2016 Gulf of Mexico Oil Spill & Ecosystem Science Conference

February 1-4, 2016, Tampa, Florida

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THANK YOU

We would like to thank the Executive Committee for its time and direction in planning the Conference.

Charles Wilson (Chair), *Gulf of Mexico Research Initiative*

Alyssa Dausman, *Gulf Coast Ecosystem Restoration Council*

Allen Dearry, *National Institute of Environmental Health Sciences*

Stacey DeGrasse, *U.S. Food and Drug Administration*

Chris Elfring, *Gulf Research Program of The National Academies*

Jonathan Porthouse, *National Fish & Wildlife Foundation*

David Shaw, *Gulf of Mexico Research Initiative*

Andrew Shepard, *Gulf of Mexico University Research Collaborative*

Gregory Steyer, *U.S. Geological Survey*

Suzanne van Drunick, *U.S. Environmental Protection Agency*

Dave Westerholm, *National Oceanic and Atmospheric Administration*

Denis Wiesenburg, *Gulf of Mexico Research Initiative*

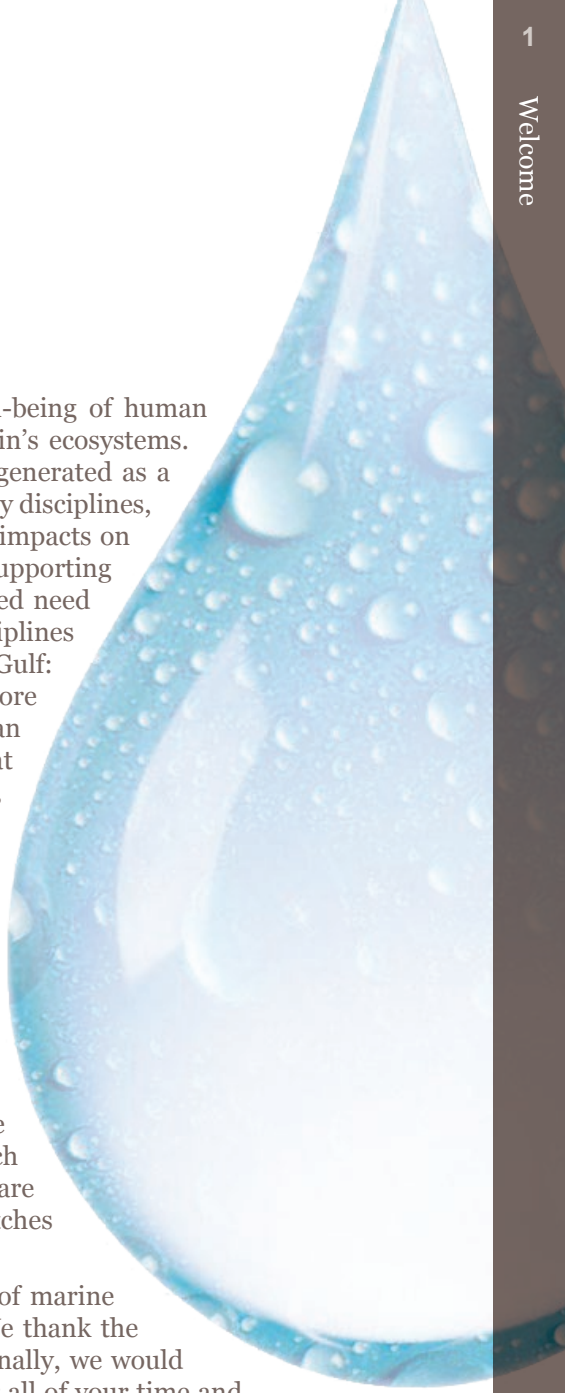
We also thank the staff of the Gulf of Mexico Research Initiative Management Team and volunteers from the University of South Florida and Eckerd College, who have been working so diligently behind the scenes to ensure everything runs smoothly.

Welcome to the 4th Annual

Gulf of Mexico Oil Spill & Ecosystem Science Conference

February 2-4, 2016

Tampa Marriott Waterside Hotel & Marina



The Gulf of Mexico region is complex, in which the health and economic well-being of human communities is often inextricably connected with the 'health' of this unique basin's ecosystems. New research opportunities and ecosystem restoration activities are sometimes generated as a result of industrial accidents such as oil spills. The lack of baseline data, across many disciplines, was frequently observed to hinder the determination of Deepwater Horizon spill impacts on ecosystems and affected communities. As new programs, and therefore new data, supporting the restoration of Gulf habitats and ecosystems come online, there is an increased need for the ability to integrate and analyze data from diverse sources, across disciplines and from varied spatial and temporal scales. The 2016 conference theme, One Gulf: Healthy Ecosystems, Healthy Communities, describes the goal of moving to a more comprehensive understanding of the functioning of and connections between human and ecological systems, and exploring how research can better inform decisions that can prevent human and ecosystem impacts by improving preparedness, response, mitigation, and restoration following spills.

To complement the ecosystem science research that has led past conferences, the 2016 conference places a strong emphasis on the human dimensions of oil spills, as well as opportunities presented by the increasingly data-rich environment for informing decisions about the management of Gulf systems. Dr. Marcia McNutt, Editor-in-Chief of *Science*, will speak to these points in her keynote address. A panel discussion will set the stage for 18 conference sessions offering approximately 280 oral presentations and 240 poster presentations on the ecosystem and human impacts of oil spills. Scientific sessions will take place February 2nd, 3rd, and the morning of the 4th. In closing, we will gather in a Plenary Session for the presentation and discussion of session summaries, demonstrating how the research presented contributes to a healthy, sustainable and resilient Gulf of Mexico. We are also pleased to present a special "red carpet" screening of the documentary "Dispatches from the Gulf," featuring oil spill scientists and their research in the region.

We are grateful to have this opportunity to meet in Tampa, FL, a dynamic hub of marine research and a city with much history, culture and cuisine for you to explore. We thank the city for hosting us, and hope you'll make the most of it during your free time. Finally, we would like to thank our Sponsors, the Executive Committee and the Conference Staff for all of your time and dedication in making this a successful conference.

