deep-Sea Tsunameter Network
Richard Bouchard, *NOAA NWS NDBC*
Craig Kohler, *NOAA NWS NDBC*
Peter Lessing, *NOAA NWS NDBC*
Kevin Kern, *NOAA NWS NDBC*

A Wind-Propelled Small Waterplane Area Spar
Patrick Rynne, *Florida Atlantic University*
Karl von Ellenrieder, *Florida Atlantic University*

Low Load Compliant Mooring - History and Status Update
Brett Taft, *NOAA NWS NDBC*
Chung-Chu Teng, *NOAA NWS NDBC*
Terry Rutledge, *SAIC*

Buoy Vandalism Experienced by NOAA National Data Buoy Center
Chung-Chu Teng, *NOAA NWS NDBC*
Stephen Cucullu, *NOAA NWS NDBC*
Shannon McArthur, *NOAA NWS NDBC*
Craig Kohler, *NOAA NWS NDBC*
William Burnett, *NOAA NWS NDBC*
Landry Bernard, *NOAA NWS NDBC*

Proposal for an AUV refuel station
Max Blanco, *University of Southampton*

Data Visualization - 2

D-5
Tuesday, October 27 (3:30PM - 5:00PM)
Chair: Barbara Reed, *Naval Oceanographic Office*

A Geospatially Enabled, PC-Based, Software to Fuse and Interactively Visualize Large 4D/5D Data Sets
Jose Andres, *Makai Ocean Engineering*
McKay Davis, *Makai Ocean Engineering*
Kayo Fujiwara, *Makai Ocean Engineering*
John Anderson, *Makai Ocean Engineering*
Tie Fang, *Makai Ocean Engineering*
Michael Nedbal, *Makai Ocean Engineering*

Advanced Mid-Water Tools for 4D Marine Data Fusion and Visualization
Maurice Doucet, *IVS 3D*
Colin Ware, *Center for Coastal and Ocean Mapping, UNH*
Roland Arsenault, *Center for Coastal and Ocean Mapping, UNH*
Tom Weber, *Center for Coastal and Ocean Mapping, UNH*
Mashkoor Malik, *NOAA Okeanos Explorer Program, Office of Ocean Exploration*
Larry Mayer, *Center for Coastal and Ocean Mapping, UNH*
Lindsay Gee, *IVS 3D*

Development of the Geophysical Data Base Variable Resolution (GDBV) Version 2 using HDF5
Chad Steed, *Naval Research Laboratory-Stennis Space Center*
Chiu-Fu Cheng, *Lockheed Martin Corporation*
David Harvey, *Naval Oceanographic Office*

Space and Airborne Systems

D-6
Tuesday, October 27 (3:30PM - 5:00PM)
Co-Chairs: Gary Mineart, *Noblis*
Eric Miller, *NOAA*
Craig Peterson, *NASA*

Current Best Estimates of Performance for NPOESS Environmental Data Records with Oceanographic Applications
Gary Mineart, *Noblis*

NOAA's Analysis of Observing System Investment Decisions: Approach Used to Assess Alternatives for Satellite-Based Ocean Color Observations
Eric Miller, *NOAA*

Neil Wyse, *Integrity Applications Incorporated*
Robert Mairs, *Mairs Information Design LLC*
Robert Reining, *The MITRE Corporation*
Elaine Goyette, *The MITRE Corporation*

The Hyperspectral Imager for the Coastal Ocean (HICO): Sensor and Data Processing Overview
Mark Lewis, *Naval Research Laboratory-Stennis Space Center*
Rick Gould, *Naval Research Laboratory-Stennis Space Center*
Robert Arnone, *Naval Research Laboratory-Stennis Space Center*
Paul Lyon, *Naval Research Laboratory-Stennis Space Center*
Paul Martinolich, *QinetiQ North America*
Weilin Hou, *Naval Research Laboratory-Stennis Space Center*
Ronnie Vaughan, *QinetiQ North America*
Adam Lawson, *Naval Research Laboratory-Stennis Space Center*
Theresa Scardino, *Naval Research Laboratory-Stennis Space Center*
William Snyder, *Naval Research Laboratory*
Robert Lucke, *Naval Research Laboratory*
Michael Corson, *Naval Research Laboratory*
Marcos Montes, *Naval Research Laboratory*
Curtiss Davis, *Oregon State University*

An Airborne Imaging MultiSpectral Polarimeter (AROSS-MSP)
Brett Hooper, *Arete Associates*
Becky Baxter, *Georgetown University*
Cindy Piotrowski, *Arete Associates*
J. Zandy Williams, *Arete Associates*
John Dugan, *Arete Associates*

An analysis tool box for sea Airborne SAR data processing
Christophe Sintes, *Telecom-Bretagne*
Vincent Gras, *Telecom-Bretagne*

Optical Underwater Communications

D-7
Tuesday, October 27 (3:30PM - 5:00PM)
Co-Chairs: John Walrod, *SAIC*
Frank Caimi, *IEEE OES*

A Polarization Shift-Keying System for Underwater Optical Communications
William Cox, *North Carolina State University*
Brian Hughes, *North Carolina State University*

John Muth, *North Carolina State University*

A Spatial Diversity System to Measure Optical Fading in an Underwater Communications Channel
Jim Simpson, *North Carolina State University*
Brian Hughes, *North Carolina State University*
John Muth, *North Carolina State University*

AquaOptical: A Lightweight Device for High-rate Long-range Underwater Point-to-Point Communication
Marek Doniec, *Massachusetts Institute of Technology - CSAIL*
Iuliu Vasilescu, *Massachusetts Institute of Technology*
Carrick Detweiler, *Massachusetts Institute of Technology*
Mandar Chitre, *Acoustic Research Laboratory*
Matthias Hoffmann-Kuhnt, *Acoustic Research Laboratory*
Daniela Rus, *Massachusetts Institute of Technology*

US IOOS and OOI - Making Sense of the Data - 1

D-8
Tuesday, October 27 (3:30PM - 5:00PM)
Co-Chairs: Jeff de La Beaujardière, *NOAA*
Matthew Howard, *Texas A&M University*

The MMI Ontology Registry and Repository: A Portal for Marine Metadata Interoperability
Carlos Rueda, *Monterey Bay Aquarium Research Institute*
Luis Bermudez, *Southeastern Universities Research Association*
Janet Fredericks, *Woods Hole Oceanographic Institution*

Ocean Observing Systems Demystified
Luis Bermudez, *Southeastern Universities Research Association*
Eric Delory, *dBscale*
Tom O'Reilly, *Monterey Bay Aquarium Research Institute*
Joaquin del Rio Fernandez, *SARTI Research Group, Technical University of Catalonia*

Integrating Marine Observatories into a System-of-Systems: Messaging in the US Ocean Observatories Initiative Cyberinfrastructure
Matthew Arrott, *University of California, San Diego*
Alan Chave, *Woods Hole Oceanographic Institution*
Claudiu Farcas, *University of California, San Diego*
Emilia Farcas, *University of California, San Diego*
Jack Kleinert, *Raytheon*

Ingolf Krueger, *University of California, San Diego*
Michael Meisinger, *University of California, San Diego*
John Orcutt, *University of California, San Diego*
Cheryl Peach, *University of California, San Diego*
Oscar Schofield, *Rutgers University*
Munindar Singh, *North Carolina State University*
Frank Vernon, *University of California, San Diego*

IOOS Data Management Activities
Jeff de La Beaujardière, *NOAA*

The NWS/NDBC IOOS® Data Assembly Center
Bill Burnett, *NOAA NWS NDBC*
Richard Crout, *NOAA NWS NDBC*

Exhibitors' Reception
Exhibit Hall
Tuesday, October 27 (5:00PM - 6:30PM)

Wednesday Speakers' Breakfast
Speaker's Room
Wednesday, October 28 (7:30AM - 8:30AM)
Hosts: Stephanie Myrick, *Naval Research Laboratory-Stennis Space Center*
Richard Crout, *NDBC*

Sonar Signal Processing
D-1
Wednesday, October 28 (8:30AM - 10:00AM)
Co-Chairs: James Candy, *Lawrence Livermore National Laboratory*
Jean-Pierre Hermand, *Université libre de Bruxelles (U.L.B.)*

Multi-Platform Target Detection using Multi-Channel Coherence Analysis and Robustness to the Effects of Disparity
Nicholas Klausner, *Colorado State University*
James Tucker, *Naval Surface Warfare Center, Panama City Division*
Mahmood Azimi-Sadjadi, *Colorado State University*

Target Coherence Analysis Using Canonical Correlation Decomposition for SAS Data
Yinghui Zhao, *Colorado State University*
Neil Wachowski, *Colorado State University*
Mahmood Azimi-Sadjadi, *Colorado State University*

Automatic Identification of Specular Detections in Multistatic Sonar Systems
Doug Grimmett, *SPAWAR Systems, Center Pacific*

Design and Performance of Irregular Sonobuoy Patterns in Complicated Environments
Donald Del Balzo, *QinetiQ North America*
Kevin Stangl, *OPNAV N874*

Sampling Synchronization with Gigabit Ethernet
Mark Henderson, *QinetiQ North America*
Tom Shaver, *QinetiQ North America*

Autonomous Underwater Vehicles - 3

D-11
Wednesday, October 28 (8:30AM - 10:00AM)
Chair: Per Espen Hagen, *Kongsberg Maritime*

CATCHY: An AUV Ice Dock
Peter King, *Memorial University of Newfoundland*
Ron Lewis, *Memorial University of Newfoundland*
Darrell Mouland, *Memorial University of Newfoundland*
Dan Walker, *Memorial University of Newfoundland*

Improvement of Vision Guided Underwater Docking Algorithm of Small AUV ISiMI
Jin-Yeong Park, *Korea Ocean Research and Development Institute*
Bong-Huan Jun, *Korea Ocean Research and Development Institute*
Kihun Kim, *Korea Ocean Research and Development Institute*
Pan-Mook Lee, *Korea Ocean Research and Development Institute*
Jun-Ho Oh, *Korea Advanced Institute of Science and Technology*
Yong-Kon Lim, *Korea Ocean Research and Development Institute*

The Ontological Status of Autonomous Underwater Vehicle Fleets
Patrick Ray, *University of Idaho*
Michael O'Rourke, *University of Idaho*
Dean Edwards, *University of Idaho*

Advanced Technology in Motion: NIUST's AUV Fleet
Arne Diercks, *University of Southern Mississippi*
Vernon Asper, *University of Southern Mississippi*
Jeff Williams, *University of Southern Mississippi*

Max Woolsey, *University of Southern Mississippi*

Control of the MARES Autonomous Underwater Vehicle
Bruno Ferreira, *Engineering of University of Porto*
Miguel Pinto, *Engineering of University of Porto*
Aníbal Matos, *Engineering of University of Porto*
Nuno Cruz, *Engineering of University of Porto*

Disaster and Catastrophe Management - 1

D-12
Wednesday, October 28 (8:30AM - 10:00AM)
Co-Chairs: Dawn Lavoie, *USGS*
Cheryl Hickey, *US Coast Guard*

Unmanned Marine Vehicle Use at Hurricanes Wilma and Ike
Eric Steimle, *University of South Florida*
Robin Murphy, *Texas A&M University*
Michael Hall, *Applied Environmental and Ocean Sciences*
Michael Lindemuth, *University of South Florida*

Emergency Management Intelligence Fusion
James Haynie, *Geocent / SPAWAR*
Zachary Rouse, *Geocent / SPAWAR*
Stephen Mann, *Geocent / SPAWAR*
Clarence Davis, *Geocent*

Satellite Observations and NCOM Assessment of the Mississippi-Louisiana-Texas Coast following Hurricanes Gustav and Ike
Mitsuko Korobkin, *Louisiana State University*
Eurico D'Sa, *Louisiana State University*
Dong-Shan Ko, *Naval Research Laboratory-Stennis Space Center*

Acoustic Telemetry and Communication - 1

D-2
Wednesday, October 28 (8:30AM - 10:00AM)
Co-Chairs: Lee Freitag, *Woods Hole Oceanographic Institution*
Craig Benson, *University of New South Wales*

Full year channel characterization for adaptive underwater acoustic communications
Allan Rosenberg, *Johns Hopkins University Applied Physics Laboratory*
Qinqing Zhang, *Johns Hopkins University Applied Physics*

Laboratory
Dmitry Chizhik, *Bell Labs*

Iterative Block Decision Feedback Equalization for MIMO Underwater Acoustic Communications
Jun Tao, *University of Missouri-Columbia*
Yahong Zheng, *Missouri University of Science and Technology*
Chengshan Xiao, *Missouri University of Science and Technology*
T.C. Yang, *Naval Research Laboratory*

Performance of Micro-Modem PSK signaling under variable conditions during the 2008 RACE and SPACE experiments
Lee Freitag, *Woods Hole Oceanographic Institution*
Sandipa Singh, *Woods Hole Oceanographic Institution*

Implications of Simplifying SINR in Underwater Acoustic Networks
Craig Benson, *University of New South Wales*
Michael Ryan, *University of New South Wales*
Michael Frater, *University of New South Wales*

Renewable Ocean Energy - 1

D-3
Wednesday, October 28 (8:30AM - 10:00AM)
Co-Chairs: Richard Chwaszczewski, *SAIC Ocean Technologies*
Dallas Meggitt, *Sound & Sea Technology*

THE USE OF SEA WAVES FOR GENERATION OF ELECTRICAL ENERGY AND HYDROGEN.
Marco Trapanese, *Università di Palermo*
Vincenzo Franzitta, *Università di Palermo*
Francesco Muzio, *Università di Palermo*
Gianluca Scaccianoce, *Università di Palermo*
Vincenzo Di Dio, *Università di Palermo*

PG&E's WaveConnect Wave Energy Power Pilot Project: Engineering Aspects
Brendan Dooher, *PG&E Applied Technology Services*
Michael Slater, *SAIC*

International Standard for the Appraisal of Wave Energy Convertors
Eric Tietje, *SAIC*

Buoy Technology - 3

D-4
Wednesday, October 28 (8:30AM - 10:00AM)
Co-Chairs: Walter Paul, *Woods Hole Oceanographic Institution*
Rick Cole, *University of South Florida*

Development and Characterization of a Novel Direct Drive Rotary Wave Energy Point Absorber
Ken Rhinefrank, *Columbia Power*
Joseph Prudell, *Columbia Power*
Al Schacher, *Columbia Power*

Applying the Wavelet Transform to Derive Sea Surface Elevation from Acceleration Signals
Laurence Zsu-Hsin *Chuang, National Cheng Kung University*
Li-Chung Wu, *National Cheng Kung University*
Chia Chuen Kao, *National Cheng Kung University*
Ching-Ruei Lin, *National Cheng Kung University*

NDBC's Digital Directional Wave Module
Rodney Riley, *NOAA NWS NDBC*
Chung-Chu Teng, *NOAA NWS NDBC*
Richard Bouchard, *NOAA NWS NDBC*
Ted Mettlach, *SAIC*
Richard Dinoso, *SAIC*
Joel Chaffin, *SAIC*

Wave Measurements Using GPS
Li-Chung Wu, *National Cheng Kung University*
Dong-Jiing Doong, *National Taiwan Ocean University*
Beng-Chun Lee, *Huafan University*
Chia Chuen Kao, *National Cheng Kung University*
Yen-Pin Lin, *National Cheng Kung University*

Numerical Modeling and Simulation - 1

D-5
Wednesday, October 28 (8:30AM - 10:00AM)
Co-Chairs: Frank Bub, *Naval Oceanographic Office*
Robert Rhodes, *Naval Research Laboratory-Stennis Space Center*

Air-sea interaction in the Ligurian Sea in summer: high resolution coupled model simulations
Richard Small, *Jacobs Technology*
Timothy Campbell, *Naval Research Laboratory-Stennis Space Center*
Joao Teixeira, *NASA Jet Propulsion Laboratory*

Travis Smith, *Naval Research Laboratory-Stennis Space Center*
Richard Allard, *Naval Research Laboratory-Stennis Space Center*

Cold air outbreak over the Kuroshio Extension Region
Tommy Jensen, *Naval Research Laboratory-Stennis Space Center*
Timothy Campbell, *Naval Research Laboratory-Stennis Space Center*
Travis Smith, *Naval Research Laboratory-Stennis Space Center*
Richard Small, *Jacobs Technology*
Richard Allard, *Naval Research Laboratory-Stennis Space Center*

Two-way Atmospheric and Ocean Coupling of the Adriatic Sea Bora
Travis Smith, *Naval Research Laboratory-Stennis Space Center*
Timothy Campbell, *Naval Research Laboratory-Stennis Space Center*
Justin Small, *Naval Research Laboratory-Stennis Space Center*
Richard Allard, *Naval Research Laboratory-Stennis Space Center*

Modeling the Dardanelles Strait Outflow Plume Using a Coupled Model System
Cheryl Ann Blain, *Naval Research Laboratory-Stennis Space Center*
Mustafa Cambazoglu, *University of Southern Mississippi & Naval Research Laboratory*
Vassiliki Kourafalou, *MPO/RSMAS, University of Miami*

Operational Observation

D-6
Wednesday, October 28 (8:30AM - 10:00AM)
Co-Chairs: David Weissman, *Hofstra University*
Nan Walker, *Louisiana State University*

COINCIDENT OBSERVATIONS, WITH QUIKSCAT AND ASCAT, OF THE EFFECTS OF RAIN-INDUCED SEA SURFACE STRESS DURING HURRICANES GUSTAV AND IKE
David Weissman, *Hofstra University*
Mark Bourassa, *Florida State University COAPS*

