

OSPR/Chevron Oil Spill Response Technology Workshop

Chevron Park, San Ramon, California
February 26 – 28, 2013

**ABSTRACTS, SPEAKER BIOGRAPHIES
AND CONTACT INFORMATION**

(Arranged alphabetically by speaker's last name)

Speaker name: Jamie Aderhold

Presentation title: Solidifiers – From spill response to spill prevention

Abstract:

This presentation will demonstrate actual spills where C.I. Agent oil solidifier was used to efficiently and successfully complement the overall spill response. Beyond spill response, other techniques for spill prevention will be discussed.

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Speaker biography:

Jamie Aderhold holds a B.E. in Mechanical and Materials Engineering from Vanderbilt University. He has owned or co-owned companies in the stormwater industry since 2002. He has marketed and sold C.I. Agent oil solidifier products since 2005, with C.I. Agent Solutions operating in the spill response industry since 1994.

Speaker name: Vince Ambrosia

Presentation title: UAV remote sensing platforms for emergency response and management

Abstract:

Unmanned Aircraft Systems (UAS) have evolved rapidly over the past decade driven primarily by military uses, and have begun finding application among civilian users for earth sensing reconnaissance and scientific data collection purposes. Promising characteristics of UAS are long flight duration, improved mission safety, ease of operation and reduced operational costs when compared to manned aircraft. Where near-real-time data is needed during rapidly evolving disaster events, UAS and affiliated onboard sensors become the perfect niche-filler tool. The potential advantages of an unmanned platform, however, depend on many factors, such as aircraft, sensor types, mission objectives, and the current UAS regulatory requirements for operations of the particular platform. The regulations concerning UAS operation are still in the early development stages and currently present significant barriers to entry for operational users. This presentation describes a variety of platforms, as well as sensor capabilities, identifies advantages of each as relevant to the demands of users in the disaster management community, and highlights the current state of regulations affecting UAS operations.

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Speaker biography:

Vince Ambrosia is a Senior Research Scientist and Adjunct Faculty Member at CSU–Monterey Bay, working at NASA-Ames Research Center. He is a NASA principal investigator on efforts to improve fire and disaster monitoring capabilities with Unmanned Vehicle Systems and sensor systems. He received the 2009 NASA Outstanding Public Service Medal for such efforts. He has authored or co-authored over 140 papers, journal articles, and book chapters. He holds a BS in Geography from Carroll University and an MS from the University of Tennessee (1980), and has been at NASA-Ames since 1980.

Speaker name: Kate Bland

Presentation title: Using smartphones, cameras and commercial networks to improve and enhance oil spill response

Abstract:

Reality Mobile gives users access to video, data, sensors and expertise throughout their organization and around the world via the RealityVision software platform. This interactive session will demonstrate how current enterprise-class technology is enabling oil and gas companies to securely collaborate and visualize, stream, share and access their most critical information in real time to remediate, resolve and address emerging spill response and other business challenges and needs. We will explore a number of spill response use cases, covering a wide variety of business/operational needs. Participants will have an opportunity to interact with the software in real-time and explore the capabilities and potential response value.

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Speaker biography:

Kate Bland is a Vice President with Reality Mobile. In her role she manages the company's strategic relationships with key customers and partners including those in the oil and gas market.

Speaker name: Josh Bresette

Presentation title: Mobile field data collection and analysis

Abstract:

Global Relief Technologies' (GRT) Rapid Data Management System (RDMS) is a flexible and adaptable Enterprise Mobile Field-Data Collection and Analysis Solution that provides the ability for field personnel (mobile workforces) to quickly and accurately collect, transfer, share, access, manage, and analyze key operational field data and business information. Rapid Data Management System (RDMS) (1) is easy to use, configure, and integrate, (2) is highly secure, adaptable, and customizable, and (3) offers exceptional real-time mobile field-data collection, communication and collaboration capabilities all delivered by GRT's 24x7 365 days/year outstanding operational live support.

RDMS is comprised of the highly intuitive and easy-to-use RDMS Collect software application running on any hand held mobile device as well as the dynamic and robust RDMS Cloud Management & Collaboration Center accessible from any mobile device or through a secure web browser. RDMS by GRT can be fully integrated into other enterprise and/or legacy software systems and be customized around to meet each client's specific business process workflow in the field. RDMS by GRT runs on Apple iOS, Windows Phone/Mobile, and Android Operating Systems. RDMS features include:

- ◆ Easy-to-use intuitive graphical user interface
- ◆ 100% real-time two-way communication
- ◆ Workflow Rules & Computation Engine which guarantees structured data validation and improved accuracy in the data collection process
- ◆ Advanced Global Positioning System GPS & GIS integrated mapping capabilities
- ◆ Ability to work in a connected and/or disconnected environment
- ◆ Complete Mobile Device Management (MDM) capabilities including Workforce Location & Management
- ◆ FIPS-140-2 certification.

RDMS by GRT offers the ability to stay connected 24/7 using Broadband Global Area Network (BGAN) Satellite Communications when wireless or other modes of connection are not available. Additional features include signature capture capability, photo/sketch reporting functionality, voice-to-text, automated PDFs, bar code scanning, on-demand satellite imagery via GeoEye, and a complete data audit trail.

Since 2005, RDMS by GRT has been successfully used by the US Navy, the US Marine Corps (USMC), and the American Red Cross all over the world. GRT is a Verizon Wireless Business Solution Alliance Partner, a Gold Level Motorola Solutions Provider, an AT&T Industry and Mobility Alliance Program (IMAP) Partner, a Samsung Enterprise Alliance Partner (SEAP), and a GSA schedule 70 contract holder.

Speaker contact information:

Josh Bresette
Senior Vice President
Global Relief Technologies (GRT)
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Speaker biography:

Josh Bresette is Senior Vice President & Strategic Business Director for Global Relief Technologies (GRT). Josh's responsibilities include strategic planning and analysis, product development, strategic business development, sales and marketing, public relations, channel partner leadership, and global business partnerships. Josh is a graduate of Union College with a BA in both English Literature & History and a Minor in Chinese Language & Culture as well as a graduate of the Harvard Business School Owner/President Management Program (OPM).

Speaker name: Tom Coolbaugh

Presentation #1 title: Dispersant Fundamentals

Abstract #1:

The presentation will cover the basics of the use of dispersants in the event of an oil spill. This will include their role in relation to other oil spill response tools. Specific topics will cover methods of application, how they work, the decision making process for their use, and their fate and effects. The use of dispersants for subsea application will be discussed as well.

Presentation #2 title: ExxonMobil product update

Abstract #2:

The presentation will cover recent development work focused on new dispersant technology.

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215-518-4417

Website:

Speaker biography:

Tom Coolbaugh is a Distinguished Scientific Associate in the Oil Spill Response Technology Group at ExxonMobil Research and Engineering (EMRE) in Fairfax, Virginia. In his current role, he leads EMRE's Oil Spill Response Technology group where he provides technical guidance and training on the full suite of oil spill response strategies in support of global operations. Dr. Coolbaugh received his B.A. in Chemistry from Amherst College and his Ph.D. in Chemistry from the California Institute of Technology. He also received an M.S. in the Management of Technology from Polytechnic University (now Polytechnic Institute of NYU).

Speaker name: Brian deMunnik

Presentation title: Underwater Inspection Systems

Abstract: Information will be presented regarding the CodaOctopus 3-D Sonar System and the VideoRay Remote Operated Vehicle (ROV).