Again, thank you for your participation. We hope you have a fantastic meeting and look forward to your participation in future events!

2016 Partners & Supporters

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Gulf of Mexico University Research Collaborative

MEDIA PARTNERS

eco
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Ocean News & Technology
www.oceannews.com

The impacts of oil spills on fish and fisheries are important topics for Gulf research.

(Photo Credit: C-IMAGE, S. O'Leary, Harte Research Institution)

Stay Connected!

In order to keep paper usage at a minimum, the Gulf of Mexico Oil Spill and Ecosystem Science Conference is offering most of its content digitally. All the information you need can be found on the conference webpage: http://gulfofmexicoconference.org/. In addition, there are many other ways to stay connected:

1. Mobile Application

Download the official mobile application for the conference to:

- Get immediate conference updates and schedule changes;
- Browse the conference schedule and abstracts;
- Create your own schedule
- Use the maps feature to locate your talks and sessions;
- Connect with Social Media and view a live stream of *#gulfscienceconference* and *#OneGulf tweets*;
- Make notes and comments on scientific sessions you attend;
- Find venue-specific and partner information
- Upload pictures;
- Plus more!

Scan the QR code at right or simply search for Gulf Science Conference in your app store to download the app on your mobile device. You can also visit *https://events.crowdcompass.com/gulfconference* for download links and to view the app in your mobile browser.

https://crowd.cc/s/367q

2. Visit our online searchable abstracts database at: *http://bit.ly/1SQhAAg*

3. Social Networking:

www.facebook.com/gulfscienceconference

#gulfscienceconference #OneGulf

Check out our EPosters!

For the 2016 Gulf of Mexico Oil Spill and Ecosystem Science Conference, all accepted poster presenters were able to create an EPoster for the other attendees to view online before, during and after the conference.

What is an EPoster?

Electronic Posters (or EPosters) are a supplemental electronic version of the formal poster that will be presented during one of the two scheduled Poster Sessions at the 2016 Conference. They can include images, text, and media files including Audio and Video.

How do I view a specific EPoster?

Visit: ***http://bit.ly/1PohgMo*** to view our EPosters. Just use your conference registration email and confirmation number to access the site. Once uploaded, EPosters can be searched by session, presenter, title, and keyword. Due to the sensitive nature of some EPoster content, EPoster viewing is restricted only to registered conference attendees.

Check-in and On-site Registration:

Check-in and on-site Registration will take place on the 2nd floor landing in front of the escalators. The Registration Desk will be open at the following times:

Monday, February 1 – 12:00p-6:00p
Tuesday, February 2 – 7:30a-6:00p
Wednesday, February 3 – 7:30a-6:00p
Thursday, February 4 – 7:30a-12:00p

Meals:

The following meals are provided as part of your registration fees for conference attendees.

Continental Breakfast in the Grand Ballroom Foyer:

Tuesday, February 2 – starting at 7:30a
Wednesday, February 3 – starting at 7:00a
Thursday, February 4 – starting at 7:00a

Lunch is not provided, unless you have signed up for a lunch-time workshop which includes lunch. There are many options for lunch in the Tampa Marriott Waterside Hotel, the Tampa Convention Center, and nearby downtown Tampa.

Breaks will take place in the Grand Ballroom Foyer.

WIFI/Internet:

Complimentary WIFI and Internet are available in the Westin guest rooms. WIFI is also provided in the conference meeting space and accessible by a passcode which will change each day. You will need to log back in each morning to access WIFI.

Monday: flor1da
Tuesday: al4bama
Wednesday: mi55155ippi
Thursday: lou1si4na
Friday: t3xas

Exhibits:

Exhibits from Conference Sponsors and Partners are located in the Grand Ballroom Foyer for the duration of the conference. We encourage you to stop by during breaks!

Information for Oral Presenters:

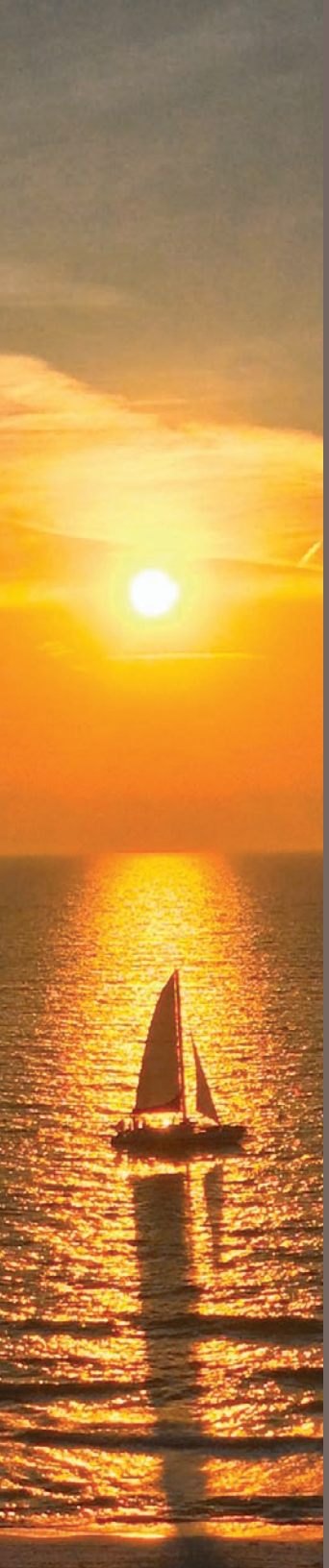
- Each session you present in will have a laptop with your presentation pre-loaded, and a laser pointer.
- Presentation upload will take place in Meeting Room 3 on the second floor.
- You must upload your presentation in the Speaker Ready Room at least one hour before your session is scheduled to begin. We advise that you upload your presentation the day before your session to avoid lines and ensure your presentation is uploaded in time.
- The Speaker Ready Room will be open:

  Monday, February 1 – 12:00p-7:00p
  Tuesday, February 2 – 8:00a-6:00p
  Wednesday, February 3 – 7:30a-6:00p
  Thursday, February 4 – 7:00a-8:00a
- Your presentation should be no more than 12 minutes in length (unless you have been designated a 30 minute time slot). This allows for the transition of speakers and keeps the session running on time.
- Please make sure your presentation is in Power Point format that is PC-compatible and set at a 4:3 ratio. Please use standard fonts, and if you include videos, provide the original files to the technical staff. This will minimize technical disruptions during the meeting. You will be able to test your presentation ahead of time in the Speaker Ready Room.