"Ocean Weather" in the Gulf of Mexico: Exploiting Real-Time Satellite Ecological Properties and Circulation Models for Coastal Ocean Monitoring
Sherwin Ladner, *QinetiQ North America*

Robert Arnone, *Naval Research Laboratory-Stennis Space Center*
Juanita Sandidge, *Naval Research Laboratory-Stennis Space Center*
Dong-Shan Ko, *Naval Research Laboratory-Stennis Space Center*
Brandon Casey, *QinetiQ North America*
Callie Hall, *NASA Applied Science & Technology Project Office*

High Frequency Satellite Surveillance of Gulf of Mexico Loop Current Frontal Eddy Cyclones
Nan Walker, *Louisiana State University*
Robert Leben, *University of Colorado*
Steven Anderson, *Horizon Marine, Inc.*
Alaric Haag, *Louisiana State University*
Chet Pilley, *Louisiana State University*

Biophysical Variability in the Kuroshio Extension from Altimeter and SeaWiFS
Peter Chu, *Naval Postgraduate School*
Yuheng Kuo, *Naval Postgraduate School*

Examining change and long-term trends in the marine environment using satellite-based time series
Gary Borstad, *ASL Borstad Remote Sensing Inc.*
Leslie Brown, *ASL Borstad Remote Sensing Inc.*
David Fissel, *ASL Environmental Sciences Inc.*

Calibration of Acoustic Systems and Metrology

D-7
Wednesday, October 28 (8:30AM - 10:00AM)
Chair: Joal Newcomb, *Naval Oceanographic Office*

EARS Buoy Applications by LADC: II. 3-D Seismic Airgun Array Characterization
Joal Newcomb, *Naval Oceanographic Office*
Arslan Tashmukhambetov, *University of New Orleans*
George Ioup, *University of New Orleans*
Juliette Ioup, *University of New Orleans*
Natalia Sidorovskaia, *University of Louisiana at Lafayette*
James Stephens, *University of Southern Mississippi*
Grayson Rayborn, *University of Southern Mississippi*
Philip Summerfield, *ExxonMobil Corporation*

Acoustic impact of short-term ocean variability in the Okinawa Trough
Charlie Barron, *Naval Research Laboratory-Stennis Space Center*
Murat Gunduz, *Florida State University*
Robert Helber, *Naval Research Laboratory-Stennis Space Center*
Gregg Jacobs, *Naval Research Laboratory-Stennis Space Center*
Peter Spence, *QinetiQ North America*

Development of an Automated Acoustic Calibration System for fisheries acoustic survey
Stan Tomich, *NOAA NMFS NWFSC*
Lawrence Hufnagle, *NOAA NMFS NWFSC*
Dezhang Chu, *NOAA NMFS NWFSC*

US IOOS and OOI - Making Sense of the Data - 2

D-8
Wednesday, October 28 (8:30AM - 10:00AM)
Co-Chairs: Matthew Howard, *Texas A&M University*
Jeff de La Beaujardière, *NOAA*

Applying Open Geospatial Consortium's Sensor Web Enablement to Address Real-Time Oceanographic Data Quality, Secondary Data Use and Long-Term Preservation
Julie Bosch, *NOAA NCDDC*
Janet Fredericks, *Woods Hole Oceanographic Institution*
Tony Cook, *University of Alabama in Huntsville*
Eric Bridger, *Gulf of Maine Ocean Observing System*
Sara Haines, *University of North Carolina*
Mike Botts, *University of Alabama in Huntsville*
Philip Bogden, *Gulf of Maine Ocean Observing System*

Establishing the GCOOS Regional Association's Data Portal
Matthew Howard, *Texas A&M University*
Felimon Gayanilo, *Univeristy of Miami*
Ann Jochens, *Texas A&M University*

Developing Best Practices for IOOS Web Portals
David Jones, *Applied Physics Lab, University of Washington*
Janet Olsonbaker, *Applied Physics Lab, University of Washington*

Operational Oceanography: Data Acquisition and Processing - 1

D-9
Wednesday, October 28 (8:30AM - 10:00AM)
Co-Chairs: James Rigney, *Naval Oceanographic Office*
Rob Bassett, *NOAA NOS CO-OPS*

Evaluating the impact of the number of satellite altimeters used in an assimilative ocean prediction system
Robert Helber, *Naval Research Laboratory-Stennis Space Center*
Jay Shriver, *Naval Research Laboratory-Stennis Space Center*
Charlie Barron, *Naval Research Laboratory-Stennis Space Center*
Ole Martin Smedstad, *QinetiQ North America*

Drifting Buoy for Autonomous Measurements of River Environment
Lisa Emery, *QinetiQ North America*
Richard Smith, *QinetiQ North America*
David McNeal, *QinetiQ North America*
Bill Hughes, *QinetiQ North America*

Student Posters

Central Lobby
Wednesday, October 28 (9:00AM - 5:00PM)
Co-Chairs: Stephan Howden, *University of Southern Mississippi*
Greg Eisman, *SAIC*

Coffee Break

Exhibit Hall
Wednesday, October 28 (10:00AM - 10:30AM)

Model-based Singal Processing Techniques

D-1
Wednesday, October 28 (10:30AM - 12:00PM)
Co-Chairs: Milica Stojanovic, *Northeastern University*
James Candy, *Lawrence Livermore National Laboratory*

Peak-to-Average Power Ratio (PAR) Reduction for Acoustic OFDM Systems
Guillem Rojo Garrave, *Massachusetts Institute of Technology*
Milica Stojanovic, *Northeastern University*

Radioactive Contraband Detection: A Bayesian Approach
James Candy, *Lawrence Livermore National Laboratory*
Eric Breitfeller, *Lawrence Livermore National Laboratory*
Brian Guidry, *Lawrence Livermore National Laboratory*
David Chambers, *Lawrence Livermore National Laboratory*
Michael Axelrod, *Lawrence Livermore National Laboratory*
Kenneth Sale, *Lawrence Livermore National Laboratory*
Douglas Manatt, *Lawrence Livermore National Laboratory*

Frequency warping for waveguide characterization with a single hydrophone
Julien Bonnel, *GIPSA-Lab / DIS*
Barbara Nicolas, *GIPSA-Lab / DIS*
Jérome Mars, *GIPSA-Lab / DIS*
Dominique Fattaccioli, *CTSN / DGA*

Oceanography: General

D-10
Wednesday, October 28 (10:30AM - 12:00PM)
Co-Chairs: Nathaniel Plant, *USGS*
Larry Atkinson, *Old Dominion University CCPO*

A Case Study of Wind and Sea Surface Properties at 8°N 95°W
Dawn Petraitis, *SAIC*
Rex Hervey, *NOAA NWS NDBC*

Simulated OVW Retrievals in Tropical cyclones for the Next Generation Dual Frequency Scatterometer
Suleiman Alsweiss, *University of Central Florida*
W.Linwood Jones, *University of Central Florida*

Feature-oriented coastal acoustic tomography: Upwelling at Cabo Frio (Brazil)
Olivier Carrière, *Université libre de Bruxelles (U.L.B.)*
Jean-Pierre Hermand, *Université libre de Bruxelles (U.L.B.)*
Leandro Calado, *Marinha do Brasil - Instituto de Estudos do Mar Almirante Paulo Moreira*
Ana de Paula, *Marinha do Brasil - Instituto de Estudos do Mar Almirante Paulo Moreira*
Ilson Almeida da Silveira, *Instituto Oceanográfico da Universidade de São Paulo*

Statistics of Buoy-observed Waves during Typhoons at the Taiwanese Waters from 1997 to 2008
Dong-Jiing Doong, *National Taiwan Ocean University*
Laurence Zsu Hsin Chuang, *National Cheng Kung University*
Chia Chuen Kao, *National Cheng Kung University*

Yen-Bin Lin, *National Cheng Kung University*
Kuo-Ching Jao, *National Cheng Kung University*

Autonomous Underwater Vehicles - 4

D-11
Wednesday, October 28 (10:30AM - 12:00PM)
Chair: Arne Diercks, *University of Southern Mississippi*

AUTOTRACKER: Autonomous Inspection - Capabilities and Lessons Learned in Offshore Operations
Jonathan Evans, *SeeByte Ltd*
Pedro Patron, *SeeByte Ltd*
Benjamin Privat, *SeeByte Ltd*
Nicholas Johnson, *SeeByte Ltd*
Jon Wood, *SeeByte Ltd*
Chris Capus, *Heriot-Watt University*

Field Measurement of Surface Ship Magnetic Signature Using Multiple AUVs
Benjamin Armstrong, *University of Idaho*
Jesse Pentzer, *University of Idaho*
Douglas Odell, *Naval Surface Warfare Center, Carderock Division*
Thomas Bean, *University of Idaho*
John Canning, *University of Idaho, CISR*
James Frenzel, *University of Idaho, CISR*
Michael Anderson, *University of Idaho, CISR*
Dean Edwards, *University of Idaho, CISR*
Donald Pugsley, *Naval Surface Warfare Center, Carderock Division*

An Amphibious Robot for Surf Zone Science and Environmental Monitoring
Thomas Consi, *Univ. Wisconsin-Milwaukee, Great Lakes Water Institute*
Brian Ardaugh, *Univ. Wisconsin-Milwaukee, Great Lakes Water Institute*
Trevin Erdman, *Univ. Wisconsin-Milwaukee, Great Lakes Water Institute*
Mark Matsen, *Univ. Wisconsin-Milwaukee, Great Lakes Water Institute*
Matthew Peterson, *University of Maryland*
John Ringstad, *Univ. Wisconsin-Milwaukee, Great Lakes Water Institute*
Andrew Vechart, *Univ. Wisconsin-Milwaukee, Great Lakes Water Institute*
Chris Verink, *Univ. Wisconsin-Milwaukee, Great Lakes Water Institute*

An Adaptive Triggering Method for Capturing Peak Samples in a Thin Phytoplankton Layer by an Autonomous Underwater Vehicle
Yanwu Zhang, *Monterey Bay Aquarium Research Institute*
Robert McEwen, *Monterey Bay Aquarium Research Institute*
John Ryan, *Monterey Bay Aquarium Research Institute*
James Bellingham, *Monterey Bay Aquarium Research Institute*

Robust Synthetic Aperture Sonar Operation for AUVs
Per Espen Hagen, *Kongsberg Maritime*
Roy Hansen, *FFI*

National Ocean Partnership Program Round Table

D-12
Wednesday, October 28 (10:30AM - 12:00PM)
Co-Chairs: Jim Kendall, *Minerals Management Service*
Craig McLean, *NOAA*

Acoustic Telemetry and Communication - 2

D-2
Wednesday, October 28 (10:30AM - 12:00PM)
Co-Chairs: Fengzhong Qu, *University of Florida*
Lee Freitag, *Woods Hole Oceanographic Institution*

Performance Analysis of Filtered Multitone Modulation Systems for Underwater Communication
Joao Gomes, *ISR - Instituto Superior Tecnico*
Milica Stojanovic, *Northeastern University*

A Simple and Effective Noise Whitening Method for Underwater Acoustic OFDM
Christian Berger, *University of Connecticut*
Shengli Zhou, *University of Connecticut*
Weian Chen, *University of Connecticut*
Jie Huang, *University of Connecticut*

High Reliability Direct-Sequence Spread Spectrum for Underwater Acoustic Communications
Fengzhong Qu, *University of Florida*
Liuqing Yang, *Univerisity of Florida*
T. C. *Yang, Naval Research Laboratory*

Token Based Medium Access Control Solution for Underwater Acoustic Broadcast Communication
Henry Egbo, *University of Idaho, CISR*
Jim Frenzel, *University of Idaho, CISR*
Michael O'rourke, *University of Idaho, CISR*

Dean Edwards, *University of Idaho, CISR*
Patrick Ray, *University of Idaho, CISR*
Nicodemus Hallin, *University of Idaho, CISR*

Renewable Ocean Energy - 2

D-3
Wednesday, October 28 (10:30AM - 12:00PM)
Co-Chairs: Dallas Meggitt, *Sound & Sea Technology*
Richard Chwaszczewski, *SAIC Ocean Technologies*

The Study about using Fluid Flow to Generate Electricity
Tadahiro Hyakudome, *JAMSTEC*

Experimental Study on the Sailing Performance of a VLMOS for Wind Power Plant
Ken Takagi, *University of Tokyo*
Takuro Hiramatsu, *University of Tokyo*
Yuto Korogi, *Osaka University*
Mamoru Ishiguro, *Osaka University*

Site Characterization for Tidal Power
Samuel Gooch, *University of Washington*
Jim Thomson, *University of Washington*
Brian Polagye, *University of Washington*
Dallas Meggitt, *Sound and Sea Technology*

Salt Water Activated Power System (SWAPS) for Ocean Buoys and Related Platforms
John Cleland, *Mil3, Inc*
John Baker, *Falmouth Scientific, Inc.*
Michael Turner, *Mil3, Inc*

Current Measurement Technology

D-4
Wednesday, October 28 (10:30AM - 12:00PM)
Co-Chairs: Steve Anderson, Horizon Marine, *Inc*
Albert Williams, *Woods Hole Oceanographic Institution*

Measuring Current Profiles on a Moored Buoy through an Acoustic Window
Brett Taft, *NOAA NWS NDBC*
Rodney Riley, *NOAA NWS NDBC*
Ted Mettlach, *SAIC*
Richard Crout, *NOAA NWS NDBC*

Using the Acoustic Doppler Velocimeter (ADV) in the MUDBED Real-Time Observing System
Grace Cartwright, *Virginia Institute of Marine Science*
Carl Friedrichs, *Virginia Institute of Marine Science*
Patrick Dickhudt, *Virginia Institute of Marine Science*
Tim Gass, *Virginia Institute of Marine Science*
Frank Farmer, *Franktronics*

O2-MAVS, an Instrument for Measuring Oxygen Flux
Wade McGillis, *Columbia University*
Chris Langdon, *Rosentiel School of Marine and Atmospheric Science*
Albert Williams, *Woods Hole Oceanographic Institution*
Brice Loose, *Columbia University*

Testing and evaluation of a dual-frequency six-beam acoustic Doppler current profiler
Eric Siegel, *NortekUSA*
Rodney Riley, *NOAA NWS NDBC*

Numerical Modeling and Simulation - 2

D-5
Wednesday, October 28 (10:30AM - 12:00PM)
Co-Chairs: Richard Allard, *Naval Research Laboratory-Stennis Space Center*
Robert Rhodes, *Naval Research Laboratory-Stennis Space Center*

Nonlinear Ocean Wave Modeling: Beyond Volterra Expansions and Fokker-Planck Equation
Frederick Maltz, *Ocean Wave Modeling Associates*

Sensitivity of Delft3D to Input Conditions
Kacey Edwards, *Naval Research Laboratory-Stennis Space Center*
Jayaram Veeramony, *Naval Research Laboratory-Stennis Space Center*
David Wang, *Naval Research Laboratory-Stennis Space Center*
Todd Holland, *Naval Research Laboratory-Stennis Space Center*
Larry Hsu, *Naval Research Laboratory-Stennis Space Center*

Modeling rip currents and rip-channel morphodynamics under quasi-steady conditions
Julian Simeonov, *Naval Research Laboratory-Stennis Space Center*
Todd Holland, *Naval Research Laboratory-Stennis Space*

Center
Steven Spansel, *Naval Research Laboratory-Stennis Space Center*

Sound Propagation and Scattering - 1
D-7
Wednesday, October 28 (10:30AM - 12:00PM)
Chair: Josette Fabre, *Naval Research Laboratory-Stennis Space Center*

Cluster of Sound Speed Fields by an Integral Measure
James Fulford, *Naval Research Laboratory-Stennis Space Center*

Coverage Metric for Acoustic Receiver Evaluation and Track Generation
Steven Dennis, *Naval Research Laboratory-Stennis Space Center*
Kevin Hemsteter, *Naval Research Laboratory-Stennis Space Center*

Technical Metrics for Acoustic Evaluation
Josette Fabre, *Naval Research Laboratory-Stennis Space Center*

A metric for comparing acoustic transmission loss curves
Josette Fabre, *Naval Research Laboratory-Stennis Space Center*

Optimizations for Fourier Synthesized Time Domain Pulse Propagation Calculations
Robert Zingarelli, *Naval Research Laboratory-Stennis Space Center*
Stanley Chin-Bing, *Naval Research Laboratory-Stennis Space Center*
Michael Collins, *Naval Research Laboratory*

US IOOS and OOI in Action - Local
D-8
Wednesday, October 28 (10:30AM - 12:00PM)
Chair: Ann Jochens, *Texas A&M University*

Building the Gulf of Mexico Coastal Ocean Observing System: Maintaining and Enhancing
Ann Jochens, *Texas A&M University*
Worth Nowlin, *GCOOS Office*

A Tale of Two Observing Systems: Opening Windows to Interoperability
Brenda Babin, *Louisiana Universities Marine Consortium (LUMCON)*
Lei Hu, *Dauphin Island Sea Lab*

The Central Gulf of Mexico Ocean Observing System: Development, Resiliency and Lessons Learned
Stephan Howden, *University of Southern Mississippi*
Steven Lohrenz, *University of Southern Mississippi*
Vernon Asper, *University of Southern Mississippi*
David Dodd, *University of New Brunswick*
Les Bender, *Geochemical and Environmental Research Group (GERG)*
Norman Guinasso, *Geochemical and Environmental Research Group (GERG)*
John Walpert, *Geochemical and Environmental Research Group (GERG)*