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Underwater Inspection Systems

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Website:

Speaker biography: U.S. Air Force Academy Graduate
Air Force B-52 Pilot

VISA, New Emerging Bankcard Processing Markets

Contra Costa County Office of the Sheriff

- Martinez Detention Facility
- Recruiting Officer
- Tactical Flight Officer for STARR I and II Helicopters
- Marine Patrol; Infrastructure Protection team

Speaker name: Matt Dorsey

Presentation title: ERMA introduction and update

Abstract:

A common overview and understanding of an environmental emergency's situational status is essential for response organizations to make effective and timely decisions. The Incident Command Structure (ICS) sets up the flow for efficient communication, however effective information management is necessary to ensure everyone within the chain of command is working under a single Common Operational Picture (COP).

NOAA's Office of Response and Restoration (ORR), in partnership with the University of New Hampshire Coastal Response Research Center, has developed the Environmental Response Management Application (ERMA). ERMA is a data visualization platform capable of interfacing diverse spatial data sets for display into one secure web-based mapping system, which is accessible by command posts and remote field locations. ERMA combines available geospatial response data with real-time observations (weather, currents, AIS, etc.), as well as static environmental base data in order to render a COP that depicts situational status and potential threats. ERMA is able to collect, manipulate, analyze and display spatially referenced data for solving complex resource issues and was used as the COP during the Deepwater Horizon Gulf oil spill. Currently NOAA is partnering with several agencies to develop ERMA implementations in various regions throughout the U.S. and is working to ensure data sharing in advance of an incident to facilitate planning and preparedness.

Speaker contact information: Mathew Dorsey
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Website:

Speaker biography:

Matt is a GIS Specialist for NOAA's Office of Response and Restoration (OR&R) in Long Beach, CA. Matt is the Southwest ERMA regional co-lead and has been working on the Deepwater Horizon Oil Spill since June of 2010 using GIS systems and ERMA to provide mapping support for the response phase of the spill and continuing into the damage assessment phase that is currently being conducted. ERMA has been developed in several regions and was the Common Operational Picture during the Deepwater Horizon spill. Prior to coming to OR&R Matt worked with NOAA Fisheries as a GIS Analyst providing mapping and database management support for 3 divisions and support on various mapping efforts for Essential Fish Habitat (EFH), critical habitat designations, kelp and eelgrass mapping and ESA Section 7 consultation mapping support.

Speaker name: Oscar Garcia-Pineda

Presentation title: Detection of thick patches of oil emulsions using Synthetic Aperture Radar (SAR)

Abstract:

Using thermal and optical sensors to detect thick patches of Oil Emulsions (OE) during DWH ([Svejkovsky, Lehr et al. 2012](#)) and overlapping the OE with Synthetic Aperture Radar (SAR) imagery, we were able to identify the same features on a great majority of the SAR database collected during DWH. In order to understand under which conditions each of the different SAR wavelengths (X, C, and L) are able to detect the OE, we normalized the bragg scattering on the SAR imagery based on the following hypothesis: If oil is mixed in high enough concentrations within a thin layer (a few millimeters for a radar wavelength) below the surface, the oil will reduce the effective dielectric constant of the ocean surface because the dielectric constant of oil is much lower than that of sea water. A lower dielectric constant means less total energy will be reflected by the surface. Therefore, this bragg normalization model should include the incidence angle, wave tilt, and wind strength. Iterations between earth surfaces and SAR microwaves wavelength will be affected by three main components: 1) The geometry between the relative position of satellite and the surface imaged (incidence angles), 2) The roughness of the surface (specifically if variations on the sea surface are within the microwave length range of few centimeters), and 3) The dielectric properties of the surface's materials. Because it penetrates more deeply into the surface water, L-band SAR was found to have the largest window of incidence angles (between 16 to 38 degrees off-nadir angle) that were able to detect OE. C-band SAR were found to have a narrower OE detectable window (between 18 to 32 degrees off-nadir angle) than L-band. The X-band SAR had the narrowest OE detectable window (between 20 to 31 degrees off-nadir angle).

Speaker contact information:

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Speaker biography:

Oscar Garcia-Pineda received a B.S. degree in electrical engineering from the Instituto Tecnológico de Ciudad Madero, Mexico in 1996. He obtained a graduate certificate from the NASA Goddard Space Flight Center educational program in 2006, and then completed a PhD Degree in Coastal and Marine System Science from Texas A&M University-Corpus Christi. In 2009 he joined the Earth, Ocean, and Atmospheric Sciences Department at Florida State University where he is currently working as a Research Scientist. His main research has focused on the development of semi-automated image processing algorithms to map coastal and oceanographic processes. As a geoscientist he has been working to integrate satellite remote sensing data with geophysical data for exploration of hydrocarbons and energy resources in the deep marine environment. He participates with NOAA as a member of the Sea Surface Roughness Science Team applying Synthetic Aperture Radar (SAR) imagery to derive floating oil properties.

Speaker name: Toby Garfield

Presentation title: The expanding capability of measuring surface currents in near-real time along the US coast.

Abstract:

The Integrated Ocean Observing System (IOOS) is a collaboration of 17 federal agencies and 11 regional associations with the mission to enable real time observations and enhanced products directed at promoting safe and efficient marine operations, responding to coastal hazards, understanding potential impacts related to climate change and providing data, products and services addressing ecosystems, fisheries and water quality issues. Extensive mapping of surface currents, using High Frequency Radar (HFR), is now being done along the United States east and west coasts. Data and products obtained from these HFR arrays will be discussed in the context of marine operations, specifically in terms of search and rescue, debris tracking and spill responses.

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Speaker biography:

Toby Garfield is the Director of the Romberg Tiburon Center for Environmental Studies, San Francisco State University's marine and estuarine research facility and a professor of Oceanography in the Department of Geosciences. He has been an observational coastal oceanographer for 40 years and is one of the lead investigators installing the California HFR array and central California water quality instruments.

Speaker name: Leo Guidroz

Presentation title: **OSBORS: Adapting a unique dredging technology for sunken oil recovery**

Abstract:

In 2009, the Oil Stop Division of American Pollution Control Corporation (AMPOL) was awarded a contract by the US Coast Guard Research and Development Center to further develop, and make ready for OHMSETT testing, its Oil Stop Bottom Oil Recovery System (OSBORS). In November 2011, Phase 2 of the contract was completed. The OSBORS accomplished a battery of tests.

The heart of the OSBORS is the Tornado Motion Technologies EDDY Pump. The EDDY Pump can be mounted on a remote controlled submersible vehicle, called the SubDredge, or it can be attached to the end of an excavator, as it was for the purposes of the OHMSETT testing. The final phase of testing was conducted in October 2012 in a lake in Texas and was the first use of the new scaled down SubDredge, called the 'Ninja'.

The OHMSETT test entailed demonstrating the ability to maneuver in and remove oil from simulated, real-world environments. It also required demonstrating the ability to handle the recovered product and separate the three phases of materials, oil, water, and solids, and to treat the recovered water for in-situ discharge.

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Speaker biography:

Leo Guidroz is Business Development Manager for the Oil Stop Division of American Pollution Control Corporation (AMPOL). He has been in the oil spill response business for 34 years. Leo manages the direct sales force, and coordinates global distribution and sales of oil spill control products for Oil Stop through their network of international representatives. Leo leads AMPOL's international business development activities, including significant projects in the Middle East, Far East, and Latin America. Recently, he has taken the position of Project Manager in the development and testing of the OSBORS (Oil Stop Bottom Oil Recovery System).