Information for Poster Presenters:

- Posters will hang in the Tampa Convention Center from Monday afternoon through Wednesday evening.
- Assisted Poster Set Up:

  Monday, February 1 – 12:00p-4:00p,
  Tuesday, February 2 – 8a-9a; 12p-1:30p; 4:30p-close
  Wednesday, February 3 – 4:30p-close
- Poster Tear Down: Posters must be removed by 8:00p on Wednesday, February 3. Any posters not removed by this time will be discarded.
- Poster size should be 48in high x 48in wide.
- We are excited to announce the use of ePosters at the conference – for more information, please see page 5.



Media Policy:

Media representatives are welcome to attend the 2016 Gulf of Mexico Oil Spill & Ecosystem Science Conference. The Media Room is located on the second floor of the hotel in Meeting Room 7 and will be open during the following hours:

Tuesday, February 2 – 8:00a-9:00a; 12:00p-5:30p
Wednesday, February 3 – 8:00a-5:30p
Thursday, February 4 – 8:00a-1:00p

The Conference's media policy is designed to ensure a professional forum in which presenters and other meeting registrants can discuss science-based issues freely and in which their concerns about proprietary research data and other information is acknowledged and respected. It is also designed to ensure a forum in which journalists and other media representatives can gather the information they need to deliver factual reporting.

The Conference intends to assist media representatives by keeping them updated through press releases, news updates and social media. The Conference will also help journalists by arranging interviews with Conference speakers and attendees.

In return, the Conference would like all media representatives to:

- Wear the designated media badge given to them by Conference organizers and identify themselves as a member of the press when attending Conference events or talking with any Conference participants.
- Obtain permission from Conference Communications and Media Staff before filming, taping or otherwise recording any activity or interview at the Conference. Broadcast journalists can record the Plenary Session but audio and video taping of any scientific session is not permitted.
- Any media representative, who sells, markets or represents a company for purposes of obtaining advertising or subscriptions from any registrant will immediately forfeit press credentials.

Photo Policy:

Attendees are permitted to take photos during the conference.

Official Conference photographs will be taken at the Gulf of Mexico Oil Spill & Ecosystem Science Conference. By registering for this Meeting, you agree to allow the Conference to use your photo in any subsequent Conference-related publication or website.

Audio & Video Policy:

Attendees of the Gulf of Mexico Oil Spill & Ecosystem Science Conference are not permitted to record, film or tape any scientific session.

Cell Phone Policy:

Out of courtesy to our speakers and attendees, we request that all cell phones be turned off during sessions and meetings.

Tampa Marriott Waterside, 2nd floor:

Activities for the 2016 Gulf of Mexico Conference will take place in two locations:

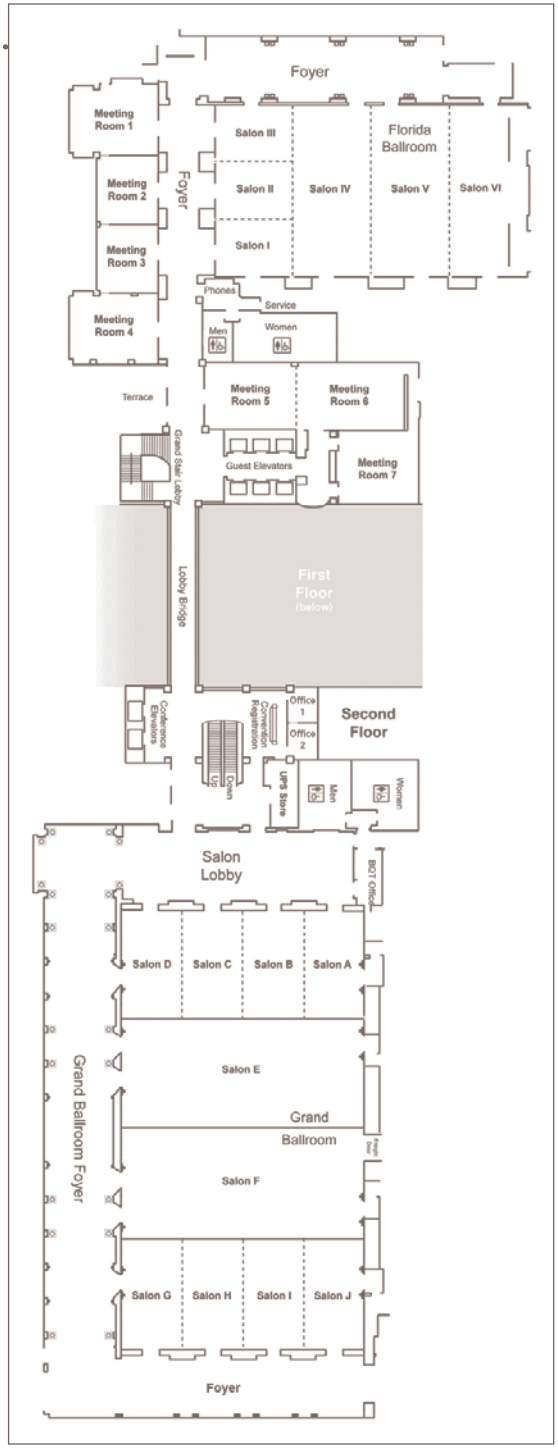
the Tampa Marriott Waterside Hotel
(700 South Florida Avenue) and