Towards Interoperability: A sub-regional Coastal Ocean Observing System Experience
Vembu Subramanian, *University of South Florida*
Jeff Donovan, *University of South Florida*
Mark Luther, *University of South Florida*
Robert Weisberg, *University of South Florida*

Texas Automated Buoy System
Norman Guinasso, *Texas A&M University*
Leslie Bender, *Texas A&M University*
John Walpert, *Texas A&M University*
Linwood Lee, *Texas A&M University*
Robert Martin, *Texas General Land Office*
Robert Hetland, *Texas A&M University*
Steven Baum, *Texas A&M University*
Mathew Howard, *Texas A&M University*

Operational Oceanography: Data Acquisition and Processing - 2

D-9
Wednesday, October 28 (10:30AM - 12:00PM)
Co-Chairs: James Rigney, *Naval Oceanographic Office*
Nan Walker, *Louisiana State University*

Exploration of Real-time Satellite Measurements to Advance Hurricane Intensity Prediction in the Northern Gulf of Mexico
Nan Walker, *Louisiana State University*
Robert Leben, *University of Colorado*

Steven Anderson, *Horizon Marine, Inc.*
Alaric Haag, *Louisiana State University*
Chet Pilley, *Louisiana State University*
Mitsuko Korobkin, *Louisiana State University*

The Use of Position-Tracking Drifters in Riverine Environments
William Swick, *Naval Postgraduate School*
Jamie MacMahan, *Naval Postgraduate School*

A Tool for Rapid Configuration of a River Model
Robert Linzell, *QinetiQ North America*
Cheryl Ann Blain, *Naval Research Laboratory-Stennis Space Center*
Alan Weidemann, *Naval Research Laboratory-Stennis Space Center*
Paul Lyon, *Naval Research Laboratory-Stennis Space Center*

Fleet Survey Team: Providing Operational Hydrography to the U.S. Navy
Raymond Delgado, *US Navy - Fleet Survey Team*

MTS Luncheon

Banquet Hall
Wednesday, October 28 (12:00PM - 1:20PM)

Classification and Pattern Recognition - 1

D-1
Wednesday, October 28 (1:30PM - 3:00PM)
Chair: Stephanie Myrick, *Naval Research Laboratory-Stennis Space Center*

Diffusion Map Kernel Analysis for Target Classification
Jason Isaacs, *Naval Surface Warfare Center Panama City Division*

A Codebook of Feature Vector for Underwater Targets
M.H. Supriya, *Cochin University of Science & Technology*
T. Binesh, *Cochin University of Science & Technology*
P R Saseendran Pillai, *Cochin University of Science & Technology*

An Underwater Target Detection System for Electro-Optical Imagery Data
Michael Kabatek, *Colorado State University*
Mahmood Azimi-Sadjadi, *Colorado State University*
James Tucker, *Naval Surface Warfare Center*

Oceanography: Physical

D-10
Wednesday, October 28 (1:30PM - 3:00PM)
Co-Chairs: Larry Atkinson, *Old Dominion University CCPO*
Nathaniel Plant, *USGS*

High resolution near-bed observations in winter near Cape Hatteras, North Carolina
Brandy Armstrong, *U.S. Geological Survey*
Marinna Martini, *U.S. Geological Survey*
John Warner, *U.S. Geological Survey*

Parameter Estimation Errors in Buckingham's Grain Shearing Model
William Sanders, *Naval Research Laboratory-Stennis Space Center*
Michael Richardson, *Naval Research Laboratory-Stennis Space Center*

Determining coastal water sampling frequencies using a profiling mooring
Allan Devol, *University of Washington*
Jan Newton, *University of Washington*
Wendi Ruef, *University of Washington*

The TAO Shipboard CTD Program under the National Data Buoy Center
Janice Boyd, *SAIC*
Richard Crout, *NOAA NWS NDBC*
Lex LeBlanc, *NOAA NWS NDBC*

Autonomous Underwater Vehicles - 5

D-11
Wednesday, October 28 (1:30PM - 3:00PM)
Co-Chairs: Louis Whitcomb, *Johns Hopkins University*
Sean Newsome, *SeaBotix Inc*

Verification of Unmanned Underwater Vehicle with Velocity over 10 knots Guidance Control System based on Hardware in the Loop Simulation
Arom Hwang, *LIG Nex1*
Seonil Yoon, *LIG Nex1*
Tae-Yeong Kim, *LIG Nex1*
Dae-Yong Kwon, *LIG Nex1*
Chulho Choi, *ADD*
Hyeonjin Cho, *ADD*

Toward AUV Survey Design for Optimal Coverage and Localization using the Cramer Rao Lower Bound
Ayoung Kim, *University of Michigan*
Ryan Eustice, *University of Michigan*

Research and Development of AUVs for Deep-Sea Operation
Yiping Li, *Shenyang Institute of Automation, CAS*
Shuo Li, *Shenyang Institute of Automation*
Xisheng Feng, *Shenyang Institute of Automation, CAS*

Technology Round Table

D-12
Wednesday, October 28 (1:30PM - 3:00PM)
Chair: Craig McLean, *NOAA*

Acoustic Telemetry and Communication - Modeling/Simulation - 1

D-2
Wednesday, October 28 (1:30PM - 3:00PM)
Co-Chairs: Sandipa Singh, *Woods Hole Oceanographic Institution*
Doug Grimmett, *SPAWAR Systems, Center Pacific*

Simulation of Underwater Acoustic Networks with Field Measurements
Yang Guan, *University of Delaware*
Aijun Song, *University of Delaware*
Justin Yackoski, *University of Delaware*
Chien-Chung Shen, *University of Delaware*
Mohsen Badiey, *University of Delaware*

A performance comparison of MAC protocols for underwater networks using a realistic channel simulator
Federico Guerra, *University of Padova, Department of Information Engineering*
Paolo Casari, *University of Padova, Department of Information Engineering*
Michele Zorzi, *University of Padova, Department of Information Engineering*

Cognitive Intelligence in the Mapping of Underwater Acoustic Communication Environments to Channel Models
Sadia Ahmed, *University of South Florida*
Huseyin Arslan, *University of South Florida*

Unified Simulation and Implementation Software Framework for Underwater MAC Protocol Development
Shiraz Shahabudeen, *Acoustic Research Laboratory*
Mandar Chitre, *Acoustic Research Laboratory*
Mehul Motani, *National University of Singapore*
Alan Yong Siah, *ST Electronics Pte Ltd*

Alternatives to Decommissioning Offshore Structures

D-3
Wednesday, October 28 (1:30PM - 3:00PM)
Chair: Peter Marshall, *Moonshine Hill Pty.*

Fundamentals of Risk-Based Inspection - A Practical Approach
Abdel Ghoneim, *Det Norske Veritas (USA)*
Gufinnur Sigurdsson, *Det Norske Veritas*

New Life for Old Fields; Alternatives to Abandonment
Peter Marshall, *Moonshine Hill Pty.*
Yoo Choo, *National University of Singapore*

RBI for Fixed, Mobile, and Floating Offshore Platforms
Peter Marshall, *Moonshine Hill Pty.*
Lawrence Goldberg, *Sea Test Services*

Ocean Instrumentation and Sensors - 1

D-4
Wednesday, October 28 (1:30PM - 3:00PM)
Co-Chairs: Albert Williams, *Woods Hole Oceanographic Institution*
Malcolm Heron, *James Cook University*

Promoting Interoperable Ocean Sensors - The Smart Ocean Sensors Consortium
Neil Cater, *Memorial University of Newfoundland*
Tom O'Reilly, *Monterey Bay Aquarium Research Institute*

Turbulence Measurements from a Glider
Fabian Wolk, *Rockland Scientific Inc.*
Rolf Lueck, *Rockland Scientific Inc.*
Louis St. *Laurent, Woods Hole Oceanographic Institution*

An Autonomous Mobile Platform for Surface Carbon Measurements in Open-Ocean and Coastal Waters
Scott Willcox, *Liquid Robotics, Inc.*
Christian Meinig, *NOAA PMEL*
Christopher Sabine, *NOAA PMEL*

Noah Lawrence-Slavas, *NOAA PMEL*
Tim Richardson, *Liquid Robotics, Inc.*
Roger Hine, *Liquid Robotics, Inc.*
Justin Manley, *Liquid Robotics, Inc.*

Oil spill detection technology for early warning spill prevention
Ray Mahr, *Ocean Innovations*
Chris Chase, *InterOcean Systems*

Numerical Modeling and Simulation - 3

D-5
Wednesday, October 28 (1:30PM - 3:00PM)
Co-Chairs: David Evans, Noblis, *Inc.*
David Green, *NOAA NOS*

Research on simulation of course control for large ship with wave disturbances in different sea conditions
Yuanhui Wang, *Best Sea Assembly Institute of Harbin Engineering University*
Xinqian Bian, *Best Sea Assembly Institute of Harbin Engineering University*
Xiaoyun Zhang, *Harbin Engineering University,China*
Guoqing Xia, *Best Sea Assembly Institute of Harbin Engineering University*

Numerical investigation of dynamic free-fall penetrometers in soft cohesive marine sediments using a finite element approach
Andrei Abelev, *Naval Research Laboratory*
Julian Simeonov, *Naval Research Laboratory-Stennis Space Center*
Philip Valent, *Naval Research Laboratory-Stennis Space Center*

Numerical investigation of dynamic free-fall penetrometers in soft cohesive marine sediments using a finite difference approach
Andrei Abelev, *Naval Research Laboratory*
Kevin Tubbs, *Naval Research Laboratory-Stennis Space Center*
Philip Valent, *Naval Research Laboratory-Stennis Space Center*

Ocean Color Observations

D-6
Wednesday, October 28 (1:30PM - 3:00PM)
Co-Chairs: Herbert Ripley, *Hyperspectral Imaging Limited*
Todd Holland, *Naval Research Laboratory-Stennis Space Center*

Examining SeaWiFS chlorophyll variability along the Louisiana coast using wavelet analysis
Eurico D'Sa, *Louisiana State University*
Mitsuko Korobkin, *Louisiana State University*

Absorption Properties along the 70-m isobath of the Southeastern Bering Sea during July 2008
Puneeta Naik, *Louisiana State University*
Eurico D' *Sa, Louisiana State University*
Joaquim Goes, *Bigelow Laboratory for Ocean Sciences*
Helga Gomes, *Bigelow Laboratory for Ocean Sciences*

NASA Satellite Monitoring of Water Clarity in Mobile Bay for Nutrient Criteria Development
Slawomir Blonski, *NASA SSC/SSAI*
Bruce Spiering, *NASA Applied Science & Technology Project Office*
Kara Holekamp, *NASA SSC/SSAI*

Sound Propagation and Scattering - 2

D-7
Wednesday, October 28 (1:30PM - 3:00PM)
Chair: Robert Field, *Naval Research Laboratory-Stennis Space Center*

An Evaluation of Methods for Characterizing the Air / Water Interface for Parabolic Equation Transmission Loss Modeling
Josette Fabre, *Naval Research Laboratory-Stennis Space Center*
Guy Norton, *Naval Research Laboratory-Stennis Space Center*
Robert Zingarelli, *Naval Research Laboratory-Stennis Space Center*
Richard Keiffer, *Naval Research Laboratory-Stennis Space Center*

GOMEX08 - High Frequency Acoustic Propagation over the Alabama Alps
Robert Field, *Naval Research Laboratory-Stennis Space Center*
Patrick Gallacher, *Naval Research Laboratory-Stennis Space Center*
David Hebert, *Naval Research Laboratory-Stennis Space Center*
Ewa Jarosz, *Naval Research Laboratory-Stennis Space Center*

Anisotropy of bottom loss in marine sediments.
Dennis Lindwall, *Naval Research Laboratory-Stennis Space Center*

Warren Wood, *Naval Research Laboratory-Stennis Space Center*

On the Characterization of Time-Scale Underwater Acoustic Signals Using Matching Pursuit Decomposition
Nicolas Josso, *GIPSA-Lab / DIS*
Jun Zhang, *Arizona State University*
Antonia Papandreou-Suppappola, *Arizona State University*
Cornel Ioana, *GIPSA-Lab / DIS*
Cedric Gervaise, *ENSIETA*
Yann Stephan, *Service Hydrographique et Oceanographique del la Marine*
Jérôme Mars, *GIPSA-Lab / DIS*

US IOOS and OOI in Action - Across the Regions

D-8
Wednesday, October 28 (1:30PM - 3:00PM)
Chair: Steven Ramp, *CeNCOOS*

SF Bayweb 2009: Planting the seeds of an observing system in the San Francisco Bay
Steven Ramp, *CeNCOOS*
Joseph Rice, *Naval Postgraduate School*
Toby Garfield, *Romberg Tiburon Center*
John Largier, *Bodega Marine Lab*
Mark Stacey, *University of California Berkeley*

Carolinas Regional Coastal Ocean Observing System (Carolinas RCOOS): a Model for Integration of Sub-Regional Observing Systems
Madilyn Fletcher, *University of South Carolina*
Lynn Leonard, *University of North Carolina Wilmington*
Jeffrey Hanson, *U.S. Army Corps of Engineers, ERDC*
Jennifer Dorton, *University of North Carolina Wilmington*

Measurement of Spring Thermal Stratification in Lake Michigan with the GLUCOS Observing System
Thomas Consi, *Univ. Wisconsin-Milwaukee, Great Lakes Water Institute*
Geoff Anderson, *Univ. Wisconsin-Milwaukee, Great Lakes Water Institute*
Greg Barske, *Univ. Wisconsin-Milwaukee, Great Lakes Water Institute*
Harvey Bootsma, *Univ. Wisconsin-Milwaukee, Great Lakes Water Institute*
Thomas Hansen, *Univ. Wisconsin-Milwaukee, Great Lakes*

Water Institute
John Janssen, *Univ. Wisconsin-Milwaukee, Great Lakes Water Institute*
Val Klump, *Univ. Wisconsin-Milwaukee, Great Lakes Water Institute*
Robert Paddock, *Univ. Wisconsin-Milwaukee, Great Lakes Water Institute*
Don Szmania, *Univ. Wisconsin-Milwaukee, Great Lakes Water Institute*
James Waples, *Univ. Wisconsin-Milwaukee, Great Lakes Water Institute*

Meeting Stakeholder Ocean Data Needs in the Eastern Caribbean
Jorge Capella, *Caribbean Regional Association for Ocean Observing*
Julio Morell, *Caribbean Regional Association for Ocean Observing*
Jorge Corredor, *Caribbean Regional Association for Ocean Observing*

The NANOOS Visualization System: Aggregating, Displaying and Serving Data
Craig Risien, *Oregon State University*
Jonathan Allan, *Oregon Department of Geology and Mineral Industries*
Rick Blair, *Boeing Research & Technology*
Alex Jaramillo, *Oregon Health Science University*
David Jones, *University of Washington*
P. Michael *Kosro, Oregon State University*
David Martin, *University of Washington*
Emilio Mayorga, *University of Washington*
Jan Newton, *University of Washington*
Troy Tanner, *University of Washington*
Stephen Uczekaj, *Boeing Research & Technology*

Operational Oceanography: Data Assimilation and Modeling - 1

D-9
Wednesday, October 28 (1:30PM - 3:00PM)
Co-Chairs: Mike Jugan, *Naval Oceanographic Office*
Stefano Vignudelli, *Consiglio Nazionale delle Ricerche*

Numerical Assimilation in Nearshore Spectral Wave Model
Yang-Ming Fan, *National Cheng Kung University*
Chia Chuen Kao, *National Cheng Kung University*

Dong-Jiing Doong, *National Taiwan Ocean University*
Kuo-Ching Yao, *National Cheng Kung University*
Li-Chung Wu, *National Cheng Kung University*

Implementations of the Navy Coupled Ocean Data Assimilation System at the Naval Oceanographic Office
Bruce Lunde, *Naval Oceanographic Office*
Emanuel Coelho, *University of Southern Mississippi*

The COSTALT Project: Towards an Operational Use of Satellite Altimetry in the Coastal Zone
Stefano Vignudelli, *Consiglio Nazionale delle Ricerche*
Paolo Cipollini, *National Oceanography Centre Southampton*
Christine Gommenginger, *National Oceanography Centre Southampton*
Helen Snaith, *National Oceanography Centre Southampton*
Henrique Coehlo, *Hidromod*
Joana Fernandes, *Universidade do Porto*
Jesus Gomez-Enri, *Universidad de Cádiz*
Cristina Martin-Puig, *Starlab S.L.*
Philip Woodworth, *Proudman Oceanographic Laboratory*
Salvatore Dinardo, *Serco/ESRIN*
Jérôme Benveniste, *European Space Agency /ESRIN*

Ocean Data Assimilation Guidance Using Uncertainty Forecasts
Emanuel Coelho, *Naval Research Laboratory-Stennis Space Center/USM*
Clark Rowley, *Naval Research Laboratory-Stennis Space Center*
Gregg Jacobs, *Naval Research Laboratory-Stennis Space Center*

Coffee Break
Exhibit Hall
Wednesday, October 28 (3:00PM - 3:30PM)

Classification and Pattern Recognition - 2
D-1
Wednesday, October 28 (3:30PM - 5:00PM)
Chair: Jon Wood, Seebyte, *Ltd.*

Nonparametric Spatial Analysis for Mine Line Detection
John Hyland, *Naval Surface Warfare Center Panama City Division*
Cheryl Smith, *Naval Surface Warfare Center Panama City Division*

PATT : A Performance Analysis and Training Tool for the assessment and adaptive planning of Mine Counter Measures (MCM) operations
Pierre-Yves Mignotte, *SeeByte Ltd*
Jose Vazquez, *SeeByte Ltd*
Jon Wood, *SeeByte Ltd.*
Scott Reed, *SeeByte Ltd*