A native of New Orleans and a graduate of Louisiana State University, he has traveled to over 40 countries and speaks frequently on oil spill response products, services, planning, and strategies.

Speaker name: William Hazel

Presentation title: Submerged oil detection and recovery using a manned submersible

Abstract:

Oil spill response strategies, including the standard methodologies for oil detection, trajectory analysis, containment and recovery, present themselves as special and difficult situations when sinking or submerged oils are involved. The experiences that have been gained from past submerged oil spill response operations, and the application of new and robust subsea technologies to address the problems, have resulted in improved capacities for dealing with these types of events. In 2010-2011, the U.S. Coast Guard Research and Development Center (RDC) conducted a research effort on submerged oil spill response on the subject of detecting and recovering oil from the sea bed. This presentation will provide a framework outlining the problem and, along with examining the results of the RDC study, will describe a detection and recovery system based on the use of manned submersible devices.

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Speaker biography:

William Hazel is the Director of Marine Services for Marine Pollution Control Corporation (Detroit, MI). He has participated in the planning and execution of several submerged oil recovery operations in a variety of marine environments including at fresh and salt water spill sites. Mr. Hazel was the Principal Investigator for the manned submersible submerged oil detection and recovery system portion of the USCG RDC research project.

Speaker name: G. E. 'Ike' Ikerd

Presentation title: Clean Seas LLC 2013: The new look in fast oil spill response

Abstract:

This presentation will provide a look at oil spill response in the Santa Barbara Channel from 1969 to 2013, the Clean Seas LLC creation, growth, development, and change, and cover Clean Seas LLC activities in 2013 and into future. Clean Seas, the fast response OSRO.

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Speaker biography:

Born and raised on a small stump ranch on the shores of Puget Sound in Washington State, Ike began his career in the maritime industry when he joined the Navy in 1965 while attending Western Washington University. He served three years as an enlisted Naval Reservist and obtained a Bachelor Degree in Biology from WWU. Following graduation he attended Navy Officer Candidate School receiving a commission as an Ensign in 1968. Ike's 20 year active duty Navy career included Command of a Swift Boat in Viet Nam followed by challenging and enjoyable duty assignments on various ships and shore commands. Ike also earned a Master's Degree in Business Administration during one of his shore duty assignments. Upon leaving the Navy in 1989, Ike joined an environmental engineering firm in Southern California as VP & Operations Manager. In December of 1990, Ike joined the newly formed Marine Spill Response Corporation (MSRC) as Operations Manager for their Southwest Region, covering California and Hawaii. After 12.5 years of service in oil spill response, Ike left MSRC during the merging of the West Coast CO-OPs into the MSRC organization. Ike then worked in the industry as a consultant with Blue Water & Associates, teaching oil spill response techniques and writing oil spill contingency plans, until December of 2005 when he joined Clean Seas, LLC as General Manager. He lives in Santa Paula with his family, and is Chairman of the Association of Petroleum Industry COOP Managers (APICOM), Board Member of Western States Petroleum Association Associates (WSPA Associates) and Planning Commissioner with the City of Santa Paula.

Speaker name: Todd Jacobs

Presentation title: Small UAS utility assessment for maritime oil spill response

Abstract:

Small UAS (sUAS) can effectively be utilized to support a major maritime oil spill response. sUAS provide unique capabilities and limitations to support oil spills.

With support from AeroVironment and Chevron Shipping, NOAA conducted a demonstration and evaluated the utility of a sUAS to support a maritime oil spill during a major multi-agency spill exercise. The sUAS was deployed from a vessel to detect and monitor a simulated oil spill (using fluorescein dye), as well as assess remote shorelines and wildlife impacted by the spill. The sUAS imagery and meta data were used to quantitatively measure the geographic extent of the oil spill as well as document changes in its location. Imagery was disseminated real-time to the shore-side Incident Command Post, other response vessels and internet-connected responders. Discussion includes additional sUAS mission sets to further support oil spill response and mitigation including: data/communications relay, direct support of oil skimming, oil boom protection monitoring, marine debris identification as well as long term habitat and wildlife assessment.

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Speaker biography:

Todd Jacobs, National Oceanic and Atmospheric Administration, is currently the Deputy Superintendent for Operations and Administration for the Channel Island National Marine Sanctuary and a Project Scientist with the NOAA UAS Program. He has been with the NOAA National Ocean Service since 1989. His background includes facilitating research projects using research vessels, manned submersibles, aircraft and unmanned aircraft systems. He has been involved with the NOAA UAS Program since its inception in 2004.

Speaker name: Lisa K. Kemp
Presentation title: Oil anti-deposition agent for near-shore and inland water treatment

Abstract:

We have created an anti-deposition treatment to fill a gap in oil spill clean-up that is poorly addressed by products currently on the market. While mechanical and chemical treatments can be used for large spills at sea, smaller spills that happen near coastal shoreline or inland waters are more challenging to treat with existing products. Our product is designed not only to disperse the spilled oil for microbial degradation, but also to prevent the treated oil from sticking to coastal wildlife (such as bird feathers) or penetrating sediment. Environmental and human impact from our anti-deposition agent should be minimized because all of the ingredients in our formulation are food-safe and are used extensively in current food products. Along with the environmental advantages of our product, we also believe we will see economic and societal advantages by treating these oil spills and preventing damage to sensitive coastal or inland areas. Damage to these areas can have significant costs in clean-up and cause a loss of income from diminished tourism and loss of related jobs.

Our technology is set apart from others on the market as it accomplishes all of the following functions:

- Disperses the oil into small droplets
- Encapsulates the dispersed oil droplets
- Provides buoyancy to the encapsulated droplets to cause them to move out of the water column to the surface to permit removal by skimming or other conventional means
- Inherently contains nutrients to initiate microbial biodegradation of the encapsulated oil
- Confers anti-deposition properties to prevent fouling and penetration of coastal substrates (such as birds and sediment) for the oils that escape capture by skimming and absorption.
- Comprised of natural, renewable, environmentally-friendly, edible components

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Speaker biography:

Dr. Lisa Kemp is currently a research scientist with dual appointments at the University of Southern Mississippi and the Mississippi Polymer Institute. Through these positions, Lisa is able to use her expertise in Polymer Science to research, develop, and commercialize new technologies based on novel polymer concepts. Lisa has a PhD in Polymer Science and Engineering with a Technology Commercialization focus from the University of Southern Mississippi. Prior to obtaining her PhD, Lisa gained industrial work experience in the polymer coatings field as an R&D Chemist at McWhorter Technologies and Eastman Chemical Company. During her time in industry, she developed several new coatings technologies and played a key role in bringing two of those technologies from lab-scale to full-scale production. Lisa is co-inventor on two issued patents, one of which saw commercial success with revenues greater than \$5.5 million between 1999 and 2002, and she is currently co-inventor on three patent applications. In 2006, Lisa co-founded and was Chief Science Officer of Ablitech, an early-stage biotech company focused on developing and commercializing its Versadei™ delivery technology for nucleic acid therapy. Before leaving Ablitech in 2011, Lisa helped secure \$2.7 million in funding for the company through grants and private investment.