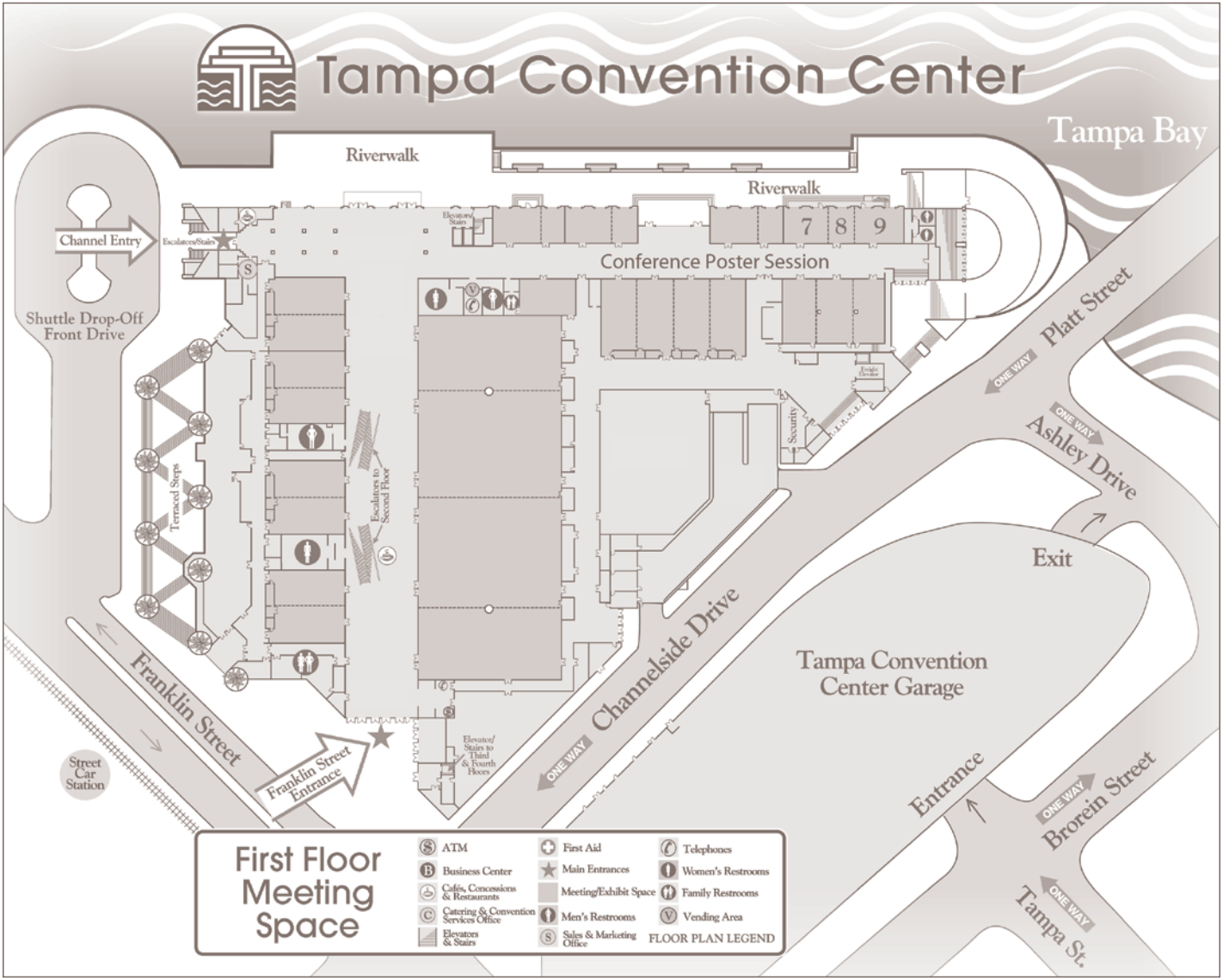
the Tampa Convention Center
(333 South Franklin Street).

The conference venues are a short walk across South Franklin Street from each other. Rooms will be noted for each session, meeting or event.

The majority of conference activities will take place on the second floor of the Tampa Marriott Waterside Hotel, including scientific sessions, breakfast, breaks, exhibits and plenary sessions. Some meetings will take place in Meeting Rooms 12 and 13 on the third floor.

The Tuesday and Wednesday night Poster Sessions and Receptions will take place in the Tampa Convention Center on the first floor. Use the Channel Entry nearest the water for easiest access.




Tampa Convention Center
Tampa Bay
Riverwalk
Riverwalk
Channel Entry
Escalators/Stairs
Shuttle Drop-Off
Front Drive
Elevators/ Stairs
7 8 9
Conference Poster Session
Platt Street
ONE WAY
ONE WAY
Ashley Drive
Exit
Security
Freight Elevator
Terraced Steps
Escalators to Second Floor
Franklin Street
Franklin Street Entrance
Street Car Station
Elevator/ Stairs to Third & Fourth Floors
ONE WAY
Channelside Drive
Tampa Convention Center Garage
Entrance
ONE WAY
Brorein Street
ONE WAY
Tampa St.
First Floor Meeting Space
ATM
Business Center
Cafés, Concessions & Restaurants
Catering & Convention Services Office
Elevators & Stairs
First Aid
Main Entrances
Meeting/Exhibit Space
Men's Restrooms
Sales & Marketing Office
Telephones
Women's Restrooms
Family Restrooms
Vending Area
FLOOR PLAN LEGEND

2016 Conference Schedule At-A-Glance

Monday, February 1

12:00p	On-site registration, Presentation upload, Exhibit and Poster Set Up	**Workshops & Meetings**
12:30p		
1:00p		
1:30p		
2:00p		
2:30p		
3:00p		
3:30p		
4:00p		
4:30p		
5:00p		
5:30p	**Student Reception**	
6:00p		
6:30p		
7:00p		