Passive Acoustic Detection and Classification of Divers in Harbor Environments
Ron Lennartsson, *Swedish Defence Research Agency, FOI*
Eva Dalberg, *Swedish Defence Research Agency, FOI*
Leif Persson, *Swedish Defence Research Agency, FOI*
Stefan Petrovic´, *Swedish Defence Research Agency, FOI*

Marine Life and Ecosystems

D-10
Wednesday, October 28 (3:30PM - 5:00PM)
Co-Chairs: David Green, *NOAA NOS*
John Wiltshire, *SOEST U Hawaii*

Evaluating Connectivity between Marine Protected Areas (MPA) Using CODAR High-Frequency (HF) Radar
Brian Zelenke, *California Polytechnic State University*
Mark Moline, *California Polytechnic State University*
Greg Crawford, *Humboldt State University*
Newell Garfield, *San Francisco State University*
Burt Jones, *University of Southern California*
John Largier, *University of California, Davis*
Jeffrey Paduan, *Naval Postgraduate School*
Steven Ramp, *Monterey Bay Aquarium Research Institute*
Eric Terrill, *Scripps Institution of Oceanography*
Libe Washburn, *University of California, Santa Barbara*

Geolocation Estimation of Marine Species Using a High Resolution Light Tag
Prajas John, *Cochin University of Science & Technology*
Jaison Peter, *Cochin University of Science & Technology*
Adrine Correya, *Cochin University of Science & Technology*
Supriya Subash, *Cochin University of Science & Technology*
P. R. *Saseendran Pillai, Cochin University of Science & Technology*

Ecological Forecasting: Moving from Research to Management Use
David Green, *NOAA NOS*
Louis Uccellini, *NOAA NWS NCEP*

Marie Colton, *NOAA OAR GLERL and NOS*
Elizabeth Turner, *NOAA NOS*
David Scheurer, *NOAA NOS*
Nathalie Valette-Silver, *NOAA NOS*
Gary Matlock, *NOAA NOS*
Doug Wilson, *NOAA NOS*
Christopher Brown, *NOAA NESDIS*

Tracking Surface Pollutants in Southern California Coastal Waters
Burt Jones, *University of Southern California*
Amanda Dillon, *SCCOOS*
Lisa Hazard, *SCCOOS*
Eric Terrill, *SCCOOS*
Julie Thomas, *SCCOOS*
Libe Washburn, *University of California, Santa Barbara*

A new tool for monitoring ecosystem dynamics in coastal environments: Long-term use and servicing requirements of the commercial Underwater Bioluminescence Assessment Tool (U-BAT)
Cristina Orrico, *WET Labs, Inc*
Mark Moline, *California Polytechnic State University*
Ian Robbins, *California Polytechnic State University*
Brian Zelenke, *California Polytechnic State University*
Andrew Barnard, *WET Labs, Inc*
Wes Strubhar, *WET Labs, Inc*
John Koegler, *WET Labs, Inc*
Casey Moore, *WET Labs, Inc*

Remotely Operated Vehicles

D-11
Wednesday, October 28 (3:30PM - 5:00PM)
Co-Chairs: Louis Whitcomb, *Johns Hopkins University*
Art Kleiner, *C&C Technologies*

Field Trials of the The Nereus Hybrid Underwater Robotic Vehicle in the Challenger Deep of the Mariana Trench
Louis Whitcomb, *Johns Hopkins University*
Andrew Bowen, *Woods Hole Oceanographic Institution*
Dana Yoerger, *Woods Hole Oceanographic Institution*
Chris Taylor, *Woods Hole Oceanographic Institution*
Robert McCabe, *Woods Hole Oceanographic Institution*
Jonathan Howland, *Woods Hole Oceanographic Institution*
Daniel Gomez-Ibanez, *Woods Hole Oceanographic Institution*
James Kinsey, *Woods Hole Oceanographic Institution*
Matthew Heintz, *Woods Hole Oceanographic Institution*

Glenn McDonald, *Woods Hole Oceanographic Institution*
Donald Peters, *Woods Hole Oceanographic Institution*
John Bailey, *Woods Hole Oceanographic Institution*
Eleanor Bors, *Woods Hole Oceanographic Institution*
Tim Shank, *Woods Hole Oceanographic Institution*
Stephen Martin, *Johns Hopkins University*
Sarah Webster, *Johns Hopkins University*
Michael Jakuba, *Johns Hopkins University*
Barbara Fletcher, *SPAWAR*
Chris Young, *SPAWAR*
James Buescher, *SPAWAR*
Patricia Fryer, *University of Hawaii*
Samuel Hulme, *University of Hawaii*

Techniques and tips to maximize the usage of a mini-ROV
Mark Stepanek, *Pro-ROV Services*
Jeff Conger, *SeaBotix, Inc.*

Design and Operational Performance of a Standalone, Passive Heave Compensation System for a Work Class ROV
Andreas Huster, *Oceanworks*
Hans Bergstrom, *Oceanworks*
Jeff Gosior, *Oceanworks*
Derek White, *Oceanworks*

Model-free High Order Sliding Mode Control for ROV: Station-keeping Approach
Luis Garcia-Valdovinos, *CIDESI*
Tomas Salgado-Jiménez, *CIDESI*
Hasan Torres-Rodríguez, *MABE*

Effective Technology for Underwater Hull and Infrastructure Inspection: The SeaBotix Little Benthic Crawler (LBC).
Sean Newsome, *SeaBotix Inc*
Jesse Rodocker, *SeaBotix Inc*

Marine Spatial Planning Round Table
D-12
Wednesday, October 28 (3:30PM - 5:00PM)
Chair: Craig McLean, *NOAA*

Acoustic Telemetry and Communication - Modeling/Simulation - 2
D-2
Wednesday, October 28 (3:30PM - 5:00PM)

Chair: Paolo Casari, University of Padova, *Department of Information Engineering*

Undersea Communication Network Self-Localization during the Unet'08 Seatrial
Doug Grimmett, *SPAWAR Systems, Center Pacific*

A Broadband Multi-Channel Source-Receive Array for Ocean Acoustics Research
Jeff Skinner, *UCSD Marine Physical Laboratory*
William Hodgkiss, *UCSD Marine Physical Laboratory*

Acoustic Communication Performance of the WHOI Micro-Modem in Sea Trials of the Nereus Vehicle to 11,000 m Depth
Sandipa Singh, *Woods Hole Oceanographic Institution*
Sarah Webster, *Johns Hopkins University*
Lee Freitag, *Woods Hole Oceanographic Institution*
Louis Whitcomb, *Johns Hopkins University*
Keenan Ball, *Woods Hole Oceanographic Institution*
John Bailey, *Woods Hole Oceanographic Institution*
Chris Taylor, *Woods Hole Oceanographic Institution*

Offshore Structures

D-3
Wednesday, October 28 (3:30PM - 5:00PM)
Chair: Evan Zimmerman, Delmar Systems, *Inc.*

Observations on Dynamic Tensions of Drill String during Drilling Operation of Scientific Drilling Vessel Chikyu
Tomoya Inoue, *JAMSTEC*
Masahiko Ozaki, *Tokyo University*
Kazuyasu Wada, *JAMSTEC*

Stability Assessment of Spudcan Foundation of Jack-Up Units
Evan Zimmerman, *Delmar Systems Inc.*
Charles Aubeny, *Texas A&M University*
Chao-Ming Chi, *Texas A&M University*

Distribution of Wave Crest Maxima in the Vicinity of Offshore Structures
Amir Izadparast, *Texas A&M University*
John Niedzwecki, *Texas A&M University*

Ocean Instrumentation and Sensors - 2

D-4
Wednesday, October 28 (3:30PM - 5:00PM)
Co-Chairs: Malcolm Heron, *James Cook University*
Steve Anderson, *Horizon Marine, Inc*

A Near Real-Time Scour Monitoring System at Indian River Inlet, Delaware, USA
Jack Puleo, *University of Delaware*
Jesse Hayden, *University of Delaware*

Microwave-Acoustic Water Level Sensor Comparisons: Sensor Response to Change in Oceanographic and Meteorological Parameters
John Boon, *Virginia Institute of Marine Science*
Robert Heitsenrether, *NOAA NOS CO-OPS*
Mark Bushnell, *NOAA NOS CO-OPS*

Real-Time Measurement of Sea Ice Thickness, Keel Sizes and Distributions and Ice Velocities Using Upward Looking Sonar Instruments
David Fissel, *ASL Environmental Sciences Inc.*
Rene Chave, *ASL Environmental Sciences Inc.*
Jan Buermans, *ASL Environmental Sciences Inc.*

A Study on the Validity of Buoy Mounted Acoustic Doppler Profilers: A Comparison of Upward and Downward Looking Systems in Onslow Bay, NC
Lea Locke, *University of Southern Mississippi*
Richard Crout, *NOAA NWS NDBC*

Data Assimilation

D-5
Wednesday, October 28 (3:30PM - 5:00PM)
Co-Chairs: Scott Smith, *Naval Research Laboratory-Stennis Space Center*
Robert Helber, *Naval Research Laboratory-Stennis Space Center*

Uncertainty-based Adaptive AXBT Sampling with SPOTS
Donald Del Balzo, *QinetiQ North America*
Joseph Klicka, *Naval Air Systems Command*

Real-time data assimilation of ice concentration into a coupled ice/ocean forecast system
Pamela Posey, *Naval Research Laboratory-Stennis Space Center*
Joseph Metzger, *Naval Research Laboratory-Stennis Space Center*
Alan Wallcraft, *Naval Research Laboratory-Stennis Space Center*
Ole Martin Smedstad, *QinetiQ North America*
Michael Phelps, *Jacobs Engineering*

Analysis of Remotely Sensed Ocean Data by the Optimal Spectral Decomposition (OSD) Method
Peter Chu, *Naval Postgraduate School*

Hyperspectral Observations

D-6
Wednesday, October 28 (3:30PM - 5:00PM)
Co-Chairs: Todd Holland, *Naval Research Laboratory-Stennis Space Center*
Herbert Ripley, *Hyperspectral Imaging Limited*

Hyperspectral Survey Planning
Herbert Ripley, *Hyperspectral Imaging Limited*

Hyperspectral Remote Sensing of Water Mass Properties in a River-Influenced Coastal Region
Steven Lohrenz, *University of Southern Mississippi*
Wei-Jun Cai, *University of Georgia*
Xiaogang Chen, *University of Southern Mississippi*
Merritt Tuel, *University of Southern Mississippi*

Mapping Submerged Aquatic Vegetation with Hyperspectral Techniques
Herbert Ripley, *Hyperspectral Imaging Limited*
Dean Dobberfuhl, *Saint John River Water Management District*
Courtney Hart, *Saint John River Water Management District*

Sound Propagation and Scattering - 3

D-7
Wednesday, October 28 (3:30PM - 5:00PM)
Chair: Pedro Jordan, *Naval Research Laboratory-Stennis Space Center*

Weakly Nonlinear Harmonic Acoustic Waves in Classical Thermoviscous Fluids: A Perturbation Analysis
Pedro Jordan, *Naval Research Laboratory-Stennis Space Center*

The numerical solution of acoustic propagation through dispersive moving media.
Guy Norton, *Naval Research Laboratory-Stennis Space Center*

Review of Ocean-Acoustic Models
Paul Etter, *Northrop Grumman Corporation*

Acoustic Detection of Motor Vessel Signatures in Very Shallow Water
Richard Costley, *Miltec Corp. / Ducommon Inc.*
Thomas Muir, *Consultant*
Jay Williams, *Miltec Corp. / Ducommun, Inc.*

US IOOS and OOI Eyes in the Water - Observing Assets

D-8
Wednesday, October 28 (3:30PM - 5:00PM)
Co-Chairs: Andrew Clark, *CSnet International*
Donna Kocak, *Harris Corporation*

Implementation of the Noblis Sensor Service Oriented Architecture (SOA) and the Noblis Autonomous Marine Sensor System (NAMSS) within an Autonomous Sensor Network (ASN)
Barry Stamey, *Noblis*
Keith Biesecker, *Noblis*

The Texas Coastal Ocean Observation Network and Coastal Elevation Datums
Gary Jeffress, *Texas A&M University-Corpus Christi*

Numerical Modeling and Hardware-in-the-Loop Simulation of Undersea Networks, Ocean Observatories and Offshore Communications Backbones
Andrew Clark, *CSnet International*
Donna Kocak, *Maritime Communication Services*
Ken Martindale, *Harris Corporation*
Adrian woodroffe, *Ocean Works International*

The Coastal and Global Scale Nodes of the Ocean Observatories Initiative
Albert Plueddemann, *Woods Hole Oceanographic Institution*
Robert Weller, *Woods Hole Oceanographic Institution*
Jack Barth, *Oregon State University COAS*
Uwe Send, *Scripps Institution of Oceanography*

Operational Oceanography: Data Assimilation and Modeling - 2

D-9
Wednesday, October 28 (3:30PM - 5:00PM)
Co-Chairs: Stefano Vignudelli, *Consiglio Nazionale delle Ricerche*
Mike Jugan, *Naval Oceanographic Office*

Development of a relocatable operational coastal modeling system for the US Navy
Philip Chu, *Naval Research Laboratory-Stennis Space Center*
Cheryl Ann Blain, *Naval Research Laboratory-Stennis Space Center*
Robert Linzell, *Qinetiq North America*

Simulating Hurricane Gustav and Ike Wave Fields along the Louisiana Innershelf: Implementations of an Unstructured Third-Generation Wave Model, SWAN
Seyed SiadatMousavi, *Louisiana State University*
Felix Jose, *Louisiana State University*
Gregory Stone, *Louisiana State University*

Bio-Physical Ocean Modeling in the Gulf of Mexico
Sergio deRada, *Naval Research Laboratory*
Robert Arnone, *Naval Research Laboratory-Stennis Space Center*
Stephanie Anderson, *Naval Research Laboratory-Stennis Space Center*

Operational Application of Composited MODIS Chlorophyll-a
Benjamin Jelley, *WorldWinds, Inc.*
Elizabeth Valenti, *WorldWinds, Inc.*

Art Show and Sale

Beau Rivage
Wednesday, October 28 (4:00PM - 7:00PM)

OCEANS in Paradise Gala and Student Awards Presentations

Beau Rivage
Wednesday, October 28 (7:00PM - 10:00PM)

Thursday Speakers' Breakfast

Speaker's Room
Thursday, October 29 (7:30AM - 8:30AM)
Hosts: Richard Crout, *NDBC*
Stephanie Myrick, *Naval Research Laboratory-Stennis Space Center*

Synthetic Aperture Sonar

D-1
Thursday, October 29 (8:30AM - 10:00AM)
Co-Chairs: Daniel Sternlicht, *Naval Surface Warfare Center Panama City Division*
Kerry Commander, *Naval Surface Warfare Center Panama City Division*

Interferometric measurements using redundant phase centers of synthetic aperture sonars
James Prater, *Naval Surface Warfare Center Panama City Division*
Tesfaye G-Michael, *Naval Surface Warfare Center Panama City Division*

Experiments in Coherent Change Detection for Synthetic Aperture Sonar
Daniel Sternlicht, *Naval Surface Warfare Center Panama City Division*
J. Harbaugh, *Applied Signal Technology*
Matthew Nelson, *Applied Signal Technology*

Frequency Domain Beamformer for a 3-D Sediment Volume Imaging Synthetic Aperture Sonar
Jonathan Pearson Magoon, *Applied Signal Technology*
Matthew Nelson, *Applied Signal Technology*
Daniel Sternlicht, *Naval Surface Warfare Center Panama City Division*

Vehicle Performance

D-10
Thursday, October 29 (8:30AM - 10:00AM)
Co-Chairs: Claude Brancart, *IEEE OES*
Charles Fralick, *SAIC*

Automatic workspace analysis and vehicle adaptation for hydraulic underwater manipulators
Jan Albiez, *DFKI-Bremen*
Marc Hildebrandt, *DFKI-Bremen*
Jochen Kerdels, *DFKI-Bremen*
Frank Kirchner, *DFKI-Bremen*

A Multi-Layered Controller Approach for High Precision End-Effector Control of Hydraulic Underwater Manipulator Systems
Marc Hildebrandt, *DFKI-Bremen*
Jochen Kerdels, *DFKI-Bremen*
Jan Albiez, *DFKI-Bremen*
Frank Kirchner, *DFKI-Bremen*

Air Cushion Vehicle Response to Waves in the Surf Zone
Manhar Dhanak, *Florida Atlantic University*

Life Support Breathing System for Submarine Rescue Vehicle: SubPack Rebreather System
Mark Johnson, *O2 Dive Technologies Inc.*
Gene Melton, *HydroSpace Engineering, Inc.*

Habitat: Wetlands, Barrier Islands, and Bays - 1

D-12
Thursday, October 29 (8:30AM - 10:00AM)
Co-Chairs: Phil Bass, *EPA*
Jennifer Wozencraft, *USACE - JALBTCX*
Elijah Ramsey, *U.S. Geological Survey*

USACE National Coastal Mapping Program and the Next Generation of Data Products
Christopher Macon, *USACE - JALBTCX*

Gulf of Mexico Master Mapping Plan
Jennifer Wozencraft, *USACE - JALBTCX*

Watershed and Hydrodynamic Modeling for Evaluating the Impact of Land Use Change on Submerged Aquatic Vegetation and Seagrasses in Mobile Bay
Maurice Estes, *USRA at NASA/MSFC*
Mohammad Al-Hamdan, *USRA at NASA/MSFC*
Ronald Thom, *Battelle/PNNL*
Dale Quattrochi, *NASA Marshall Space Flight Center*
Dana Woodruff, *Battelle/PNNL*