Speaker name: Alain Lamarche

Presentation title: The future of e-SCAT: Lessons learned from the trenches

Abstract:

The PocketSCAT field data acquisition tool has been developed and perfected for many years. It has been "adopted" by a number of organizations, including CA - OSPR and Maritime New Zealand. Even though there are many reasons that would favor the use of electronic field data acquisition tools for shoreline assessment (all linked to the need to lower the turnaround time), experience during real incidents has shown that these tools have been either not used at all, or underused. Two recent SCAT-intensive responses (one in New Zealand and the other in the Gulf of Mexico) provide some insights and answers to these questions. We will use conclusions drawn from these recent events, and our own experience developing and trying to maintain the PocketSCAT system to suggest ways to go from here.

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Website:

Speaker biography:

Alain Lamarche is a recognized expert in spill response management systems. He has been involved in the analysis and management of environmental data since 1979. He also has been responsible for the development and implementation of GIS based environmental decision and performance support tools for more than 14 years. Alain Lamarche is the original designer of the ShoreAssess© software system, dedicated to the provision of data management support for spill response. He has also developed and designed the Pocket SCAT electronic field data acquisition tools. Alain Lamarche has acted as a SCAT data manager and GIS specialist during a number of incidents. As principal of EPDS and TRIOX, Alain Lamarche is also responsible for all aspects of environmental software development projects including design, management and implementation.

Speaker name: Wally Landry

Presentation title: Coated skimmer development

Abstract:

This presentation will address the development, production, and testing of Crucial's unique coated skimmer technology, will trace the development and testing at OHMSETT for the offshore coated disc skimmers for use in Prince William Sound, will describe the additional development of smaller disc skimmers and drum skimmers for inland use, and will describe the retro-fitting of other manufacturer's skimmers with the fuzzy coating to increase recovery rate.

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Speaker biography:

Wally Landry earned a B.A from the University of New Orleans. He joined Oil Mop, Inc. (Louisiana) in 1978. He has attended many spill responses in Louisiana, Texas and Mississippi areas. Since 1980, he has been involved in the development, testing, and manufacturing of updated oil pollution control equipment, including new applications. Mr. Landry formed CRUCIAL, INC. in 1992. CRUCIAL, Inc. designs & manufactures oil pollution control equipment including skimmers, rope mops, oil/water separators and other ancillary oil spill control equipment.

Special projects have included:

- ◆ Worked with M.S.R.C. (Marine Spill Response Corporation) for specifying mop-type equipment for national stockpiles for equipment for response to major spills
- ◆ SBA Trade Mission to Korea and Taiwan
- ◆ In 1989 personally designed updated mop systems with pumping systems to deal with highly viscous oils. Also, viscous oil sorbent booms which were used extensively in the shoreline washing/cleanup operations (over 2,000,000 feet supplied). Over 5,000,000 feet of this product was supplied to BP in 2010
- ◆ In 1997, worked on the design and supply of fire monitor style dispersant spray systems for National Response Corporation (NRC) and their affiliate in Brazil, International Response Corporation (IRC)
- ◆ 2008-2010, developed coated disc skimmer system for Prince William Sound Shippers. Tested under current ASTM standards and achieved highest oil recovery rate of any skimmer at Ohmsett facility
- ◆ 2007-2010 – ISO 9000 Certification of CRUCIAL, Inc.

Speaker name: Ira Leifer

Presentation #1 title: Airborne and satellite oil spill remote sensing in support of disaster response

Abstract #1:

Although oil slick remote sensing long has played a response role, the mainstay remains eyes-on-a-plane, despite few trained observers. However, the unprecedented extent of the Deepwater Horizon spill necessitated incorporation of satellite and airborne remote sensing and incubated the development of a range of new remote sensing technologies, using passive and active approaches from satellite and airborne platforms. These included demonstration of a new diagnostic approach to quantify oil thickness using short wave infrared (SWIR) absorption features, lidar remote sensing mapping of near-surface plumes of submerged oil, monitoring of in situ burning, and synthetic aperture radar data collection.

Although spills and other disaster response often provide impetus for new technology development, the appropriate time is not during an emergency. In this regard, an Interagency Team has been formed to ensure oil spill responders have immediate and informed access to the broadest range of state-of-the-art technologies including providing guidance on appropriate usage and limitations of available technologies.

In this talk, we review the current state of the art and future trends in oil spill remote sensing and planned Interagency Team coordination efforts.

Presentation #2 title: Detection and characterization of subsurface dissolved hydrocarbon plumes by in situ mass spectrometry – a demonstration in the natural laboratory of the Coal Oil Point seep field

Abstract #2:

Where oil escapes into the environment, dissolution and outgassing of lighter hydrocarbons produces a subsurface plume of dissolved hydrocarbons from light n-alkanes (e.g., methane, ethane, up to pentane) to aromatic hydrocarbons, such as benzene. In situ mass spectrometry can detect and quantify most of these compounds, while ring compounds also can be detected by *advanced* fluorometry—*conventional* fluorometry can only detect oil droplets. Advantages of searching for the dissolved plume rather than dispersed droplets to identify subsurface plumes arise because diffusion spreads the aqueous components further, enabling far better detection.

A demonstration study in collaboration with Terrasond, Ltd, was conducted in the Coal Oil Point seep field where strong natural hydrocarbon seepage provides a proxy for studying seabed blowout processes. During one field survey, near-surface methane plumes were detected extending tens of kilometers downcurrent. Also detected in the nearfield were subsurface plumes of higher hydrocarbons associated with the Trilogy mega-seep, from methane to butane and pentane, and even benzene. The seep bubble plume source was characterized by side-scan sonar. Spatial patterns were consistent with distinct dissolution mechanisms from oil droplets and from bubbles, although instrumentation characteristics also played a role.

Ira Leifer, continued

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Speaker biography:

Dr. Leifer has been working for over a decade on hydrocarbon detection and quantification of petroleum hydrocarbons in the environment using the natural laboratory of the Coal Oil Point seep field, as well as conducting seepage measurements in the deep sea of the Gulf of Mexico. Dr. Leifer has 77 peer reviewed manuscripts spanning remote sensing, geology, trace gas atmospheric measurements, Arctic methane emissions, bubble processes, and hydrocarbon seepage measurements and modeling. Expertise gained in deepsea measurements and remote sensing of oil and natural gas enabled Dr. Leifer to play a critical role in the Deepwater Horizon response, including working as the chief mission-coordinating scientist for the NASA airborne response, and as a member of the Flow Rate Technical Group. Dr. Leifer is a member of the ADIOS 3 working group that is developing the next generation oil spill model. Dr. Leifer also is part of a NASA/NOAA working group to improve remote sensing in oil spill response. Dr. Leifer is an Associate Researcher at the University of California and CEO of Bubbleology Research International, Inc.

Speaker name: Neré Mabile – BP America

Presentation title: Offshore controlled in-situ burning operations and R&D highlight update

Abstract:

In-situ burning (ISB) was a very successful countermeasure used during the Deepwater Horizon response in 2010. There were a number of new techniques that were tested successfully during that response, but perhaps more importantly, under the right conditions, ISB proved to be an extremely efficient and rapid response method with an opportunity to see the technology succeed on a large scale. Since then, there have been several R&D efforts around enhancing ISB as a response tool.