Tuesday, February 2

7:30a	Onsite Registration Presentation Upload
8:00a	
8:30a	
9:00a	**Opening Plenary** Keynote Address
9:30a	
10:00a	Break (30 mins)
10:30a	**Opening Plenary (cont.)** Expert Panel
11:00a	
11:30a	
12:00p	Lunch (90 mins)
12:30p	
1:00p	
1:30p	**Scientific Sessions** 001–005
2:00p	
2:30p	
3:00p	Break (30 mins)
3:30p	**Scientific Sessions (cont.)** 001–005
4:00p	
4:30p	
5:00p	Break (30 mins)
5:30p	**Poster Session & Reception** (Tampa Convention Center)
6:00p	
6:30p	
7:00p	

Exhibits open all day
Poster Hall open all day

Wednesday, February 3

7:30a	Onsite Registration Presentation Upload
8:00a	
8:30a	**Scientific Sessions** 003–009
9:00a	
9:30a	
10:00a	Break (30 mins)
10:30a	**Scientific Sessions (cont.)** 003–009
11:00a	
11:30a	
12:00p	Lunch (90 mins)
12:30p	
1:00p	
1:30p	**Scientific Sessions** 009–016
2:00p	
2:30p	
3:00p	Break (30 mins)
3:30p	**Scientific Sessions (cont.)** 009–016
4:00p	
4:30p	
5:00p	Break (30 mins)
5:30p	**Poster Session & Reception** (Tampa Convention Center)
6:00p	
6:30p	
7:00p	

Exhibits open all day
Poster Hall open all day
Poster take down following reception

Thursday, February 4

7:00a	Onsite Registration Presentation Upload
7:30a	
8:00a	
8:30a	**Scientific Sessions** 012–018
9:00a	
9:30a	
10:00a	Break (30 mins)
10:30a	**Scientific Sessions (cont.)** 012–018
11:00a	
11:30a	
12:00p	Lunch (90 mins)
12:30p	
1:00p	
1:30p	**Closing Plenary** Session Summaries
2:00p	
2:30p	
3:00p	
3:30p	**Special Screening:** “Dispatches from the Gulf”
4:00p	
4:30p	

Exhibits open until 12pm

Restored intertidal marsh at the Lower Neches Water Management Area, Port Arthur, Texas.

(Photo credit: NOAA)

Monday, February 1

12:00p-6:00p	Registration & Check-in Open	Escalator Landing, 2nd Floor
	Exhibit Set Up	Grand Ballroom Foyer
12:00p-7:00p	Speaker Ready Room Open	Meeting Room 3
12:00p-4:00p	Poster Hang-Up	Tampa Convention Center

Associated Meetings and Events

12:30p-5:15p	Sharing Oil Spill Science with Non-Scientists: Effectively Communicating Complex Research Results through Outreach and Education Programs	Grand Salon I
1:00p-4:00p	Overview of the DWH NRDA Process	Grand Salon F
1:00p-5:00p	Communicating Your Science	Grand Salon E
	A Tribute to Louis J. Guillette, Jr.: “From Oil Spill to Sentinels and Human Health - Complexity in Modern Environmental Health Research”	Grand Salon B
	Lessons in Designing, Conducting and Interpreting Biodegradation and Toxicity Studies on Crude and Refined Oils	Grand Salon G
1:00p-6:00p	Status and Plans for Coastal & Ocean Observing Systems of the Gulf of Mexico	Grand Salon H
	Near Field Modeling Workshop	Grand Salon A
4:00p-6:00p	Gulf of Mexico Marine Assessment Program for Protected Species (GoMMAPPS) – Informational Meeting	Grand Salon C
5:00p-6:00p	Overview and Status of Science Action Network	Grand Salon F
5:30p-7:30p	Student Welcome Reception	Waterside Patio

Restored habitat on MacDill Air Force Base in Florida.
(Photo credit: NOAA)

Tuesday, February 2

7:30a-6:00p	Registration & Check-in Open	Escalator Landing, 2nd Floor
8:00a-6:00p	Exhibits Open	Grand Ballroom Foyer
	Speaker Ready Room Open	Meeting Room 3
8:00a-8:00p	Poster Hall Open	Tampa Convention Center

Opening Plenary Program Schedule

Starts at 7:30a	BREAKFAST	Grand Ballroom Foyer
9:00a-10:00a	Welcome and Introduction *Dr. Rita Colwell, Gulf of Mexico Research Initiative Research Board* Keynote Address *Dr. Marcia McNutt, American Association for the Advancement of Science (AAAS)*	Grand Ballroom
10:00a-10:30a	BREAK	Grand Ballroom Foyer
10:30a-12:00p	Panel and Discussion	Grand Ballroom
12:00p-1:30p	LUNCH	

Scientific Program Schedule

1:30p-3:00p	Session 001	Meeting Rooms 5 & 6
	Session 002	Grand Salon F
	Session 003	Grand Salon E
	Session 004	Grand Salon A
	Session 005	Grand Salon G
3:00p-3:30p	BREAK	Grand Ballroom Foyer
3:30p -5:00p	Session 001	Meeting Rooms 5 & 6
	Session 002	Grand Salon F
	Session 003	Grand Salon E
	Session 004	Grand Salon A
	Session 005	Grand Salon G
5:30p-7:30p	Poster Session & Reception *(featuring Sessions 001 – 008, General Poster Session I, and Gulf Programs Special Session)*	Tampa Convention Center

Associated Meetings and Events

10:00a-10:30a	Introduction to GRIIDC	Meeting Room 1
12:00p-1:30p	Data Manager Luncheon	Meeting Room 1
	State-of-Science for Dispersant Use in Arctic Waters	Meeting Room 13
3:00p-3:30p	GRIIDC Data Submission	Meeting Room 1

2016 Opening Plenary

BIG, OPEN DATA: ENHANCING SCIENCE AND DECISION-MAKING FOR THE GULF OF MEXICO

Tuesday, February 1 • 9:00a - 12:00p • Grand Ballroom

Welcome and Introduction

Dr. Rita Colwell
Chair, GoMRI Research Board

Keynote Address

ONE GULF: PERSPECTIVES ON ENVIRONMENTAL AND HEALTH DATA FOR ADVANCING SCIENCE AND FOR INFORMED DECISION-MAKING

Dr. Marcia McNutt
Editor-in-Chief of Science*, AAAS*

Panel Discussion

Our ability to assess the 'health' of Gulf of Mexico ecosystems and human communities, and to ensure improvements over the long-term, requires the generation of and access to a wide array of data. The ways scientists gather, manage and analyze data are changing. While this creates incredible opportunities for conducting innovative research, supporting improved decision-making, and providing new documentation of earth and life systems that will drive discovery for decades to come, our emerging data rich environment raises important questions we must collectively resolve. Panelists will discuss with the audience the challenges and opportunities presented by this changing data landscape for bridging the gulf between research on ecosystems and human communities, as well as for the increased use of data for informed decision making. This discussion will set the stage for conference sessions that highlight research on the ecosystem and human impacts of oil spills.