Chaeli Judd, *Battelle/PNNL*
Jean Ellis, *University of South Carolina*
Brian Watson, *Tetra Tech*
Hugo Rodriguez, *Tetra Tech*
Hoyt Johnson, *Prescott College*

Acoustic Telemetry and Communication - 3

D-2
Thursday, October 29 (8:30AM - 10:00AM)
Co-Chairs: Doug Grimmett, SPAWAR Systems, *Center Pacific*
Jun-Hong Cui, *University of Connecticut*

Multiple-Access Communications for Underwater Acoustic Sensor Networks using OFDM-IDMA
Lance Linton, *Victoria University*
Phillip Conder, *Victoria University*
Michael Faulkner, *Victoria University*

Optimal Power Allocation and Doppler Compensation in Cooperative Underwater Networks using OFDM
Srinivas Yerramalli, *University of Southern California*
Urbashi Mitra, *University of Southern California*

Multiplexing Data and Control Channels in Random Access Underwater Networks
Roberto Petroccia, *University of Rome, La Sapienza*
Stefano Basagni, *Northeastern University*
Chiara Petrioli, *Dept. of Computer Science, University of Rome "La Sapienza"*
Milica Stojanovic, *Northeastern University*

Aqua-Net: An Underwater Sensor Network Architecture: Design, Implementation, and Initial Testing
Zheng Peng, *University of Connecticut*
Zhong Zhou, *University of Connecticut*
Jun-Hong Cui, *University of Connecticut*
Zhijie Zhi, *University of Connecticut*

Robust Data-Centric Storage for Underwater Acoustic Sensor Networks
Rui Cao, *University of Florida*
Liuqing Yang, *University of Florida*

Marine Outreach

D-3
Thursday, October 29 (8:30AM - 10:00AM)

Co-Chairs: Tracie Sempier, *Mississippi-Alabama Sea Grant Consortium*
Deidre Sullivan, *MATE Center*

Assessing the Need for a Certification Program for Oceanographic Professionals
Deidre Sullivan, *MATE Center*
Leslie Rosenfeld, *MATE Center*
Tom Murphree, *MATE Center*

Resilience Tools: Practical Application of Research
Tracie Sempier, *Mississippi-Alabama Sea Grant Consortium*
LaDon Swann, *Mississippi-Alabama Sea Grant Consortium*
Rhonda Price, *Mississippi Department of Marine Resources*
Tina Shumate, *Mississippi Department of Marine Resources*
Wesley Shaw, *Blue Urchin Consulting*

Mapping, Cross-walking, Converting and Exchanging Oceanographic Metadata Information in Video Data Management System
Anna Fiolek, *NOAA Central Library*
Susan Gottfried, *NOAA NCDDC*
Stacy Ladnier, *NOAA NCDDC*
Sharon Mesick, *NOAA NCDDC*

COSEE: Collaborations to Bring Ocean Science Research to the Public
Liesl Hotaling, *Beacon Institute*
Gail Scowcroft, *University of Rhode Island*

Nutrient Sensors - 1 Special Session

D-4
Thursday, October 29 (8:30AM - 10:00AM)
Co-Chairs: Donna Kocak, *Harris Corporation*
Mario Tamburri, *Alliance for Coastal Technologies*

Sustained, Autonomous Coastal Nutrient Observations aboard Moorings and Vertical Profilers
Peter Egli, *SubChem Systems Inc.*
Scott Veitch, *SubChem Systems Inc.*
Alfred Hanson, *SubChem Systems Inc.*

Continuous Nutrient automated monitoring on the Mediterranean Sea using in situ flow analyser
Renaud Vuillemin, *Observatoire Océanologique de Banyuls sur Mer*
Luca Sanfilippo, *SYSTEA SpA*

Pompeo Moscetta, *SYSTEA SpA*
Laurent Zudaire, *Observatoire Océanologique de Banyuls sur Mer*
Louise Oriol, *Observatoire Océanologique de Banyuls sur Mer*
Eric Maria, *Observatoire Océanologique de Banyuls sur Mer*
Cyrielle Tricoire, *Observatoire Océanologique de Banyuls sur Mer*
Nadine Le Bris, *Observatoire Océanologique de Banyuls sur Mer*
Stéphane Blain, *Observatoire Océanologique de Banyuls sur Mer*
Philippe Lebaron, *Observatoire Océanologique de Banyuls sur Mer*
Eric Carbones, *Observatoire Océanologique de Banyuls sur Mer*

Instrumentation for continuous monitoring of nutrients in marine environments
Pompeo Moscetta, *SYSTEA SpA*
Luca Sanfilippo, *SYSTEA SpA*
Enrico Savino, *SYSTEA SpA*
Pietro Moscetta, *Sysmedia Srl*
Amara Gunatilaka, *Centre for Public Health, Medical University of Vienna*
Roza Allabashi, *Univ. of Natural Resources and Applied Life Science*

Observations on Continuous Nutrient Monitoring in Venice Lagoon
Luca Sanfilippo, *SYSTEA SpA*
Amara Gunatilaka, *Centre for Public Health, Medical University of Vienna*
Pompeo Moscetta, *SYSTEA SpA*
Enrico Savino, *SYSTEA SpA*
Cristina Dell'Olivo, *Magistrato alle Acque, SAMA*
Francesca Scardia, *Magistrato alle Acque, SAMA*
Alessandro Gurato, *Magistrato alle Acque, SAMA*
Jesus Cisneros-Aguirre, *Dep. Fisica*

Information Management - 1

D-5
Thursday, October 29 (8:30AM - 10:00AM)
Co-Chairs: Kevin Shaw, *Naval Research Laboratory-Stennis Space Center*

A solution to metadata: Using XML transformations to automate metadata
Jacqueline Mize, *NOAA NCDDC*

Christopher Robertson, *Louisiana Office of Coastal Protection and Restoration (OCPR)*

New Solutions for Navigating an Ocean of Data
Sharon Mesick, *NOAA NCDDC*
Susan Gottfried, *NOAA GDIT*
Scott Hill, *NOAA GDIT*

Design of Marine Broadband Framework for Coastal fishing and its Applications
Masaaki Wada, *Futre University-Hakodate*
Katsumori Hatanaka, *Tokyo University of Agriculture*

Database Designs and Metadata Management for Climate Observations and Tsunami Sea-Level Monitoring and Quality Control
Jing Zhou, *SAIC*
Landry Bernard, *University of Southern Mississippi*
Richard Bouchard, *NOAA NWS NDBC*
Kevin Kern, *NOAA NWS NDBC*
Chung-Chu Teng, *NOAA NWS NDBC*
Kirk Benson, *SAIC*
Jack Higgs, *SAIC*

Geoacoustic Inversion

D-7
Thursday, October 29 (8:30AM - 10:00AM)
Chair: James Fulford, *Naval Research Laboratory-Stennis Space Center*

Vertical Array Passive Geo-Acoustic Inversion in Range-Dependent Environments
James Leclere, *QinetiQ North America*
Donald Del Balzo, *QinetiQ North America*
Lisa Pflug, *QinetiQ North America*

Flow interpretation implications for Poro-Elastic Modeling
James Fulford, *Naval Research Laboratory-Stennis Space Center*

Rapid inversion in shallow water with a single receiver using modal time-frequency pattern extraction
Julien Bonnel, *GIPSA-Lab / DIS*
Barbara Nicolas, *GIPSA-Lab / DIS*
Jérôme Mars, *GIPSA-Lab / DIS*
Dominique Fattaccioli, *CTSN / DGA*

US IOOS and OOI in Action - Across the Nation

D-8
Thursday, October 29 (8:30AM - 10:00AM)
Chair: Marcia Weaks, *NOAA*

The Chesapeake Bay Interpretive Buoy System: Recent Expansion and Advances
Doug Wilson, *NOAA Chesapeake Bay Office*

IOOS - Customer-Focused Activities
Marcia Weaks, *NOAA*
Samuel Walker, *SECOORA*
Mike Koziara, *NOAA*

Tools Required of Ocean Observing
Mario Tamburri, *Alliance for Coastal Technologies*

The Integrated Ocean Observing System in support of Maritime Transportation
Julie Thomas, *SCCOOS*
Lisa Hazard, *SCCOOS*
Heather Kerkering, *CeNCOOS*
Steven Ramp, *CeNCOOS*
Eric Terrill, *SCCOOS*

Operational Oceanography: Data Applications and Products - 1

D-9
Thursday, October 29 (8:30AM - 10:00AM)
Co-Chairs: John Lever, Commander, *Naval Meteorology and Oceanography Command*
Michael Meisinger, *University of California, San Diego*

Automation of Ocean Model Performance Metrics
James Dykes, *Naval Research Laboratory-Stennis Space Center*
Jay Shriver, *Naval Research Laboratory-Stennis Space Center*
Sean Ziegeler, *High Performance Technologies, Inc.*

Ocean Observing: Linking Observations to the NWS and the Marine Community
Jennifer Dorton, *University of North Carolina Wilmington*
Vembu Subramanian, *University of South Florida*
Charlton Galvarino, *Second Creek Consulting, LLC*
Dwayne Porter, *University of South Carolina*

An Interagency Collaboration Toward the Integrated Ocean Observing System
John Lever, *Commander, Naval Meteorology and Oceanography Command*
Charles Alexander, *NOAA NOS*
Bruce Gritton, *Commander, Naval Meteorology and Oceanography Command*

Serving Ocean Model Data on The Cloud
Michael Meisinger, *University of California, San Diego*
Claudiu Farcas, *University of California, San Diego*
Emilia Farcas, *University of California, San Diego*
Charles Alexander, *NOAA NOS*
Matthew Arrott, *University of California, San Diego*
Jeff de La Beaujardière, *NOAA*
Paul Hubbard, *University of California, San Diego*
Rich Signell, *U.S. Geological Survey*

Development of a Global Marine Environmental Library
Margaret Schexnayder, *Naval Oceanographic Office*
Scott Hall, *Naval Oceanographic Office*
Marc Bourgeois, *Naval Oceanographic Office*

Student Posters
Central Lobby
Thursday, October 29 (9:00AM - 2:00PM)
Co-Chairs: Stephan Howden, *University of Southern Mississippi*
Greg Eisman, *SAIC*

Coffee Break
Exhibit Hall
Thursday, October 29 (10:00AM - 10:30AM)

Sonar Imaging
D-1
Thursday, October 29 (10:30AM - 12:00PM)
Co-Chairs: Marlin Gendron, *Naval Research Laboratory-Stennis Space Center*
Maura Lohrenz, *Naval Research Laboratory-Stennis Space Center*

Unsupervised Detection of Mine-Like Objects in Seabed Imagery From Autonomous Underwater Vehicles
Phil Chapple, *Defence Science & Technology Organisation*

Synthetic Aperture Sonar Low Frequency vs. High Frequency Automatic Contact Generation
Marlin Gendron, *Naval Research Laboratory-Stennis Space Center*
John Dubberley, *Naval Research Laboratory-Stennis Space Center*

Automated Change Detection Using Synthetic Aperture Sonar Imagery
John Dubberley, *Naval Research Laboratory-Stennis Space Center*
Marlin Gendron, *Naval Research Laboratory-Stennis Space Center*
Maura Lohrenz, *Naval Research Laboratory-Stennis Space Center*

Vehicle Navigation - 1

D-10
Thursday, October 29 (10:30AM - 12:00PM)
Co-Chairs: Karen Kohanowich, *NOAA*
Charles Fralick, *SAIC*

Terrain Aided Navigation for Underwater Vehicles Using Pockmarks
Kjetil Anonsen, *Norwegian Defence Research Establishment (FFI)*
Ove Kent Hagen, *Norwegian Defence Research Establishment (FFI)*

Side Scan Sonar Image Segmentation and Feature Extraction
Miguel Pinto, *Engineering of University of Porto*
Bruno Ferreira, *Engineering of University of Porto*
Aníbal Matos, *Engineering of University of Porto*
Nuno Cruz, *Engineering of University of Porto*

Small AUV docking algorithms near dock unit based on visual data
Alexander Scherbatyuk, *IMTP FEB RAS*
Alexander Vorontsov, *IMTP FEB RAS*
Andrey Kushnerik, *IMTP FEB RAS*

Shallow Waters SLAM Experiments on Meredith AUV using Forward Looking Sonar
Alvin Koh, *DSO National Laboratories*
Soon Lee Pua, *DSO National Laboratories*
Sardha Wijesoma, *Nanyang Technological University*
Kwang Wee Lee, *Nanyang Technological University*

Bharath Kalyan, *Nanyang Technological University*

Habitat: Wetlands, Barrier Islands, and Bays - 2

D-12
Thursday, October 29 (10:30AM - 12:00PM)
Co-Chairs: Elijah Ramsey, *U.S. Geological Survey*
Maria Kalcic, *Science Systems & Applications, Inc.*

A Landsat-based Assessment of Mobile Bay Land Use and Land Cover Change from 1974 to 2008
Joseph Spruce, *Science Systems & Applications, Inc.*
Jean Ellis, *University of South Carolina*
James Smoot, *Science Systems & Applications, Inc.*
Roberta Swann, *Mobile Bay National Estuary Program*
William Graham, *NASA Applied Science & Technology Project Office*

Monitoring Coastal Marshes for Persistent Saltwater Intrusion
Maria Kalcic, *Science Systems & Applications, Inc.*
Callie Hall, *NASA Applied Science & Technology Project Office*
Jeffrey Russell, *Naval Research Laboratory-Stennis Space Center*
Rose Fletcher, *Science Systems & Applications, Inc.*

Developing New Coastal Forest Restoration Products Based on Landsat, ASTER, and MODIS Data
Joseph Spruce, *Science Systems & Applications, Inc.*
William Graham, *NASA Applied Science & Technology Project Office*
James Smoot, *Science Systems & Applications, Inc.*

Wave Transformation over Sabine Bank, off the Louisiana-Texas Coast: Implications for Targeted Sand Mining for Coastal Restoration
Felix Jose, *Louisiana State University*
Gregory Stone, *Louisiana State University*

Combined GIS and ROV technologies improve characterization of water quality in Coastal Rivers of the Gulf of Mexico
Andrew Casper, *USACE-ERDC, Environmetal Lab*
Eric Steimle, *Applied Environmental and Ocean Sciences*
Michael Hall, *Applied Environmental and Ocean Sciences*
Barnali Dixon, *Environmental Science and Policy Program*

Acoustic Telemetry and Communication - 4

D-2
Thursday, October 29 (10:30AM - 12:00PM)
Chair: Pierre-Philippe Beaujean, *Florida Atlantic University*

Underwater Acoustic Localization by Probabilistic Fingerprinting in Eigenspace
Kun-Chou Lee, *National Cheng-Kung University*
Jhih-Sian Ou, *National Cheng-Kung University,*
Lan-Ting Wang, *Tainan University of Technology*

An Enhanced Underwater Positioning System to Support Deepwater Installations
Hwee-Pink Tan, *Institute for Infocomm Research*
Zhi Ang Eu, *NUS Graduate School for Integrative Sciences and Engineering*
Winston Seah, *Institute for Infocomm Research*
Blind DFE based on NLMS Algorithm With Generalized Normalized Gradient Descent Regularization
Aderrazak Abdaoui, *Institut Telecom, Telecom Bretagne*
Christophe Laot, *Institut Telecom, Telecom Bretagne*

Turbo Coded Frequency Hopped Frequency Division Multiplexed Signaling
Milutin Pajovic, *Florida Atlantic University*
Pierre-Philippe Beaujean, *Florida Atlantic University*

Frequency Hopped Frequency Division Multiplexed Signaling
Pierre-Philippe Beaujean, *Florida Atlantic University*
Milutin Pajovic, *Florida Atlantic University*
Edward Carlson, *Florida Atlantic University*
John Spruance, *Edgetech*

Marine Education - 1

D-3
Thursday, October 29 (10:30AM - 12:00PM)
Co-Chairs: Douglas Levin, *NOAA*
Erica Moulton, *MATE Center*

Building the Ocean STEM Workforce Pipeline: MATE ROV Competitions Expand their Reach to Middle Schools
Jill Zande, *MATE Center*
Erica Moulton, *MATE Center*
Deidre Sullivan, *MATE Center*

Invisible Integration of Science, Technology, Engineering and Math into the Classroom
Douglas Levin, *NOAA*
Art Trembanis, *University of Delaware*
Rose Petrecca, *Rutgers University Marine Station*

Undergraduate Marine Science Education: Incorporating Real-World Data
James Brey, *American Meteorological Society*
Ira Geer, *American Meteorological Society*
Joseph Moran, *American Meteorological Society*
Robert Weinbeck, *American Meteorological Society*
Elizabeth Mills, *American Meteorological Society*
Bernard Blair, *American Meteorological Society*
Edward Hopkins, *American Meteorological Society*
Thomas Kiley, *American Meteorological Society*
Emily Ruwe, *American Meteorological Society*

SENSE IT: Student developed environmental sensors classroom project
Liesl Hotaling, *Beacon Institute*

Building Buoys for Observing and STEM Education
Lundie Spence, *COSEE SE*
Quint White, *Jacksonville University*
Lex Waters, *Jacksonville University*
Doug Levin, *NOAA Chesapeake Bay Office*

Nutrient Sensors - 2 Special Session

D-4
Thursday, October 29 (10:30AM - 12:00PM)
Co-Chairs: Donna Kocak, *Harris Corporation*
Mario Tamburri, *Alliance for Coastal Technologies*