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Speaker biography:

With more than 30 years of experience in the petroleum industry, Neré has a unique set of technical competencies involving oil spill response (OSR), integrity management, corrosion engineering, operations, and project management. Neré is currently a Technology Theme Leader for in-situ burning (ISB), mechanical recovery, and booming as a part of BP's Oil Spill Response Technology Team in Crisis & Continuity Management. Neré was the ISB technical lead and he trained and managed the ISB Air Operations team during the Deepwater Horizon response and, in those capacities, led an enormously successful ISB operation that removed more than 300,000 bbl of oil from the Gulf of Mexico waters.

Speaker name: Andrew Milanes

Presentation title: Mobile GIS in emergency response:
Technology primer and case study

Abstract:

Advances in mobile and hand-held devices, such as smart-phones, tablets and GPSs have provided new capabilities in field Geographic Information System (GIS) data collection and dissemination. GIS has become an integral component of the data management, analysis, and presentation needs during an emergency response. GIS allows for the rapid integration of multiple data sets and is a tool used throughout the Incident Command System to aid in timely, informed decision making. Prompt broadcasting of this data in a Common Operating Picture (COP) framework has become critical as the demand for real-time incident information increases. This presentation will provide a technology primer on the current state of mobile GIS technology hardware (iPhones, iPads, Android, Trimble) and software (ESRI ArcGIS Server, smartphone apps, web apps) that can be used during an emergency response. A case study will then demonstrate the practical application of these technologies in a real-world scenario.

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Speaker biography:

Andrew Milanes has a degree in Civil Engineering and over 15 years of professional experience in civil and environmental engineering. He is also a certified GIS professional, and his skills in GIS, photogrammetry, and remote sensing technologies allow ES² to develop unique and cost-effective solutions to meet the environmental needs of its clients. He has completed hundreds of GIS/mapping projects for applications including oiling delineation, Natural Resource Damage Assessment (NRDA), historical land loss analysis, beach erosion, pipeline mapping, pipeline repair documentation, and wetland restoration monitoring. Andrew also has extensive fieldwork experience on various projects including marine casualties and spills, oiling assessment and delineation, water and soil sampling, spill over flight photography, in-situ burn, bathymetry and bottom type classification surveys, and GPS surveys.

Speaker name: Eric Miller

Presentation title: Research updates for the Interagency Coordinating Committee on Oil Pollution Research and the U.S. Coast Guard Research and Development Center

Abstract:

The Coast Guard plays a central role in oil pollution research by serving as the Chair of the Interagency Coordinating Committee on Oil Pollution Research (ICCOPR) and conducting its own oil spill response research through the Coast Guard Research and Development Center. This presentation will provide updates regarding our activities for both venues. First, we will discuss the ICCOPR's ongoing efforts to revise its 1997 Oil Pollution Research and Technology Plan – a congressionally mandated document that describes how the 15 member federal organizations will synchronize their collective research endeavors with academia, industry and international stakeholders. Second, we will discuss the Coast Guard's latest research initiatives to develop effective means for detecting and removing submerged oil from benthic environments or suspended in the water column. The discussion will conclude with additional details regarding the Coast Guard's oil mitigation efforts for cold weather environments.

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Speaker biography:

Commander Eric Miller is the Chief of the Industry and Interagency Coordination Division with the Coast Guard Headquarters Office of Marine Environmental Response Policy. He manages the office's oil pollution policy communications with industry through Partnership Agreements with the American Petroleum Institute, Spill Control Association of America, American Salvage Association, and the Association of Petroleum Industry Cooperative Managers. He oversees the program's oil pollution research initiatives with the Coast Guard Research and Development Center, as the Executive Director of the Interagency Coordinating Committee on Oil Pollution Research, and as the Program Chair for the 2014 International Oil Spill Conference. Commander Miller's past Coast Guard assignments during his 19-year career include tours aboard the Coast Guard Cutter RED CEDAR, Marine Safety Office Hampton Roads, as an Assistant Professor of Chemistry at the U.S. Coast Guard Academy, and as the Coast Guard's Liaison to the Federal Emergency Management Agency. He has broad operational field experience in oil spill and hazardous materials response, salvage operations, environmental protection and emergency management.

Speaker name: Scott Morris

Presentation title: MSRC, post-Deepwater Horizon

Abstract:

This presentation will present an overview of how the Marine Spill Response Corporation (MSRC) combines hardware, software and technology for the most comprehensive spill response capability in the United States.

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Website:

Speaker biography:

Scott Morris joined MSRC on December 1, 1990. Scott's initial duties included managing the procurement of MSRC's initial capital equipment, the leasing of MSRC's facilities nationwide and negotiation of all major contractor agreements. Scott oversaw the restructuring of various contractual relationships during the mid-90s that helped reposition MSRC as a more cost effective, customer focused company. For several years, Scott managed MSRC's no-notice quality assurance program, which is one of the principal tools MSRC uses to verify its overall response readiness. More recently, Scott oversaw the startup of MSRC's nationwide dispersant program. In September 2007 Scott assumed responsibility for MSRC's California Region and oversaw MSRC's successful response to the Cosco Busan oil spill in San Francisco Bay.

Speaker name: Christopher Noël

Presentation title: Capion Global: Petrochemical technology solutions

Abstract:

Capion Global companies including ClearTec Global, ClearTec Global Recovery, Haz-Mat Response Technologies, and Cryo Response provide environmental, life safety and remediation solutions and technologies to petrochemical, energy and many other commercial industries. Our global solutions provide our clients with proactive protection, fire prevention, spill containment, secondary containment, spill remediation, site cleaning, sheen removal, and energy from waste disposal. This complete approach helps reduce the environmental impact, cost, and risks associated with oil and chemical spills and fires as well as the long-term liabilities for hazardous waste remediation, disposal and storage.

Capion Global has more than twenty-eight years of success with over three hundred government, military, petrochemical and energy clients worldwide, using its unique, patented technologies. This long-term experience has developed world-class solutions for environmental disasters, and provides responders with a single source solution. Several of the Capion Global oil spill response technologies will be highlighted in this presentation.

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Speaker biography:

Christopher is the Managing Director and Chief Executive of Capion Global, a private equity group that acquires businesses and technologies serving industries in petrochemical, military, fire, news & media, development, real estate, power and environmental technologies. Christopher developed Capion Global's One-System™ Services Support Platform, which supports the Capion Global companies with accounting/ERP, sales, marketing, legal, human resources, support and e-commerce. Throughout his career, Christopher has managed revenue and growth strategies, as well as technology product development programs targeting the Global 2000 corporations, federal governments, state and local governments, and education. His personal experience includes corporate executive management, company restructuring, entrepreneurial start-ups, acquisitions, manufacturing, technology, shared services centers, marketing, sales, and distribution channels. He has established business teams in 48 US states and 6 countries. Prior to his development of Capion Global, Christopher was the President, Chief Technology Officer and a co-founder of Convergent IT, LLC, where he built a mobile software convergence product, Genesys Mobile Suites, and worked with many large businesses to provide seamless mobile technology and access solutions for business processes and communication infrastructures. He has also worked to streamline manufacturing infrastructures and designed and engineered distribution and warehouse solutions. He is a Director of a Fortune 500 technology company, a current member of WWISA (World-Wide Institute for Software Architects) and the American Petroleum Institute.