Dr. Rita Colwell

Chair, GoMRI Research Board

Dr. Rita Colwell is a Distinguished University Professor at University of Maryland at College Park and The Johns Hopkins University Bloomberg School of Public Health. Dr. Colwell chairs the Research Board of the Gulf of Mexico Research Initiative.

Dr. Marcia McNutt

Editor-in-Chief of Science*, AAAS*

Marcia McNutt (B.A. in Physics, Colorado College; Ph.D. in Earth Sciences, Scripps Institution of Oceanography) is a geophysicist who became the 19th Editor-in-Chief of *Science* in June 2013. From 2009 to 2013, Dr. McNutt was the Director of the U.S. Geological Survey, which responded to a number of major disasters during her tenure, including the Deepwater Horizon oil spill. For her work to help contain that spill, Dr. McNutt was awarded the U.S. Coast Guard's Meritorious Service Medal. She is a fellow of AGU, the Geological Society of America, AAAS and the International Association of Geodesy. Her honors and awards include membership in the National Academy of Sciences, the American Philosophical Society and the American Academy of Arts and Sciences, as well as honorary doctoral degrees from Colorado College, the University of Minnesota, Monmouth University and the Colorado School of Mines. Dr. McNutt was awarded the Macelwane Medal by AGU in 1988 for research accomplishments by a young scientist and the Maurice Ewing Medal in 2007 for her significant contributions to deep-sea exploration. She is the nominee of the Council of the National Academy of Science (NAS) to become President of the NAS in 2016.

Dr. Peter Brewer (moderator)

Senior Scientist, Monterey Bay Aquarium Research Institute (MBARI)

Prior to joining MBARI in 1991, Dr. Brewer spent 24 years as a researcher at the Woods Hole Oceanographic Institution, rising to the rank of Senior Scientist. He served as Program Manager for Ocean Chemistry at the National Science Foundation 1981-1983, receiving the NSF Sustained Superior Performance Award. Dr. Brewer has taken part in more than 40 deep-sea cruises and also has served as Chief Scientist on well over 100 ROV dives, and has served as Chief Scientist on major expeditions worldwide. He is a Fellow of the American Geophysical Union and of the American Association for the Advancement of Science. Internationally he has served as a Lead Author for the 2005 IPCC Special Report on CO2 Capture and Storage, as a member of Scientific Committee on Oceanic Research, and as Vice-Chair of the U.S. Joint Global Ocean Flux Study.

Panelists

Dr. Brooks Hanson

Director of Publications, American Geophysical Union (AGU)

Dr. Hanson is responsible for overseeing AGU's portfolio of many books, 19 journals and their editorial operations, helping set overall editorial policies, and leading future developments. Before arriving at AGU, he served as the Deputy Editor for Physical Sciences at Science and earlier as an editor at Science. Dr. Hanson has a Ph.D. in Geology from UCLA and held a post-doctoral appointment at the Department of Mineral Sciences, Smithsonian Institution. His main areas or research and publications span the tectonics of the western U.S., metamorphic petrology, modeling magmatic and hydrothermal processes, and on scholarly publishing.

Dr. Robert Gropp

Interim Co-Executive Director, American Institute of Biological Sciences

Dr. Gropp has been with the American Institute of Biological Sciences (AIBS) since 2003, when he joined the organization after working on various domestic policy issues in the legislative and executive branches of government, as well as for non-profit organizations. Dr. Gropp oversees and provides leadership to AIBS' initiatives in the areas of science policy and programs, publications, scientific community engagement, and education and workforce issues. Recently, he has led AIBS' efforts to work with the biological sciences professional community to address issues related to data access and publication, complex biological data integration, and biological informatics workforce needs. He routinely writes and speaks on science policy issues, has testified before congressional committees, and speaks with national news media about issues impacting biological research and education. He earned his BA in biology from UC Santa Cruz and Ph.D. in botany (ecology) from the University of Oklahoma. He was an AIBS Congressional Science Fellow and has taught environmental science at the collegiate level.

Dr. Lisa DiPinto

Senior Scientist for the Assessment and Restoration Division of the National Oceanic & Atmospheric Administration (NOAA)

Dr. DiPinto serves as the case team coordinator and chief scientist for the Deepwater Horizon Natural Resource Damage Assessment in the Gulf of Mexico. She has nearly 20 years of experience conducting environmental assessments to evaluate and quantify injuries to public trust marine resources resulting from oil and chemical releases into the environment and coordinating with technical and economic experts, attorneys, resource agencies and responsible parties to recover damages to be used for environmental restoration in accordance with relevant federal regulations. She has designed coordinated and implemented assessments nationally and internationally. Additionally, she has led data collection during on-scene oil spill responses and aided in the development of scientifically sound research methods to quantify adverse environmental effects from contaminant releases. She received her bachelor's degree in microbiology from the Ohio State University and her master's and doctorate degrees in marine science from the University of South Carolina. Her technical interests include environmental effects of oil and sediment contaminants and coastal habitat restoration.