Long-term real-time monitoring of phosphate using the in situ CYCLE sensor
Andrew Barnard, *WET Labs, Inc*
Andrew Barnard, *WET Labs, Inc*
Bruce Rhoades, *WET Labs, Inc*
Cale Wetzel, *WET Labs, Inc*
Alex Derr, *WET Labs, Inc*
J. Ronald *Zaneveld, WET Labs, Inc*
Casey Moore, *WET Labs, Inc*
Corey Koch, *WET Labs, Inc*
Ian Walsh, *WET Labs, Inc*

ISUS/SUNA Nitrate Measurements in Networked Ocean Observing Systems
Geoff MacIntyre, *Satlantic Inc*
Burkhard Plache, *Satlantic Inc.*
Marlon Lewis, *Satlantic Inc*
John Andrea, *Satlantic Inc*
Scott Feener, *Satlantic Inc*
Scott McLean, *Satlantic Inc*
Ken Johnson, *MBARI*
Luke Coletti, *MBARI*
Hans Jannasch, *MBARI*

The Optical Phytoplankton Discriminator
Alan Hails, *Mote Marine Laboratory*
Cory Boyes, *Mote Marine Laboratory*
Anamari Boyes, *Mote Marine Laboratory*
Bob Currier, *Mote Marine Laboratory*
Karl Henderson, *Mote Marine Laboratory*
Augie Kotlewski, *Mote Marine Laboratory*
Gary Kirkpatrick, *Mote Marine Laboratory*

Measuring nitrate fluxes to assess estuarine eutrophication
Jan Newton, *University of Washington*
Allan Devol, *University of Washington*
Wendi Ruef, *University of Washington*

Underwater Imaging

D-6
Thursday, October 29 (10:30AM - 12:00PM)
Co-Chairs: Jules Jaffe, *Scripps Institution of Oceanography/ UCSD*
Fraser Dalgleish, *Harbor Branch Oceanographic Institute at Florida Atlantic University*

Extended Range Underwater Imaging using a Time Varying Intensity (TVI) Approach
Linda Mullen, *Naval Air Systems Command*
Alan Laux, *Naval Air Systems Command*
Walton McBride, *QinetiQ North America*

Extended Range Optical Imaging Using One and Two-dimensional Structured Illumination
Jules Jaffe, *Scripps Institution of Oceanography/UCSD*

An Automated Event Detection and Classification System for the Abyssal Time-Series Images of Station M, NE Pacific
Danelle Cline, *Monterey Bay Aquarium Research Institute*
Duane Edgington, *Monterey Bay Aquarium Research Institute*
Ken Smith, *Monterey Bay Aquarium Research Institute*
Jacob Ellena, *Monterey Bay Aquarium Research Institute*
Michael Vardaro, *Monterey Bay Aquarium Research Institute*
Linda Kuhnz, *Monterey Bay Aquarium Research Institute*

LED light fixtures and Selection Criteria for Underwater Video Inspections
Cyril Poissonnet, *Remote Ocean Systems*

Ocean Acoustics

D-7
Thursday, October 29 (10:30AM - 12:00PM)
Co-Chairs: George Ioup, *University of New Orleans*
Mark Snyder, *Naval Oceanographic Office*

Correlation of the Broadband Spectral Characteristics of Bottlenose Dolphin Signatures
Steve Stanic, *Naval Research Laboratory-Stennis Space Center*
Bob Brown, *Naval Research Laboratory-Stennis Space Center*
Solangi Mobashir, *Institute for Marine Mammal Studies*
Vanderpool Delphine, *Institute for Marine Mammal Studies*
Timothy Hoffland, *Institute for Marine Mammal Studies*

EARS Buoy Applications by LADC: I. Marine Animal Acoustics
George Ioup, *University of New Orleans*
Juliette Ioup, *University of New Orleans*
Lisa Pflug, *University of New Orleans*
Arslan Tashmukhambetov, *University of New Orleans*
Natalia Sidorovskaia, *University of Louisiana at Lafayette*
Philip Schexnayder, *University of Louisiana at Lafayette*
Christopher Tiemann, *University of Texas at Austin*
Alan Bernstein, *University of Texas at Austin*
Stan Kuczaj, *University of Southern Mississippi*
Grayson Rayborn, *University of Southern Mississippi*
Joal Newcomb, *Naval Oceanographic Office*
Rowena Carlson, *SPAWAR Systems, Center Pacific*
Alexander Ekimov, *University of Mississippi*

Underwater behavioral study of the Ganges river dolphins based on the first long -term real-time monitoring using the integrated observation system with multiple acoustic arrays
Harumi Sugimatsu, *Institute of Industrial Science, University of Tokyo*
Tamaki Ura, *Institute of Industrial Science, University of Tokyo*
Junichi Kojima, *KDDI R&D Laboratories*
Rajendar Bahl, *Indian Institute of Technology Delhi*
Sandeep Behera, *WWF India*
Vivek Sheel Sagar, *WWF India*
Bushra Khan, *WWF India*

Effects of Hurricanes on Ambient Noise in the Gulf of Mexico
Mark Snyder, *Naval Oceanographic Office*

US IOOS and OOI in Action - Across the Nation and Industry

D-8
Thursday, October 29 (10:30AM - 12:00PM)
Chair: Bill Burnett, *NOAA NWS NDBC*

HFR surface currents observing system in lower Chesapeake Bay and Virginia coast
Larry Atkinson, *Old Dominion University CCPO*
Teresa Garner, *Old Dominion University CCPO*
Jose Blanco, *Old Dominion University CCPO*
Chris Paternostro, *NOAA CO-OPS*
Patrick Burke, *NOAA CO-OPS*

GCOOS and the Oil and Gas Industry: An opportunity for an IOOS-Industry Partnership
Jan van Smirren, *Fugro GEOS Inc*

The Role of Commercialization in IOOS and the Regional Associations
Stephen Woll, *WeatherFlow Inc.*

Next Generation Use of High Power and Bandwidth in the NE Pacific - A Component of the NSF Ocean Observing Initiative
Peter Barletto, *University of Washington*
P. Michael *Kosro, Oregon State University*
Jack Harlan, *NOAA IOOS Program*

Operational Oceanography: Data Applications and Products - 2

D-9
Thursday, October 29 (10:30AM - 12:00PM)
Chair: Roy Ladner, Commander, *Naval Meteorology and Oceanography Command*

The Role of Web 2.0 in Navy Meteorology and Oceanography (METOC)
Paul Williams, *Geocent*

Ontology driven approach to increase METOC effectiveness
Clarence Davis, *Geocent*
Zachary Rouse, *Geocent*
Brian Priest, *Geocent*

A Tile-Based System for the Rapid Display of Symbolized Digital Nautical Chart Data
Norman Schoenhardt, *Naval Research Laboratory-Stennis Space Center*
John Sample, *Naval Research Laboratory-Stennis Space Center*
Frank McCreedy, *Naval Research Laboratory-Stennis Space Center*

Issues for Metrological and Oceanographic Data Web Services
Frederick Petry, *Naval Research Laboratory-Stennis Space Center*

Inter-Enterprise Integration - Moving Beyond Data Level Integration
Bruce Gritton, *Commander, Naval Meteorology and Oceanography Command*

TOWN HALL NOAA NOS Ocean and Coastal Mapping

Meeting Hall
Thursday, October 29 (10:30AM - 12:00PM)
Chair: Jack Dunnigan, *NOAA NOS*

Exhibit Hall Lunch

Exhibit Hall
Thursday, October 29 (12:00PM - 1:20PM)

Marine Materials Science

D-1
Thursday, October 29 (1:30PM - 3:00PM)
Co-Chairs: Kenichi Asakawa, *JAMSTEC*
Thai Nguyen, *Naval Surface Warfare Center Panama City Division*

Protecting Electrical and Electronic Systems From Moisture Damage
Sidney Martin, *Northeast Maritime Institute*

Finite Element Analysis of a Through Hole on a Ceramic Pressure Housing
Kenichi Asakawa, *JAMSTEC*

Integral Representation of Linear Free-Surface Potential Flows for Bottom Pressure Calculation
Thai Nguyen, *Naval Surface Warfare Center Panama City Division*

Vehicle Navigation - 2

D-10
Thursday, October 29 (1:30PM - 3:00PM)
Chair: Marian Clough, *Naval Oceanographic Office*

Toward a Platform-Independent Acoustic Communications and Navigation System for Underwater Vehicles
Sarah Webster, *Johns Hopkins University*
Ryan Eustice, *University of Michigan*
Christopher Murphy, *Woods Hole Oceanographic Institution*
Hanumant Singh, *Woods Hole Oceanographic Institution*
Louis Whitcomb, *Johns Hopkins University*

Map based path-planning and guidance scheme of an AUV for inspection of artificial structures
Toshihiro Maki, *The University of Tokyo*
Tamaki Ura, *The University of Tokyo*
Takashi Sakamaki, *The University of Tokyo*

Underwater Transponder Positioning and Navigation of Autonomous Underwater Vehicles
Oyvind Hegrenaes, *Kongsberg Maritime*
Kenneth Gade, *Norwegian Defence Research Establishment*
Ove Kent Hagen, *Norwegian Defence Research Establishment*
Per Espen Hagen, *Kongsberg Maritime*

Why not going straight to density?
Lavinio Gualdesi, *NATO Undersea Research Centre*
Giuseppe Manzella, *ENEA CLIM*
Federico de Strobel, *INGV (Istituto Nazionale Geofisica Vulcanologia)*

Marine Policy for Unmanned Vehicles

D-11
Thursday, October 29 (1:30PM - 3:00PM)
Co-Chairs: Stephanie Showalter, *National Sea Grant Law Center*
Justin Manley, *Battelle/NOAA*

AUV Incidents and Outcomes
William Kirkwood, *MBARI*

Legal and Engineering Challenges to Widespread Adoption of Unmanned Maritime Vehicles
Stephanie Showalter, *National Sea Grant Law Center*
Justin Manley, *Liquid Robotics, Inc.*

The Wave Glider: A Wave-Powered Autonomous Marine Vehicle
Roger Hine, *Liquid Robotics, Inc.*
Scott Willcox, *Liquid Robotics, Inc.*
Graham Hine, *Liquid Robotics, Inc.*
Tim Richardson, *Liquid Robotics, Inc.*

Hypoxia: The Dead Zone - 1

D-12
Thursday, October 29 (1:30PM - 3:00PM)
Co-Chairs: Alan Lewitus, *NOAA*
Kevin Briggs, *Naval Research Laboratory-Stennis Space Center*

Science to Improve Management of the Gulf of Mexico Hypoxic Zone: A Collaborative Approach
Alan Lewitus, *NOAA*
David Kidwell, *NOAA*
Libby Jewett, *NOAA*

Trends in Oxygen Variability in the Northern Gulf of Mexico Hypoxic Zone
Brenda Babin, *Louisiana Universities Marine Consortium (LUMCON)*
Nancy Rabalais, *Louisiana Universities Marine Consortium (LUMCON)*

Using Coupled Models to Study the Effects of River Discharge on Biogeochemical Cycling and Hypoxia in the Northern Gulf Of Mexico
Bradley Penta, *Naval Research Laboratory-Stennis Space Center*
Dong Ko, *Naval Research Laboratory-Stennis Space Center*
Richard Gould, *Naval Research Laboratory-Stennis Space Center*
Robert Arnone, *Naval Research Laboratory-Stennis Space Center*
Richard Greene, *EPA Gulf Ecology Division*
John Lehrter, *EPA Gulf Ecology Division*
James Hagy, *EPA Gulf Ecology Division*
Blake Schaeffer, *EPA Gulf Ecology Division*
Michael Murrell, *EPA Gulf Ecology Division*
Jan Kurtz, *EPA Gulf Ecology Division*
Barry Herchenroder, *High Performance Computing and Scientific Visualization*
Rebecca Green, *Naval Research Laboratory-Stennis Space Center*
Peter Eldridge, *EPA, Coastal Ecology Branch*

Acoustic Telemetry and Communication - 5

D-2
Thursday, October 29 (1:30PM - 3:00PM)
Co-Chairs: Pierre-Philippe Beaujean, *Florida Atlantic University*

Statistical Space-Time-Frequency Characterization of MIMO Shallow Water Acoustic Channels
Alenka Zajic, *Naval Research Laboratory*

Iterative Sparse Channel Estimation and Decoding for Underwater MIMO-OFDM
Jie Huang, *University of Connecticut*
Jian-Zhong Huang, *University of Connecticut*
Christian Berger, *University of Connecticut*
Shengli Zhou, *University of Connecticut*
Peter Willett, *University of Connecticut*

Evaluation and Compensation of Frequency Dependent Path Loss over OFDM Subcarriers in UAC
Sadia Ahmed, *University of South Florida*
Huseyin Arslan, *University of South Florida*

Successive Interference Cancellation for Time-Reversed Underwater Acoustic Channels
Steve Cho, *University of California, San Diego*

Hee Song, *University of California, San Diego*
William Hodgkiss, *University of California, San Diego*

Marine Education - 2

D-3
Thursday, October 29 (1:30PM - 3:00PM)
Co-Chairs: Douglas Levin, *NOAA*
Jill Zande, *MATE Center*

From Paper Notebooks to Laptops: A Technology Advance for the National Ocean Sciences Bowl (NOSB®)
Christine Hodgdon, *Consortium for Ocean Leadership*
Jordan Lewis, *Massachusetts Institute of Technology*

ROV in a Bag- An Introduction to remotely operated vehicles for your classroom.
Erica Moulton, *MATE Center*

Real-Time Hydrographic and Meteorological Monitoring in Mobile Bay for Research and Education
Michael Dardeau, *Dauphin Island Sea Lab*

Understanding Trends in Coastal Ecosystems through Science-Education Partnerships
Laura Murray, *University of Maryland*
Tim Carruthers, *University of Maryland*
Deidre Gibson, *Hampton University*
Cassie Gurbisz, *University of Maryland*
Joanna Woerner, *University of Maryland*

Ocean Observatories

D-4
Thursday, October 29 (1:30PM - 3:00PM)
Co-Chairs: Andrew Cook, *Memorial University of Newfoundland*
John Walrod, *SAIC*

Development and Test of a Medium Voltage Converter for Ocean Observatories
John Walrod, *SAIC*
Joseph Key, *Naval Surface Warfare Center Panama City Division*

The SEAformatics Project: Empowering the Seafloor
Andrew Cook, *Memorial University of Newfoundland*
Vlastimil Masek, *Memorial University of Newfoundland*

Wireless, acoustically linked, undersea, magnetometer sensor network
Mihajlo Tomic, *SSC-PACIFIC*
Peter Sullivan, *SSC-PACIFIC*
Vincent Mcdonald, *SSC-PACIFIC*

Potential Impact of Long-Life Environmental Sonobuoys on Littoral ASW
Donald Del Balzo, *QinetiQ North America*
Joseph Klicka, *Naval Air Systems Command*

Marine GIS and Data Fusion

D-5
Thursday, October 29 (1:30PM - 3:00PM)
Co-Chairs: Daniel Neumann, *NOAA*
Bruce Lin, *Naval Research Laboratory-Stennis Space Center*

The Importance of Metadata in Bathymetric Data Management
Leon Quick, *CARIS*
Karen Hart, *CARIS*
Burns Foster, *CARIS*

The increasing importance of HSMDB metadata
Daniel Neumann, *NOAA*

REMUS Subbottom Image Processing for Integration into ArcGIS
Dove Green, *Naval Oceanographic Office*
David Young, *Naval Research Laboratory-Stennis Space Center*
Donald Walter, *Northrop Grumman Corporation*

The Naval Research Laboratory's Ongoing Implementation of the Open Geospatial Consortium's Catalogue Services Specification
Frank McCreedy, *Naval Research Laboratory-Stennis Space Center*
David Marks, *Naval Research Laboratory-Stennis Space Center*

Underwater Imaging System Results

D-6
Thursday, October 29 (1:30PM - 3:00PM)
Co-Chairs: Frank Caimi, *IEEE OES*
Jules Jaffe, *Scripps Institution of Oceanography/ UCSD*
Kevin Mahoney, *Naval Oceanographic Office*

An Underwater Augmented Reality System for Commercial Diving Operations
Rogelio Morales-García, *Technische Universität München*
Peter Keitler, *Technische Universität München*
Patrick Maier, *Technische Universität München*
Gudrun Klinker, *Technische Universität München*

Terrain Constrained Stereo Correspondence
Gabrielle Inglis, *University of Rhode Island*
Chris Roman, *University of Rhode Island*

Experiments in bistatic Laser Line Scan (LLS) underwater imaging
Fraser Dalgleish, *Harbor Branch Oceanographic Institute at Florida Atlantic University*
Frank Caimi, *Harbor Branch Oceanographic Institute at Florida Atlantic University*
Anni Vuorenkoski, *Harbor Branch Oceanographic Institute at Florida Atlantic University*
Walter Britton, *Harbor Branch Oceanographic Institute at Florida Atlantic University*
Brian Ramos, *Harbor Branch Oceanographic Institute at Florida Atlantic University*

Glider Observations of Optical Backscatter in Different Jerlov Water Types: Implications to US Naval Operations
Kevin Mahoney, *Naval Oceanographic Office*
Nathan Allen, *Naval Oceanographic Office*

Signal Coherence and Fluctuation

D-7
Thursday, October 29 (1:30PM - 3:00PM)
Chair: George Ioup, *University of New Orleans*

Characterization of a Very Shallow Water Acoustic Communication Channel
Brian Borowski, *Stevens Institute of Technology*