Speaker name: Craig Ogawa

Presentation title: Bureau of Safety and Environmental Enforcement (BSEE) Oil Spill Response research program update

Abstract:

For more than 25 years, the Bureau of Safety and Environmental Enforcement (BSEE and former organizations) has aggressively maintained a comprehensive, long-term research program to improve the methods and technologies used for oil spill detection, containment, treatment, recovery and cleanup. The Oil Spill Response Division's Response Research Unit (RRU) oversees an Oil Spill Response Research program that is a cooperative effort bringing together funding and expertise from research partners in government agencies, industry and the international community.

The RRU manages the funding for numerous research projects chosen to meet major topics each year which are solicited through a Broad Agency Announcement (BAA) that is published on the Federal Business Opportunities website at <http://www.fbo.gov>. The RRU also manages the National Oil Spill Response Research and Renewal Energy Test Facility, Ohmsett, located in Leonardo, NJ. The status, updates and reports on the various oil spill research projects can be found on the BSEE website at: <http://www.bsee.gov/>

For post Fiscal Year 2012, the RRU selected research projects which deal with various aspects of the subsea application of dispersants, the in-situ burning of oil, responding to spills in Arctic waters, and the use of technology to improve the remote sensing of oil and the coordination of an oil-spill response. Questions regarding the program or research projects can be sent to Ms. Lori Medley at Lori.Medley@bsee.gov

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Speaker Biography:

Craig Ogawa is the Senior Analyst for the Bureau of Safety and Environmental Enforcement, Oil Spill Response Division, Pacific Region Unit. He has been involved in the oil spill program for over 20 years and is responsible to ensuring that offshore oil and gas operators in the Pacific Region have properly planned for and are prepared to respond to spills from their facilities. He is a graduate of the California State University Long Beach where he received a Bachelor of Science Degree in Marine Biology with a Minor in Geology, and California State University Northridge where he received a Master's of Science Degree in Geology.

Speaker name: David Palandro
Tim Nedwed

Presentation title: The use of herders to enable *in situ* burning without boom

Abstract:

Herding agents, also referred to as collecting agents, have been studied for four decades for their use in providing containment to mechanical recovery operations. The herders were limited to calm sea conditions as the herders themselves dissipated quickly in higher seas, causing the oil slick to continue spreading. However, a dissipation rate of tens of minutes does lend itself to viable use for *in situ* burning (ISB), provided that equipment is staged and ready to deploy. Since 2004, research on herders has focused on their ability to contain surface oil slicks in waters with low to medium concentrations of ice (< 60%). More recent effectiveness testing on herders has included both ISB in drift ice and ISB in open water conditions, including field tests. Initial research results have showed that herding agents are an effective tool to corral a surface oil slick, for polar and temperate regions, and enhance the use of ISB to be a rapid response technique.

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Speaker biography:

David Palandro is a Research Specialist for the Upstream Research Company (URC), joining ExxonMobil in 2011 His research at URC includes oil spill response, marine ecosystems and remote sensing. Prior to ExxonMobil, he served as a Research Scientist and Scientific Support Coordinator for Oil Spill Response (SSC) for the state of Florida. David served as the SSC, as well as, a Deputy Incident Commander for Florida during Deepwater Horizon. David obtained a PhD from the University of South Florida in Marine Science in 2006.

Tim Nedwed is OSR Senior Technical Professional Adviser working at the Upstream Research Company. Dr. Nedwed has a B.S. degree in Chemical Engineering and a Ph.D. in Environmental Engineering. He has worked for ExxonMobil in the Upstream Research Company for 12 years and leads the oil spill response research program. His primary research focus is on advancing dispersant and in-situ burning technology.

Speaker name: Brian Parscal

Presentation title: SMART – A progress report

Abstract:

SMART, Special Monitoring of Applied Response Technologies, is a cooperatively designed monitoring program for in-situ burning and dispersant application. Since its inception, the dispersant component of SMART has relied on fluorometry as the primary means to measure oil in seawater. Late in 2009, after extensive testing, the Turner Designs C-3 fluorometer, a new generation of in-situ fluorometer, was approved for use in conjunction with the SMART Protocol. This instrument package and corresponding operational procedures were soon put to the test during the 2010 Deep Water Horizon response. Though the C-3 fluorometer package performed quite well, the scale of the DWH response highlighted some operational shortcomings in the overall SMART Protocol. Our challenge for the future is to fill those gaps in the protocol and develop an effective and sustainable dispersant monitoring program.

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Speaker biography:

Brian K. Parscal served as Project Specialist for Clean Islands Council in Honolulu, Hawaii for more than 14 years and has participated in numerous oil spill responses and training exercises throughout the US. In addition to being well versed in many aspects of oil spill response, Brian's focus tends towards the "advanced" oil spill response technologies. Beginning in 2007 Brian worked with NOAA and the United States Coast Guard to introduce a new fluorometer into the SMART Dispersant Monitoring Protocol. He developed the software configuration that allows for the integration of fluorometry and navigational information into a single database. Brian was the SMART Technical Specialist for the Deep Water Horizon response where he worked with NOAA and the USCG to help oversee all aspects of the SMART Dispersant Monitoring effort. Most recently, Brian is training and advising Industry and government agencies on the technical aspects of dispersant monitoring and is currently a member of a working group to re-write the SMART Protocol.

Brian is a graduate of the University of Hawaii at Manoa with a B.S. in Geology and Geophysics.

Speaker name: Ram Ramachandran

Presentation title: Organic bio-microbial enzyme to clean oil spill & dispersants- "Advanced Biotechnical Recovery Treatment"

Abstract:

MicroMix Aqua is an organic fluid oil remediator that uses the natural ingredients derived from glucides and essential amino acids, which form powerful decomposing agents. These agents stimulate the natural predisposition of certain bacteria to produce enzymes capable of breaking down the hydrocarbons into organic matter. The hydrocarbons are thereby transformed into bacterial proteins that form a biological mud and a mixture of soluble fatty acids. This final product is completely environmentally friendly which in turn favors the development of beneficial organisms and microbes further enhancing the rate of recovery.

This procedure will ensure that the vegetation will grow even in the presence of new contamination, making it harmless to animals, vegetation and humans that might come into contact with the polluting organic matter, solid or liquid.

The microbes are so effective that 92% of the alkanes are broken down in the first 7 days, and 82.2% of the aromatics within 28 days, proving that the right kind of microbiology is the most effective solution.

The characteristics of this liquid product (MicroMix Aqua), and the composition ratios of micro-organisms, enzymes, nutrients and preservative weights as a percentage in the product, meet EPA guidelines 40CFR 300.915(d) and 300.915(d)(9)(i), (ii) and 10.

MicroMix Aqua is produced and conforms to the highest EU standards, is free of animal or cell derived products, and is completely free of all pathogenic micro-organisms per EPA 40 CFR 300.915.(b)(9)(i)(9F).

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Speaker biography:

Ram Ramachandran retired as Principal Engineer from American Cyanamid/ Cytec after 32 years. He now serves as a director and consulting engineer to Ergofit USA. Previously he served as a consultant to Shell Oil Co. for over 10 years. He worked for EXXON, BP & Gulf Oil in management positions. He was an elected County Commissioner/Councilman in LA .He was a member of the OCS Policy committee under MMS. He serves on the Board of Directors of PST-Pipeline Safety Trust. He authored several ANSI standards on safety analysis. He won several awards for his contributions in standards development.

He holds a B.Sc degree in applied Physics/Chemistry from University of Madras and did his post-graduate work at Rutgers University in NJ. He is a Life Fellow in Engineering-International Society of Automation and holds a PE license from CA. He lives with his wife & daughter in Louisiana.