Dr. Donald A.B. Lindberg

Director-emeritus, National Library of Medicine (NLM)

Dr. Lindberg pioneered applying computer technology to health care beginning in 1960 at the University of Missouri. In 1984 he was appointed Director of the National Library of Medicine, the world's largest biomedical library. From 1992-1995, he served in a concurrent position as founding Director of the White House High Performance Computing and Communications Program. In 1996, he was named by the HHS Secretary to be the U.S. Coordinator for the G-7 Global Healthcare Applications Project. In addition to an eminent career in pathology, Dr. Lindberg has made notable contributions to information and computer activities in medical diagnosis, artificial intelligence, and educational programs. Before his appointment as NLM Director, he was Professor of Information Science and Professor of Pathology at the University of Missouri-Columbia.

Session 001

INCORPORATING AN ECOSYSTEM SERVICES APPROACH INTO RESTORATION AND COASTAL MANAGEMENT

Tuesday, February 2, 1:30p - 5:00p, Meeting Rooms 5 & 6

Heather Mannix, COMPASS
David Yoskowitz, Harte Research Institute

In the five years since the Deepwater Horizon disaster, we have witnessed a significant investment in research to understand the effect of oil spills on ecosystems and communities. As the focus now shifts from shorter-term response to longer-term restoration efforts, incorporating an ecosystem services approach, one that explicitly accounts for the benefits of nature in decisions, could enhance ecological and economic recovery and has the potential to transform how society approaches and evaluates restoration at both large and small scales. This session will focus on opportunities to incorporate an ecosystem services framework in environmental restoration – from project siting and selection to ecosystem services-based metrics for evaluating restoration success. It will focus on the link between environmental and economic recovery and performance metrics that holistically reflect an ecosystem's response to restoration.

A policy panel will explore the potential relevance of ecosystem services approaches in both the RESTORE and NRDA context. A series of case studies will follow.

Some questions this session will look to address:

- What examples to we have from restoration efforts where ecosystem services approaches have been used?
- How can ecosystem services approaches be used to evaluate restoration success (at both a program and project level)?
- What lessons can we draw from past restoration efforts to apply to new restoration programs like the Gulf of Mexico?
- How can restoration success and return on investment be more effectively communicated to capture the links between environment and people?

Time	Title	Presenter
1:30p - 1:45p	A Place for People at the Restoration Table	Donald Boesch, University of Maryland Center for Environmental Science
1:45p - 2:00p	The Gulf of Mexico as a Hub for Ecosystem Service Science-Driven Policy	Christine Shepard, The Nature Conservancy
2:00p - 2:15p	U.S. Federal Policies, Gulf Restoration Initiatives, and Opportunities for Ecosystem Services Assessment	Sarah Ryker, U.S. Geological Survey
2:15p - 2:30p	Gulf of Mexico Ecosystem Restoration: Based on a Foundation of Ecological, Economic and Social Components	Buck Sutter, Gulf Coast Ecosystem Restoration Council
2:30p - 2:45p	Incorporating an Ecosystem Service Approach in NRDA	Lisa DiPinto, NOAA
2:45p - 3:00p	Implementing Restoration on the Gulf Coast: the State-level Perspective on an Ecosystem Services Approach	TBD
3:00p - 3:30p	Coffee Break	
3:30p - 3:45p	Breaking-Even on Ecosystem Services: The Effects of Scale on Restoration Efficiency	Rex Caffey, Louisiana State University
3:45p - 4:00p	Measuring Ecosystem Services and Determining Their Benefits to Communities	Jeffrey DeQuattro, The Nature Conservancy
4:00p - 4:15p	Pay For Performance: Public Purchase of Scientifically Verifiable Restoration Results	Adam Davis, Ecosystem Investment Partners
4:15p - 4:30p	Households' Willingness-to-Pay for Coastal Habitat: An Application of a Discrete Choice Experiment to the Sarasota Bay Estuary	Paul Hindsley, Eckerd College
4:30p - 4:45p	Storm Protection Benefits: A Missing Piece of the NRDA Process?	Meg Imholt, NOAA
4:45p - 5:00p	Looking beyond Ecological Functions to the Value of Ecosystem Services	Deborah January-Bevers, Houston Wilderness

Session 002

PHYSICAL AND BIOLOGICAL PROCESSES OF OIL DROPLET DISPERSION, TRANSPORT, SEDIMENTATION AND BIO-DEGRADATION

Tuesday, February 2, 1:30p - 5:00p, Grand Salon F

Zachary Aman, University of Western Australia
Jian Sheng, Texas Tech University
Joseph Katz, Johns Hopkins University
Michael Schlüter, Hamburg University of Technology
Michel Boufadel, New Jersey Institute of Technology**

In this session, we will build upon the prior research to address a series of key processes affecting the fate of crude oil spills, including physical breakup, coalescence and dispersion of oil patches, aerosolized oil with wind wave interactions, interactions of petroleum with marine organisms and microbes, interactions of droplets with environments modified by microbial activities, such as polymeric materials and mucus aggregates, their consequence on physical and biological processes, and their potential impacts on public health as well as marine ecosystems. The session will be divided into two main sub-themes: (i) breakup, dispersion, agglomeration and transport of oil, including subsea and surface hydrodynamic processes; (ii) interfacial interaction of microbes, plankton, and surfactants at the oil-water boundary. In understanding the physical processes of droplet dispersion, the session will probe the physical processes affecting transport and settling of oil droplets in the subsea, the entrainment of droplets by bubbles and particles in the water column, and the possibility for aerosolized surface oil by air-water interactions, storm, and surface waves. The session will further explore the effects of micro-organism locomotion, particle adsorption, emulsification, and dispersion adsorption on interfacial interactions. Additional emphasis will be placed on elucidating the key mechanisms behind the rheological modification of seawater from oil and sediment suspensions that are influenced by microbial and planktonic organisms. This session focuses on experimental, multi-physics computational fluid dynamics (CFD), multi-phase hydrocarbon modeling-based studies, and their coupling to far-field models necessary to predict the distribution of crude oil under high pressure and cold water conditions and to enhance the accuracy and extend the applicability of Lagrangian simulators in these extreme conditions. We would like to bring together academic, federal and industrial researchers interested in the behavior of live oil (i.e., oil mixed with gas) at high pressure and in modeling the dynamics of subsea oil spills.