An Adaptive Logical Link protocol in response to Underwater Acoustic Communication channel changes in Autonomous Underwater Vehicles
Daladier Jabba Molinares, *University of South Florida*
Miguel Labrador, *University of South Florida*

Experimental Analysis of Statistical Properties of Underwater Acoustic Channel in a Very Shallow Water Using Narrow and Broadband Signals
Sea-Moon Kim, *MOERI/KORDI*
Sung-Hoon Byun, *MOERI/KORDI*
Seung-Geun Kim, *MOERI/KORDI*
Yong-Kon Lim, *MOERI/KORDI*

Ocean Observing Systems - Worldwide

D-8
Thursday, October 29 (1:30PM - 3:00PM)
Co-Chairs: Jay Pearlman, *Boeing*
Alaric Haag, *Louisiana State University*

An Ocean Observing System for Harmful Algal Bloom Detection and Tracking
Robert Currier, *Mote Marine Laboratory*
Cory Boyes, *Mote Marine Laboratory*
Alan Hails, *Mote Marine Laboratory*
Kate Nierenberg, *Mote Marine Laboratory*
Barb Kirkpatrick, *Mote Marine Laboratory*
Gary Kirkpatrick, *Mote Marine Laboratory*

Red ACOMAR: Real-time networking activities in the Macaronesian region as a contribution to the Coastal Ocean Observations Panel (COOP)
Carlos Barrera, *ICCM*
Maria Jose Rueda, *ICCM*
Maria Dolores Gelado, *ULPGC*
Rayco Moran, *ICCM*
Octavio Llinas, *ICCM*

The Australian Integrated Marine Observing System (IMOS) - From Initiation to Operation
Simon Allen, *IMOS*

Satellite Surveillance of the Gulf and Beyond : An Overview of the LSU Earth Scan Laboratory's Ocean Observing Capabilities
Alaric Haag, *Louisiana State University*
Nan Walker, *Louisiana State University*
Chet Pilley, *Louisiana State University*
Jessica Comeaux, *Louisiana State University*
Joseph Calvasina, *Louisiana State University*
Robert Firth, *Louisiana State University*

Operational Oceanography: Data Applications and Products - 3

D-9
Thursday, October 29 (1:30PM - 3:00PM)
Co-Chairs: Roy Ladner, Commander, *Naval Meteorology and Oceanography Command*
Callie Hall, *NASA Applied Science and Technology Project Office*

A Southeast Regional Testbed for Integrating Complex Coastal and Ocean Information Systems
Madilyn Fletcher, *University of South Carolina*
Dwayne Porter, *University of South Carolina*
Virginia Shervette, *University of South Carolina*
Heath Kelsey, *NCBO-Cooperative Oxford Laboratory*
Jennifer Pournelle, *University of South Carolina*
Dan Ramage, *University of South Carolina*

GeoCoastPilot: A better way of organizing and displaying information in support of port familiarization
Matthew Plumlee, *Center for Coastal and Ocean Mapping, UNH*
Kurt Schwehr, *Center for Coastal and Ocean Mapping, UNH*
Lee Alexander, *Center for Coastal and Ocean Mapping, UNH*
Briana Sullivan, *Center for Coastal and Ocean Mapping, UNH*
Colin Ware, *Center for Coastal and Ocean Mapping, UNH*

Coastal Online Analysis and Synthesis Tool 2.0 (COAST)
Richard Brown, *NASA CSC SSAI*
Andrew Navard, *NASA CSC*
Beth Nguyen, *Delta Computer Solutions, Inc.*

Oceanographic Data Issues for Support of Navy Fleet Synthetic Training
Greg Jimenez, *Commander, Naval Meteorology and Oceanography Command*

Coffee Break

Exhibit Hall
Thursday, October 29 (3:00PM - 3:30PM)

Hypoxia: The Dead Zone - 2

D-12
Thursday, October 29 (3:30PM - 5:00PM)
Co-Chairs: Kevin Briggs, *Naval Research Laboratory-Stennis*

Space Center
Alan Lewitus, *NOAA*

Application of Unstructured-Grid Finite Volume Coastal Ocean Model (FVCOM) to the Gulf of Mexico Hypoxic Zone
Dubravko Justic, *Louisiana State University*
Lixia Wang, *Louisiana State University*

Monitoring Phenology as Indicator for Timing of Nutrient Inputs in Northern Gulf Watersheds
Kenton Ross, *Science Systems & Applications Inc.*
Bruce Spiering, *NASA Applied Science & Technology Project Office*
Maria Kalcic, *Science Systems & Applications, Inc.*

Effects of Hypoxia on Sediment Properties in the Northern Gulf of Mexico
Kevin Briggs, *Naval Research Laboratory-Stennis Space Center*
Jan Watkins, *Naval Research Laboratory-Stennis Space Center*
Shivakumar Shivarudrappa, *University of Southern Mississippi*
Valerie Hartmann, *University of Southern Mississippi*

Review of NERRS Station Data during 2008 Gulf of Mexico Hypoxia Event
Kelly LaRue, *SAIC*
Danielle Carpenter, *SAIC*
Ian Sears, *NOAA NWS NDBC*

Marine Safety and Security

D-3
Thursday, October 29 (3:30PM - 5:00PM)
Co-Chairs: Florent Jangal, *Onera*
Kurt Schwehr, *UNH Center for Coastal and Ocean*

Waterside Facilities - Enhancing Perimeter Security
Lee Brissey, *Sound & Sea Technology, Inc*
Steve McLaughlin, *Sound & Sea Technology, Inc*

BioSonics UnderWater ACoustic Sentinel (UWACS) System for Intruder Detection
Timothy Acker, *BioSonics, Inc.*

Toward a complete system for surveillance of the whole EEZ: ScanMaris and associated projects
Florent Jangal, *Onera*
Jean-Pierre Georgé, *IRIT*

Alain Bonnot, *DCNS*
Marie-Annick Giraud, *SOFRESUD*
Michel Morel, *DCNS*
Aldo Napoli, *Armines*
Anne Littaye, *ECOMER*

Surveying Coastal Ship Traffic With LANDSAT
Ron Abileah, *jOmegak*

Enhancing AIS to Improve Whale-ship Collision Avoidance and Maritime Security
Philip McGillivary, *USCG*
Kurt Schwehr, *UNH Center for Coastal and Ocean*
Kevin Fall, *Woods Hole Oceanographic Institution & Intel Research Berkeley*

Cables and Connectors

D-5
Thursday, October 29 (3:30PM - 5:00PM)
Co-Chairs: Robert Bannon, *IEEE OES*
Kathleen O'Neil, *NOAA NWS NDBC*

Non-Contact Wet Mateable Connector
Christopher Baer, *Battelle Memorial Institute*
Georgeanne Purvinis, *Battelle Memorial Institute*
Mark Alten, *Battelle Memorial Institute*
Greg Bixler, *Battelle Memorial Institute*
Lee Fredette, *Battelle Memorial Institute*
Jason Owens, *Battelle Memorial Institute*
Jason Schaefer, *Battelle Memorial Institute*
Gabe Stout, *Battelle Memorial Institute*

Molded Interconnects for High Reliability Undersea Connector Interfaces
Ruth Simpson, *General Dynamics Advanced Information Systems*
Frederick Gehrke, *General Dynamics Advanced Information Systems*
Matthew Holt, *General Dynamics Advanced Information Systems*

Qualification and Reliability in Subsea Electrical Applications
Will Mudge, *Teledyne-ODI*
Amar Thiraviam, *Teledyne-ODI*

Ocean Observing Systems

D-8
Thursday, October 29 (3:30PM - 5:00PM)
Chair: Ray Toll, *SAIC*

A WAVCIS Based Ocean Observing Station to Provide Hydrodynamic Data off Elgin Air Force Base, Fort Walton, Florida
Gregory Stone, *Louisiana State University*
Felix Jose, *Louisiana State University*
Yixin Luo, *Louisiana State University*
Seyed SiadatMousavi, *Louisiana State University*
Todd Holland, *Naval Research Laboratory-Stennis Space Center*

Operational Challenges of Running a Buoy Network in the Northwest Atlantic
Eric Davis, *Marine Institute - School of Ocean Technology Applied Research Unit*

Observing the 3-dimensional distribution of bio-optical properties of West Florida Shelf waters using gliders and autonomous platforms
David English, *University of South Florida*
Chuanmin Chuanmin Hu, *University of South Florida*
Chad Lembke, *University of South Florida*
Robert Weisberg, *University of South Florida*
David Edwards, *University of South Florida*
Laura Lorenzoni, *University of South Florida*
Gino Gonzalez, *University of South Florida*
Frank Muller-Karger, *University of South Florida*

A Predictive Modeling Strategy for GCOOS
Christopher Mooers, *Portland State University*
Cortis Cooper, *Chevron Energy Technology Co.*

Operational Oceanography: Data Applications and Products - 4

D-9
Thursday, October 29 (3:30PM - 5:00PM)
Chair: Rob Bassett, *NOAA NOS CO-OPS*

NOAA's Physical Oceanographic Real-Time System (PORTS®)
Darren Wright, *NOAA NOS*
Robert Bassett, *NOAA NOS CO-OPS*

Anti-Submarine Visual Analysis Tool; Geospatially Enabling Four Dimensional METOC Data
Zachary Rouse, *Geocent / SPAWAR*
James Haynie, *Geocent / SPAWAR*
Clarence Davis, *Geocent / SPAWAR*

Quantifying the Seasonal and Interannual Variability of the Formation and Migration Pattern of North Brazil Current Rings
Neha Sharma, *Horizon Marine, Inc.*
Steven Anderson, *Arete Associates*
Peter Brickley, *Horizon Marine, Inc.*
Carolina Nobre, *Horizon Marine, Inc.*
Matthew Cadwallader, *Horizon Marine, Inc.*

Generating Acoustic Provinces for the U. S. Navy's Low Frequency Bottom Loss Database using Geographic Information Systems
Timothy Ruppel, *Naval Oceanographic Office*

Gulf Guardian Awards Ceremony

Beau Rivage
Thursday, October 29 (6:00PM)

OES Awards

The Distinguished Service Award is given to honor an individual IEEE member for outstanding contributions towards furthering the objectives of the Oceanic Engineering Society. The award consists of an appropriately worded certificate. Candidates for the Distinguished Service Award are nominated by the OES Awards Committee and must be approved by a majority of the elected members of the AdCom.

The five most recent awardees are:

2004 William M. Carey
2005 Claude P. Brancart
2006 Rene Garello
2007 Stephen M. Holt
2008 Archie Todd Morrison III

The Distinguished Technical Achievement Award is given to honor an outstanding technical contribution to oceanic engineering in either the fundamental or applied areas. The recipient need not be a member of the Oceanic Engineering Society or the IEEE. The award recognizes either a single major invention or scientific contribution or a distinguished series of contributions over a long period of time.

The five most recent awardees are:

2004 John P. Craven
2005 Douglas C. Webb
2006 Fred Noel Spiess
2007 Donald E. Barrick
2008 Thomas B. Sanford

Each award is presented at the fall conference during the OES luncheon. The awards include a certificate, a plaque ,a watch and placement of the persons name on the historical list of past recipients on the OES web site.

MTS 2009 Fellows

Each year, MTS bestows the honor of Fellow on those members who have shown outstanding contributions to the advancement of the society's objectives and who have distinguished accomplishments and experience in their professional fields.

John G. Bomba, P.E.
Senior Principal Enginner, Technip USA

Sandeep Khurana, P.E.
Subsea and Facilities Advisor, Corporate Drilling and E&P Division, Devon Energy Corporation

Craig N. McLean, Capt. (Ret)
Deputy Assistant Administrator, NOAA

Jerry Streeter
Vice President, Senior Manager, Antares Offshore

Calvin A. Gongwer
Innerspace Corporation

MTS Awards

Awards are presented to people, companies and MTS groups who have shown exemplary contributions to the Society or to their industries. The Society is especially honored to have the support of Compass Publications and Lockheed Martin for sponsoring annual awards.

Compass Distinguished Achievement Award
Calvin A. Gongwer
Innerspace Corporation

Compass International Award
Dughal J. Lindsay, Ph.D.
Project Leader, Japanese Agency for Marine-Earth Science and Technology

Compass Industrial Award
VideoRay
Scott Bentley, President

Lockheed Award for Ocean Science and Engineering
Dana Yoerger, Ph.D.
Associate Scientist, Woods Hole Oceanographic Institution

Special Commendation and Award
Stephen R. Hammond, Ph.D.
Chief Scientist, Exploration and Research Program, NOAA

Outstanding Service Award
MTS Houston Section Young Professionals Committee
Stephen Faleye, Chair

Outstanding MTS Professional Committee
Ocean Observing Systems
Donna Kocak, Chair

Outstanding MTS Section
San Diego
Barbara Fletcher, Chair

Outstanding MTS Student Section
Texas A&M-Galveston
Jacob Foster, Chair

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ASL Environmental Sciences/Helzel	225,227
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Bowtech Products Ltd.	139
Campbell Scientific, Inc.	206
Channel Technology Group	315
CLS America, Inc.	220
Cobham Surveillance	732
CSnet International	737,739,836,838
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Dynacon, Inc.	313
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Edgetech/ORE Offshore	537
EIGS (Enterprise for Innov. Geospatial Solutions)	238, 240
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Falmouth Scientific	438
Flotation Technologies, Inc.	730
Fugro Atlantic	231, 233
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Global Dynamix, Inc.	710
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MacArtney A/S	534
Makai Ocean Engineering, Inc	625
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Micro Forms, Inc.	731
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Naval Research Laboratory	212
Naval Undersea Warfare Center	120
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Sound Ocean Systems, Inc.	621
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Spawar Systems Center - Pacific	507,606
Subconn, Inc.	530
Submersible Systems, Inc.	122,124
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WET Labs, Inc.	332
Xeos Technologies, Inc.	632

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3001, a Northrop Grumman company, is a leading provider of geospatial data production and analysis, including airborne imaging, surveying, mapping, and Geographic Information Systems (GIS). 3001's products and services are used for domestic and international civilian, defense, and intelligence initiatives, to manage infrastructure, and to better understand our world.

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Campbell Scientific of Logan, Utah, designs and manufacturers measurement and control instrumentation, specializing in programmable, field-based dataloggers and sensors for environmental applications. Campbell Scientific recently purchased D&A Instrument Company and is manufacturing the OBS product line of submersible water quality products.
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CSnet specializes in developing and operating modular and expandable subsea communication networks for science and industry; for ocean observatories or offshore communication backbones. In strategic partnership with Maritime Communications Services (MCS), Continental Shelf Associates (CSA) and Ocean Specialists Inc. (OSI), CSnet provides a turnkey package from design and permitting through installation, operation and maintenance.

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The Enterprise for Innovative Geospatial Solutions (EIGS) is a statewide program funded by the state of Mississippi to support geospatial technology business and research development by working with industry, university research programs, and state agencies to research, develop, and market new geospatial technology products from a Mississippi zip code.

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The Gulf of Mexico Program was initiated in 1988 by the U.S. Environmental Protection Agency (EPA) as a non-regulatory program. Founded on the threefold principles of partnership, science-based information, and citizen involvement, the Gulf Program applies an adaptive

management approach to large coastal freshwater and marine ecosystems. The mission of the Program is to facilitate collaborative actions to protect, maintain, and restore the health and productivity of the Gulf of Mexico in ways consistent with the economic well-being of the Region.
The Program provides a broad geographic focus on the major environmental issues in the Gulf and is a multiagency partnership endeavor based on the simple premise that no one agency or institution alone has the technical skills, financial resources or legislative authority needed to resolve the environmental or natural resource problems confronting an ecological system the size of the Gulf. The Program's success comes from its ability to engage many people across the Gulf region for leadership and to implement projects that move in an environmentally and economically sound direction.

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The Gulf of Mexico Alliance is a partnership opf the states of Alabama, Florida, Louisiana, Mississippi, and Texas, with the goal of significantly increasing regional collaboration to enhance the ecological and economic health of the Gulf of Mexico. The five US Gulf States have identified six priority issues that are regionally significant and can be effectively addressed through increased collaboration at local, state, and federal levels: Water Quality; Habitat Conservation and Restoration; Ecosystem Integration and Assessment; Nutrients & Nutrient Impacts; Coastal Community Resilience; and Environmental Education.

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The Mississippi Department of Marine Resources is dedicated to enhancing, protecting and conserving marine interested of the state by managing all marine life, public trust wetlands, adjacent uplands and waterfront areas to provide for the optimal commercial, recreational, educational and economic uses of these resources consistent with environmental concerns and social changes.

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The Applied Science and Technology Project Office (ASTPO) manages the Gulf of Mexico Initiative for NASA's Earth Sciences Program. The mission of the organization is focused on transferring results of NASA's Earth Science research projects into the real world. ASTPO works with

partners to demonstrate how NASA's Earth Science assests can address societal issues in the following areas:

Water Quality
Conservation and Restoration
Ecosystems Integration and Assessment
Reducing Nutrient Impacts to Coastal Ecosystems
Environmental Education

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For more than four decades, John C. Stennis Space Center, located in south Mississippi, has served as NASA's rocket propulsion testing ground. Today,the center provides propulsion test services for NASA, the Department of Defense, and the private sector.

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NIUST utilizes autonomous undersea vehicles to study the seafloor. The Eagle Ray produces high-resolution seafloor maps to depth of 2200m. In addition to mapping applications, it is also designed to carry wet and dry payloads for instrument and sensor development projects. We do seafloor photomosaics with a companion AUV.