Speaker name: William Robberson

Presentation title: Geospatial approach to response data management and SCAT decision-making

Abstract:

EPA Region 9 has deployed a new suite of web-based GIS tools and services that enable non-GIS professionals to collect, edit, view and analyze data using their web browsers, smart phones, tablets, and GPS units. These tools provide users with a comprehensive framework that streamlines data collection, visualization and reporting functions and provides distributed team members with real-time access to GIS data and tools whether in the office or EOC, at the Incident Command Post or in the field. The Mobile GIS Framework leverages technologies provided by EPA's GeoPlatform to facilitate mobile map creation and mobile project sharing.

The purpose of this framework is to support Region 9 and its partner agencies in collecting and assessing data for emergency response, removals, and contingency planning activities. A web-based viewer provides personnel with a Common Operating Picture for evaluating real-time conditions, and simple GIS apps have been deployed to mobile devices to enable field teams to create, view and edit the same data as office or Command Post personnel. The framework streamlines the entire data collection/review process and prevents error and duplication by connecting field and Command Post or office crew to the same data.

Region 9 is in the process of soliciting multi-agency representatives to participate in development and refinement of a "digital SCAT" workflow process for both inland and coastal zone response. The main objective is create as much of a standardized workflow as possible to aid responders in managing large-scale SCAT field data collection, analysis and decision making and help to stay ahead of the OPS tempo.

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Speaker biography:

CDR Bill Robberson has been with U.S. EPA for over 26 years; he's a Commissioned Officer in the US Public Health Service and a Licensed Civil Engineer (P.E.) in California.

Bill is the EPA Oceania Regional Response Team Coordinator, a response support and coordinating body for Hawaii, American Samoa, Guam and the Commonwealth of the Northern Marianas Islands. He also serves as the lead for Inland Area Contingency Planning throughout Oceania and the Pacific Southwest of Federal Region 9, and he leads Applied Response Technologies (ART) support for the islands. Bill is also an active member of the Agency's National Area Planning Workgroup, the Agency's National Information Technology Forum (IT Forum), and the Agency's National Contingency Plan Subpart J (Oil Spill Chemical Countermeasures) Workgroup.

Speaker name: Mr. William Schmidt

Presentation title: Testing and research of spill recovery technology conducted at Ohmsett

Abstract:

Ohmsett plays a critical role in developing the most effective response technologies enabling a rapid and efficient response to an actual spill. The facility, which is operated by the U.S. Department of Interior, Bureau of Safety and Environmental Enforcement (BSEE), provides a crucial intermediate step between small-scale bench testing and open water testing of equipment by allowing testing of full scale equipment in a controlled environment. Information gathered at Ohmsett plays an essential role in the development of new technology and in the creation of more effective procedures for responding to future oil spills.

Recent programs for innovative spill recovery technologies include: Testing prototype stationary and advancing skimming systems, remote detection of spilled oil on surface water, and detection and recovery of sunken oil.

While much of the data collected is proprietary, this presentation will summarize and discuss the methodology used during recent testing and research conducted at Ohmsett.

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Speaker biography:

William "Bill" Schmidt is the Program Manager at Ohmsett – The National Oil Spill Response Test Facility. He has been with the Ohmsett Facility since 1996 and is responsible for the overall administration and management of the facility, ensuring Ohmsett is operated and maintained as an effective, secure, safe, and environmentally responsible test facility. He is a graduate of the New Jersey Institute of Technology where he received a Bachelor of Science degree in Engineering.

Speaker name: Paul S. Smith

Presentation #1 title: Operational lessons learned during Macondo in-situ burning operations

Abstract #1:

In-situ burning operations during the Macondo spill removed an estimated quarter-million barrels of oil between April and July, 2010. This presentation will provide an overview of some of the key operational, tactical and strategic lessons learned during more than 400 controlled burns.

Presentation #2 title: Recent developments in the application of grooved disc skimming technology

Abstract #2:

Since winning the Wendy Schmidt Oil Cleanup X CHALLENGE in 2011, using grooved disc separation technology, Elastec/American Marine has developed a range of other products to exploit the technology:

- ◆ X-150 Advancing Disc Skimmer
- ◆ X-250 Advancing Disc Skimmer (Korea)
- ◆ X-280 Advancing Disc Skimmer (Norway – NOFO)
- ◆ X-30 and X-45 Cassettes to augment the recovery capability of side-channel equipped vessels
- ◆ X-30 skimmer for sheet ice and broken ice

Presentation #3 title: BoomVane - River and near coastal deployment and applications

Abstract #3:

A brief overview of BoomVane Applications:

- ◆ Deploying deflection boom in a fast-moving river
- ◆ Deploying spray nozzle array for dispersant application
- ◆ Single-vessel, V-boom skimming

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Paul Smith, continued

Speaker biography:

Over 35 years in marine casualty response, oil skimmer design and operation, and transportation planning. BSE (Naval Architecture & Marine Engineering), University of Michigan; SM (Ocean Engineering), Massachusetts Institute of Technology; MBA, Foster School of Business, University of Washington. Lead designer of 2011 X CHALLENGE Winning Skimmer; former Principal-in-Charge, Marine Consulting, The Glosten Associates; former General Manager, MARCO Pollution Control Former Program Manager, SUPSALV - ESSM and Salvage Contracts, Tracor Marine. Associate Member and Executive Board Member, American Salvage Assn.; member and Subcommittee Chair, ASTM Committee F20 on Hazardous Substances and Oil Spill Response; member and former Pacific Northwest Section Chair, Society of Naval Architects & Marine Engineers.

Speaker name: Gordon Staples

Presentation title: Characterization of oil slicks using RADARSAT-2 quad-polarized data

Abstract:

The Cloude-Pottier entropy (H) was used to extract polarimetric information from RADARSAT-2 quad-polarized images acquired over the Macondo spill. The entropy provides a measure of the amount of mixing between scattering mechanisms. For a wind-roughened ocean surface, the scattering is dominated by a single dominant scattering mechanism, namely Bragg scattering ($H \rightarrow 0$). In the presence of an oil slick, however, the entropy increases ($H \rightarrow 1$) which is due to the number of independent scattering mechanisms increasing due to damping of the small-scale Bragg waves. Comparison of entropy with aircraft overflight observations indicated that the variability of the entropy was consistent with the variability of the oil properties suggesting that the entropy was providing a qualitative measure of the oil characteristics. Specifically, when there was open water and a thin sheen, the entropy was close to 0, but in the presence thicker oil due to the presence of, for example, an emulsion, the entropy had values that were close to 1.

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Speaker biography:

Gordon Staples received the M.Sc. degree in physical oceanography and the B.Sc. degree in honours physics from the University of British Columbia. He joined MDA in 1993 and is currently Senior Analyst/Manager, Maritime Services for the Geospatial Group. In this role, he oversees the geospatial services group, manages research projects, develops and delivers radar training, and business development. Mr. Staples is on the Executive Committee of the Canadian Remote Sensing Society. He is a member of the IEEE, AGU, and the CRSS.