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The National Oceanographic Partnership Program (NOPP) is a collaboration of federal agencies to provide leadership and coordination of national oceanographic research and education initiatives among federal agencies, academia, and industry. NOPP improves interagency cooperation, increases visibility of ocean issues on the national agenda and supports cross-cutting research projects.

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The Naval Meteorology and Oceanography Command enables the safety, speed and operational effectiveness of our Fleet by illuminating the risks and opportunities for Naval and Join forces posed by the present and future natural environment.

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NRL, the corporate research laboratory for Navy and Marine Corps, conducts a broad program of scientific research, technology and advanced development. Since 1923, NRL has served the Navy and nation by meeting complex technological challenges. NRL-SSC encompasses the Oceanography Division, Marine Geosciences Division and Acoustic Simulation and Tactics Branch.

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The Naval Undersea Warfare Center in Newport, RI is the Navy's full-spectrum research, development, test and evaluation, engineering, and fleet support center for submarine warfare systems and many other systems associated with the undersea battlespace. NUWC Division Newport provides the technical foundation that enables the conceptualization, research, development, fielding, modernization, and maintenance of systems that ensure our Navy's undersea superiority.

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NOAA's National Data Buoy Center (NDBC) provides a real-time, end-to-end capability from collection of marine atmospheric and oceanographic data to transmission, quality control and distribution. The local National Marine Fisheries Service and the National Coastal Data Development Center offices, US IOOS and NWS Weather Forecast Offices of Slidell, LA and Mobile, AL are also featured.

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Nortek USA provides technical sales and support for the Nortek acoustic Doppler current meters, profiles and velocimeters used to measure currents and waves. Nortek USA services clients in the western hemisphere; particularly the USA, Canada, and Mexico. The knowledgeable staff also advances product and application development through ongoing collaboration with advanced users.

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The NOAA-sponsored Northern Gulf Institute (NGI) is a collaboration led by Mississippi State University that includes the University of Southern Mississippi, Louisiana State University, Florida State University and the Dauphin Island Sea Lab. The NGI develops, operates and maintains an increasingly integrated research and transition program focused on Northern Gulf of Mexico awareness, understanding and decision support.

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NUCW Acoustic Test Facilities-Seneca Lake Test Facility is the Navy's primary underwater test facility established for evaluation active and passive acoustic devices from single element to full sonar systems. Dodge Pond Test Facility allows for quiet conditions for testing of all types of underwater electro-acoustic devices.

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Ocean News & Technology (ON&T) magazine is the only news publication of its kind, reporting on the latest ocean industry news, events and technology developments around the world. Published 8 times a year, ON&T is edited for the major business areas of the ocean industry,

including Renewable Ocean Energy, Offshore Oil and Gas, Defense, Science and Technology, and Environment. In every issue, special ocean technology feature articles and a main cover story are presented on specific subject areas including diving, advanced vehicles, ships, imaging, communications, acoustics, recreational equipment, offshore operations, education and more.

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Oceanic Imaging Consultants, Inc. develops seafloor mapping software and systems for the acquisition and processing of sidescan, sub-bottom, multibeam and interferometric data. Our acquisition products support full survey planning and execution, dovetailing seamlessly with our processing and analysis software packages. OIC also provides survey management/consulting and data processing services.

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OCEANS 2010 IEEE Sydney, May 24-27, 2010, will be staged 'Down Udner' in a beautiful harbor location. With the theme 'Showcasing Advances in Marine Science and Engineering' this Conference and Exhibition will be an engaging, stimulatin and unforgettable event. We hope you can join us.

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MTS/IEEE Oceans returns to Seattle, Washington in 2010! Please stop by our booth to learn about the exciting program and to make an early reservation of exhibit space for next year.

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OCEANS 2011, the annual joint conference of MTS and IEEE, will be held Sept. 19-23, 2011 at the beautiful Hilton Waikoloa Resort on the Island of Hawaii. The theme of the meeting will be east-west partnerships. The billion dollar, world class Waikoloa resort is favored by many Chinese and Japanese corporations and is the home of a spectacular golf course in the shadow of 14,000 foot volcanoes.

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Oceanscience is a world leader in the development of oceanographic and hydrologic equipment. We manufacture the revolutionary Underway CTD, providing research-quality CTD and sound velocity profiles from moving vessels. We build rugged, corrosion-resistant bottom platforms, tethered and remotely controlled boats for hydrographic and hydrologic surveys.

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OceanServer Technology, Inc. is a leading manufacturer of low cost Autonomous Underwater Vehicles (AUVs), three axis digital compasses and high performance Lithium Ion rechargeable battery solutions. The Iver2 AUV is ac ommercial vehicle used by researchers around the globe for near coastal applications such as hydrographic surveys and environmental monitoring.

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Omni Technologies, Inc. is a professional engineering company specializing in the design, development and production of scientific and commercial sensors and instrumentation. OTI's expertise is in the underwater acoustics, optics, embedded systems, electronic design (power, mixed signal, low noise, low power, amplifiers), communications (RF, cellular, microwave and satellite) and prototyping.

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Remote Ocean Systems (ROS) has been an industry leader in the design and manufacturing of reliable, high-tech equipment and systems for the most severe oceanographc,industrial, commercial, nuclear and military environments since 1975. ROS' standard product line

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RESON is a market leader in underwater acoustic sensors, state-of-the-art echosounders, multibeam sonar systems, transducers, hydrophones, and PDS2000 software. RESON's SeaBat ® sonars and NaviSound ® echosounder systems have become an industrial standard in areas such as hydrography, dredging and offshore operations as well as within defense and security applications.

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Sea-Bird Electornics is the leading manufacturer of oceanographic CTSs and water sampling systems. CTDs measure conductivity, temperature and pressure (depth), as well as dissolved oxygen and other variables, enabling oceanographers to determine salinity, density, and other properties contributing to ocean circulation, the function of marine ecosystems and global climate dynamics.

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SeaBotix manufactures underwater remotely-operated vehicles including the Little Benthic Vehicle (LBV) and Little Benthic Crawler (LBC). Both systems perform a multitude of tasks including sensor deployment, diver assist, hazardous environment intervention, and hull inspection. Every LBV includes a standard 24-Month Limited Warranty.

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Sidus is responsible for the design, manufacturing and sales of hazardous area and underwater video products. Sidus offers integration, distribution and field service

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SonTek/YSI, advancing environmental science in over 100 countries, manufactures acoustic Doppler instrumentation for water velocity measurement in oceans, rivers, harbors, estuaries, and laboratories. YSI's Integrated Systems and Services is a complete system integrator. Onsite engineering and manufacturing produce monitoring buoys, telemetry systems, vertical profiling platforms, PAR products, and custom solutions.

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Sonardyne are leaders in the design and manufacture of underwater acoustic positioning, inertial navigation, subsea communications and sonar technology systems for the offshore oil and gas, ocean scientific and maritime security industries. Applications include subsea construction, offshore survey, subsea target tracking, data telemetry and the protection of vessels and harbors.

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Sound Metrics offers unprecedented detail in acoustic imaging in turbid water. DIDSON sonars allow inspection of underwater man-made and natural structures and assessment of aquatic life. Our booth has diver-held and ROV-mounted models as well as many examples of images taken in the field.

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Since 1978 Sound Ocean Systems, Inc. has been providing engineering and manufacturing solutions for the military, commercial, and academic oceanographic industries. Our strengths include data and power buoys, bottom platforms, launch & recovery systems, winches, special purpose underwater equipment and post security systems,. We also provide engineering services, field support, and project management.

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Utilizing the knowledge gained with over a hundred combined years of actual offshore ROV operations, SSI has designed and constructed the TRV 005 ROV System. A totally new concept, this larger, rugged, Inspection ROV

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Subsea Technologies, Inc. **644**
1323 Price Plaza Drive
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+1 281 398 5600
Email: ag@subseatechnologies.com
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Sales, service and rental of underwater equipment for the offshore industry including scanning, profiling, side scan and 3-D imaging sonars, inertial positioning systems, GPS products, video cameras, USBL acoustic positioning systems, acoustic releases and subbottom profilers. U.S. distributor and service center for Hemisphere GPS, Tritech International, Applied Acoustic Engineering and L-3 Klein Associates.

Systea S.p.A **613**
Via Paduni, 2A
Anagni (FR) 03012 ITALY
+1 39 0775 776058
+1 39 0775 772204 (fax)
Email: info@systea.it
Website: www.systea.it

SYSTEA S.p.A. manufacturers and sells worldwide innovative in-situ probes to measure nutrients in sea water, laboratory routine analyzers, on-line and portable analyzers for automatic analysis of inorganic chemical compounds in any kind of water. We are introducing to the US market our new compact WIZ Probe for in-situ nutrients measurement.

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North Falmouth, MA 02556 USA
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+1 508 563 6444 (fax)
Email: benthos@teledyne.com
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For over 40 years, Teledyne Benthos has been

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Teledyne Impulse designs and manufactures electrical interconnection system for a wide range of harsh environments. Our dry-mate, wet pluggable and underwater mateable connectors are proved performers in the oceanographic industry. Teledyne Impulse connection systems are currently employed in instrumentation, ROVs, AUVs, Sub-sea telecommunications, and seismology applications along with many others.

Teledyne Marine **525, 527, 624, 626**
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Website: www.teledynemarine.com

Teledyne Marine is a collaboration of ten undersea technology companies assembled by Teledyne Technologies. In keeping with the Teledyne's philosophy, the organizations in the Marine group remain committee to their origins; however, these companies now join together to provide their collective customers with a new level of combined technology, innovation, and worldwide support.

Teledyne ODI **525, 527, 624, 626**
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Daytona Beach, FL 32114 USA
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Email: ctyminski@odi.com

Website: www.odi.com

Teledyne ODI (Ocean Design Inc.) is the world leader in subsea electrical, fiber optic, hybrid and high power interconnect systems. ODI's wet and dry mate, harsh environment, high reliability connectors, cable and umbilical terminations and junction boxes are used worldwide for offshore oil and gas, defense, oceanographic and research applications.

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+1 225 766 5122 (fax)
Email: odom@teledyne.com
Website: www.odomhydrographic.com

Teledyne Odom Hydrographic is a world leader in the design, manufacture, and sale of precision echo sounders and sound velocimeters. For over twenty year TOH has enjoyed steady growth and earned a sterling reputation based on innovation, unmatched customer service, and an uncompromising standard of quality.

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With over 15,000 Doppler products delivered to date, Teledyne RD Instruments is the industry's leading manufacturer of Acoustic Doppler Current Profiles (ADCPs) for high resolution current profiling and wave measurement applications, and Doppler Velocity Logs (DVLs) for precision underwater navigation and diver applications.

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Website: www.teledyne-tss.com

TSS designs and manufactures motion sensors for the accurate measurement of roll, pitch and heave, together with inertial navigation systems and gyrocompasses; and underwater pipe and cable detection/tracking system. All subsea systems are rated to minimum 3000m.

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Website: www.usm.edu/marine

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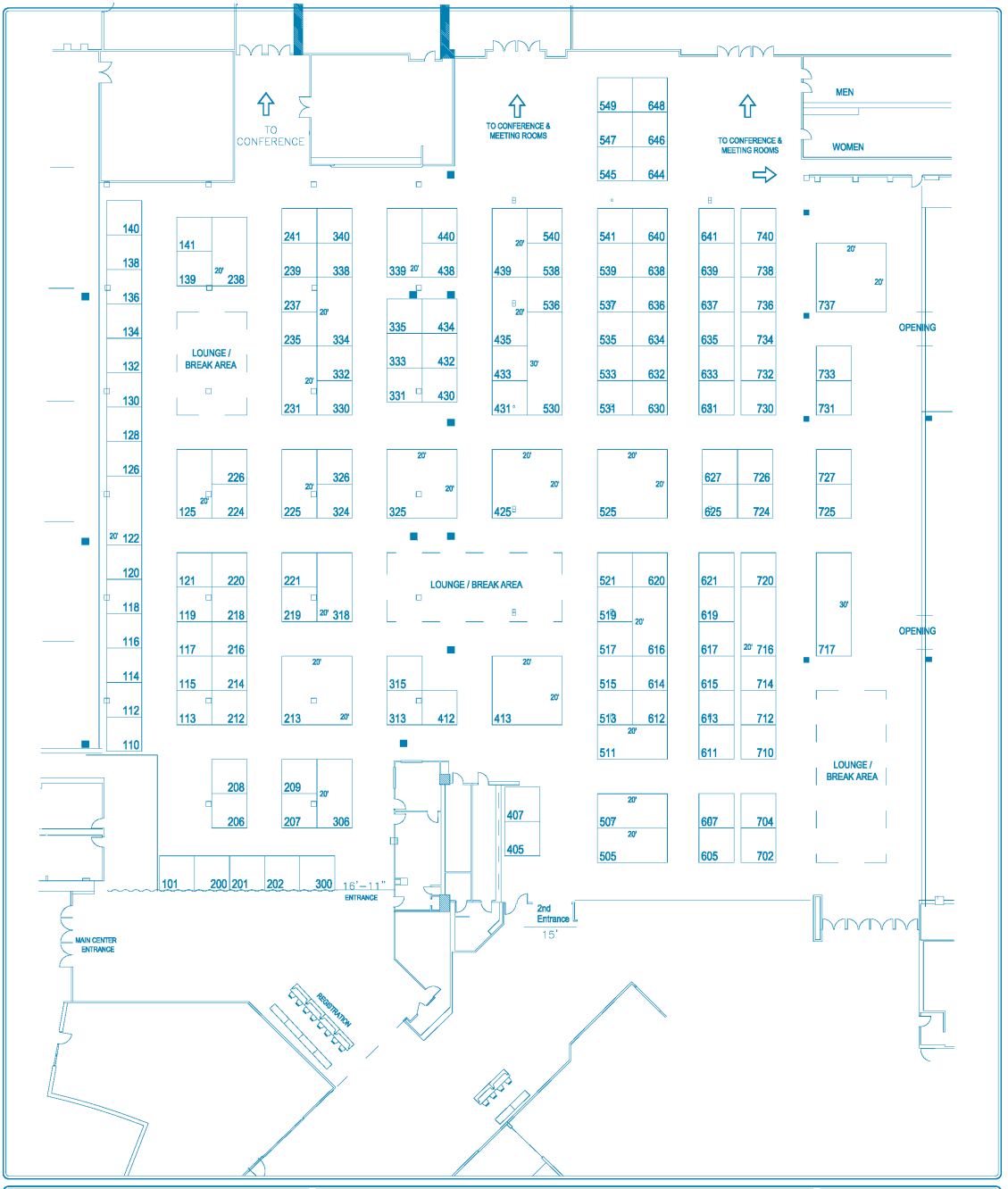

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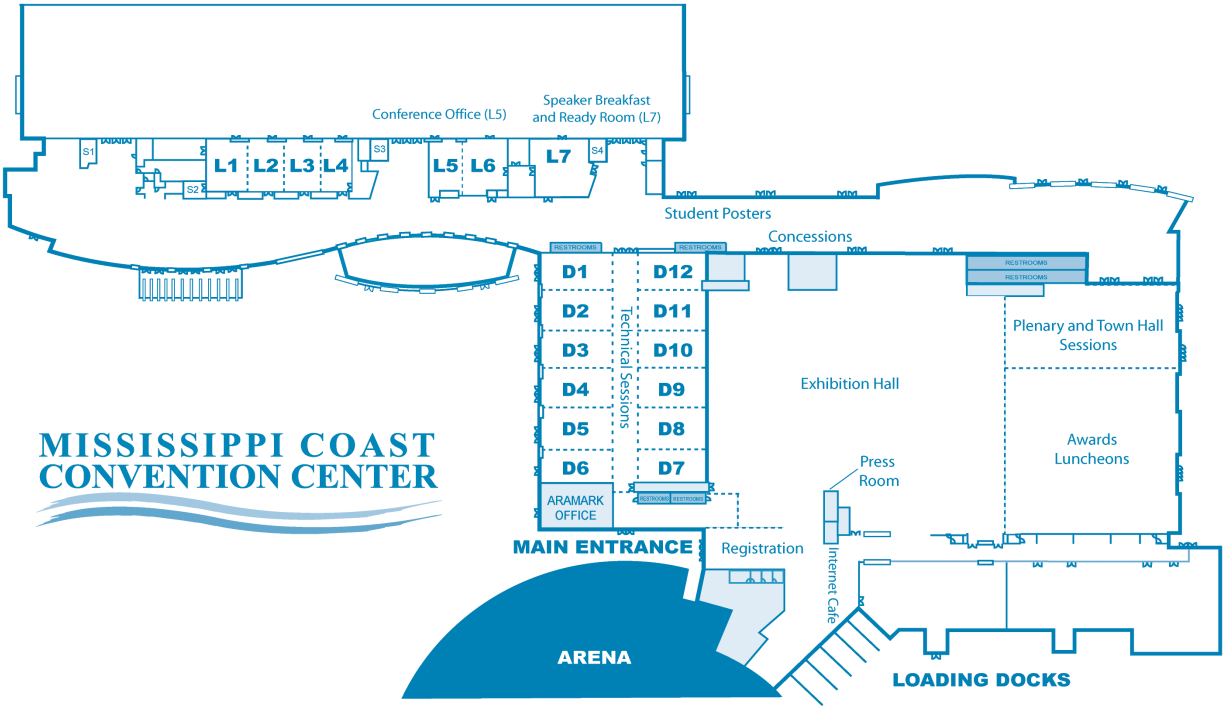
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Speaker Breakfast
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Student Posters
Concessions
RESTROOMS
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D6
D12
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