Speaker name: Jordan Stout

Presentation title: SMART deliverables and general timing

Abstract:

SMART monitoring is critical in determining dispersant effectiveness during a response. Under the current protocols, Tier I SMART Operations are visual-based, whereas Tiers II & III are based on in-situ monitoring and sampling using fluorometry and other gear. Differing degrees of post-processing are needed for each of the three SMART missions and each are followed by some degree of technical evaluation by Technical Specialists before a recommendation can be provided to the Federal On Scene Coordinator (FOSC), Unified Command (UC) and/or Regional Response Team (RRT). It is therefore important for responders to understand the nature of potential SMART deliverables from different mission types, the relative processing times, what those deliverables might say about dispersant effectiveness, and the likely audiences.

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Speaker biography:

Jordan Stout is the NOAA Scientific Support Coordinator (SSC) in California, providing scientific & technical support to USCG & EPA in preparing for and responding to oil spills & hazmat releases. He has supported many significant incidents/responses since he started as SSC nearly 7 years ago, including: SS *Montebello*, XOM Silvertip pipeline, Japanese Tsunami response, *MODU Deepwater Horizon* (MC252), *T/V Dubai Star*, *T/B DM932*, the Universal Studios fire, *M/V Selendang Ayu*, *M/V Cosco Busan*, Sacramento River Humpback Whales (aka Delta & Dawn), Hurricane Katrina, *T/B DBL-152* and numerous smaller incidents. Jordan is NOAA's representative on Regional Response Team 9 and the MEXUS-PAC Joint Response Team. Jordan has 8 years of prior work experience with the USFWS Environmental Contaminants Program in Alaska, and 6 years of regulatory and enforcement experience with Miami-Dade County's Department of Environmental Resources Management (DERM) working in coastal wetlands and tidal waters of South Florida. Jordan has a Master's in Environmental Management from Duke University Nicholas School of the Environment and a BS from University of Miami.

Speaker name: Dr. Jan Svejksky

Presentation title: Oil spill remote sensing after Deepwater Horizon – Learning from successes, limitations and developing capabilities.

Abstract:

Ocean Imaging's (OI's) involvement in the Deepwater Horizon spill resulted in many advancements not only from our own aerial instrument-based oil mapping but also from post-analyses of other data sources. Since the incident, OI has been collaborating with several commercial and academic entities to continue the development of remote sensing capabilities that will greatly enhance future oil spill response. These include collaboration with British Petroleum for the advanced development of a wide-angle-view aerial oil thickness mapping sensor with from-the-aircraft near-real-time digital map delivery, Exxon-Mobil sponsored studies of aerial thermal imaging utility for documenting and evaluating aerial dispersant application effects, and OI's collaborative studies with academic researchers to enable observations/tracking of very thick oil spill features in Synthetic Aperture Radar satellite imagery.

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Speaker biography:

Speaker name: Jonathan Thatcher

Presentation title: Spill response and hydrocarbon harvesting technologies

Abstract:

This presentation will cover innovative technology solutions for spill recovery, hydrocarbon harvesting and recycling of spilled oil. Smart Sponge® products may be used in many ways to solidify hydrocarbons during a spill. Applications presented will cover traditional spill response products, but also innovative ways to filter contaminated water in order to harvest the remaining hydrocarbons. The solidified product may be used as an energy source in waste-to-energy facilities, or processed into a liquid form and recycled as bunker fuel back to a refinery.

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Speaker biography:

Jonathan Thatcher, 43, has served as a Director of the Company and as Vice President and Chief Operating Officer of AbTech Industries since February 10, 2011. Mr. Thatcher is the past Director and President of Exeter Life Sciences, Inc., a holding company that invests in and promotes human, plant and animal technologies that positively contribute to the health of people, the environment and animals. Mr. Thatcher has also previously served as Chairman of Arcadia Biosciences, the Co-founder and Chairman of Kronos — The Optimal Health Company, the Chairman of Viagen, Inc., the Chairman and Interim President for Start Licensing, Inc., and a Director of OneTouch Systems, Inc. Mr. Thatcher is a past member of the board and Chair of the Governance Committee for the Arizona Chapter of the National Multiple Sclerosis Society.

Speaker name: Julie Thomas

Presentation title: The California Coastal Ocean Observing Systems: What do they have to offer??

Abstract:

The Central and Northern California Ocean Observing System (CeNCOOS) and the Southern California Coastal Ocean Observing System (SCCOOS) comprise the regional components of the NOAA funded Integrated Ocean Observing System. In California, the systems are rich with physical and biological observations and models. The California Ocean Observing Systems address four themes, consisting of: Maritime Operations, Climate and Ecosystems, Water Quality and Coastal Hazards. These science-based systems support the requirements of stakeholders, and through a suite of oceanographic products and services, are closely engaged with the user communities.

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Speaker biography:

Julie Thomas is Executive Director of the NOAA funded Southern California Coastal Ocean Observing System, Program Manager for the Army Corps of Engineers funded Coastal Data Information System, and Director of the National Science Foundation funded Ocean Observing Initiative Operations and Maintenance Cyberinfrastructure.

Speaker name: Luis F. Vargas

Presentation title: OSCAR and PetroGuard-D solidifiers

Abstract:

This presentation will describe a newly developed containment and absorbent boom system to contain and remove floating oil and sheens with one device. The device uses established industry standard oil spill containment boom and a proven and proprietary oil sheen removal absorbent blanket. The removal device has a current Californian Fish and Wildlife licensing exemption and the absorbent is approved by the USEPA for use on water. The system features easy attachment and removal as a labor and cost savings benefit.

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Guardian Environmental Technologies
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Website: www.enviro-usa.com
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Speaker biography:

President & Product Development for Enviro-USA American Manufacturer, LLC. Has worked for a few manufacturers in the USA and has been in the industry since 1997. Enviro-USA manufactures oil containment boom and is the manufacturer of the boom sections used in the production of OSCAR.

Guardian Environmental Technologies is a manufacturer and distributor of oil and chemical spill absorbent and safety products, and is the manufacturer and distributor of the sheen removal blankets and absorbents used therein and is being represented by Mr. Vargas at this forum.

Guardian and Enviro-USA have partnered in the development of OSCAR.

Inquiries for OSCAR pricing and information should be made to Guardian Environmental Technologies 860-350-2200 or info@guardianenvironmental.com

Speaker name: Matthew Ziska

Presentation title: Small UAS: Operational capabilities

Abstract:

Small unmanned aircraft systems (SUAS) provide a variety of cost effective solutions in remote and hazardous locations to the petroleum industry today. These vehicles are designed to operate in “All Environment” conditions, require no infrastructure, runway, launch or recovery apparatus. What does this mean to the petroleum industry? SUAS are ready to deploy today with the following capabilities:

- SUAS operations can be deployed most anywhere in the world without an expensive infrastructure and can recover both on the land and in the water
- operations can be performed day or night without placing personnel in dangerous / hazardous situations, savings lives and reducing costs
- small visual and acoustic signature SUASs with environmentally friendly lithium powered batteries can monitor and observe wildlife without disturbing their natural habitat
- outstanding high resolution visible and infrared cameras enable monitoring / observing of pipelines, key assets, oil platforms, oil spills and wildlife
- proven additional payloads enable geological surveys and seismic / volcanic activity monitoring
- additional services consist of search and rescue, radio / communication relay, marine mammal monitoring, fisheries monitoring and cell phone transmission

Aerovironment is a leader in the small unmanned system arena with more deployed, commercial systems than any other company in this field. The company believes this compelling technology will be a key component of petroleum industry activities in the very near future.

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Speaker biography:

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