***Invited Speaker*

Time	Title	Presenter
1:30p - 2:00p	The Droplet Size Distribution from Blowouts: Bracketing the Possible Ranges	Michel Boufadel, New Jersey Institute of Technology
2:00p - 2:15p	Particle Size Distribution in Oil and Gas Jets under Deep-sea Conditions	Marko Hoffmann, Hamburg University of Technology
2:15p - 2:30p	Laboratory Studies and Model Results on Influence of Dispersed Oil Droplet Size on Biodegradation of Crude Oils	CJ Beegle-Krause, SINTEF MK Environmental Technology
2:30p - 2:45p	Initial Oil Droplet Formation and Possible Subsequent Droplet Coalescence as a Function of Oil Properties and Subsea Dispersant Injection	Per Brandvik, SINTEF MK Environmental Technology
2:45p - 3:00p	Turbulent Crude Oil Plumes in Crossflow: Effect of Vortex Structures on Oil Residence in Plume	Xinzhi Xue, Johns Hopkins University
3:00p - 3:30p	Coffee Break	
3:30p - 3:45p	Importance of Physical, Chemical, and Hydrodynamic Processes in the Near Field Plume of Oil and Gas Blowout Models	Anusha Dissanayake, Texas A&M University
3:45p - 4:00p	Large-eddy Simulation and Parameterization of Buoyant Plume Dynamics in Stratified Flow	Di Yang, University of Houston
4:00p - 4:15p	Deep Sea in a Can: Analyzing and Understanding Microbial Degradation under High Pressure	Andreas Liese, Hamburg University of Technology
4:15p - 4:30p	Dispersant-Accelerated PAH Dissolution in the Deepwater Horizon Plume	William Driskell
4:30p - 4:45p	Comparison of Numerical Model Simulations to Submarine Hydrocarbon Seeps Measured at MC118 and GC600 by GISR in Northern Gulf of Mexico	Inok Jun, Texas A&M University
4:45p – 5:00p	Turbulence Measurements in the Northern Gulf of Mexico: Application to the Deepwater Horizon Oil Spill on Droplet Dynamics	Zhankun Wang, Texas A&M University

Session 003

A TALE OF TWO (MEGA) SPILLS: COMPARISON OF DWH AND IXTOC-1 SCENARIOS, FATES AND EFFECTS I

Tuesday, February 2, 1:30p - 5:00p, Grand Salon E

David Hollander, University of South Florida
Adolfo Gracia, Universidad Nacional Autónoma de México
John W. Tunnell Jr., Texas A&M University-Corpus Christi**

Marine oil well blowouts, although rare, have proven to be difficult to seal and can lead to a massive discharge of oil and gas over a long duration of time. To date, there have been two prominent sub-marine blowouts, the IXTOC-1 event in the Bay of Campeche, southern Gulf of Mexico (1979-80) and the Deepwater Horizon (DWH) event in the northern Gulf of Mexico (2010). The IXTOC-1 event occurred 80 kms offshore at 56-meters depth and released >140 million gallons of oil over a 9.7-month interval while the DWH event occurred 80 kms offshore at 1500-meters depth and released >200 million gallons of oil over a 3-month interval. Although the depths and duration of these two events were quite different, both were characterized by the widespread coverage of surface oil and the deposition of sedimentary oil impacting waters, coastlines, sediments and biological systems with tremendous consequences on marine ecosystems, coastal human communities and regional economies.

This session provides a comparative perspective of the IXTOC-1 and DWH events that relate to: 1) fundamental physics of the blowouts at the wellhead, 2) water chemical-contaminant distributions, 3) impact of oil spill response strategies, 4) mechanisms, distribution, and fate of sedimentary oil deposition, 5) biological impacts, ecosystem consequences and recovery times, and 6) disruption of ecosystem services and economies. A goal of the session will be to define commonality and delineate differences that the IXTOC-1 and DWH blowout events had on: i) partitioning of oil and gas in the near-field, ii) trajectories and distribution of surfacing oil in the far-field- (coastal beaches and marshes to offshore environments), iii) MOSSFA- oil sedimentation processes, iv) microbial degradation, transformation and persistence of sedimentary hydrocarbons v) planktonic and benthic ecosystems (primary producers and consumers, larval and juvenile fish, nursery habitats, corals, invertebrates), vi) fisheries (onshore; oysters, shrimp vs offshore; shrimp, grouper, red snapper), vii) broader biological impact (dolphins, whales, seabirds, turtles), and viii) marine ecosystem services and economies (petroleum drilling moratorium, tourism, recreational and commercial fishing).

***Invited Speaker*

Time	Title	Presenter
1:30p - 2:00p	Ixtoc 1 vs Deepwater Horizon: A Different Day, a Different Time, but with Similarities	John Tunnell, Jr., Texas A&M University - Corpus Christi
2:00p - 2:15p	An Overview of Aspects of U.S. Funded Research Conducted During and After the Ixtoc -1 Blowout	Paul Boehm, Exponent Environmental Sciences
2:15p - 2:30p	Near-wellhead Observations and Water-column Measurements of Dissolved and Particulate Hydrocarbons during the IXTOC I and Deepwater Horizon Blowouts	James Payne, Payne Environmental Consultants, Inc.
2:30p - 2:45p	Surface Oil Footprint and Trajectory of the Ixtoc-I Oil Spill Determined from Landsat/MSS and CZCS Observations	Shaojie Sun, University of South Florida
2:45p - 3:00p	Characterization and Partitioning of Organic Compounds in the Water Phase of Two Submarine Oil Spill Scenarios: DWH vs. IXTOC-1	Aprami Jaggi, University of Calgary
3:00p - 3:30p	Coffee Break	
3:30p - 3:45p	Recent Sedimentation in the Southern Gulf of Mexico	Joan Sanchez-Cabeza, Universidad Nacional Autónoma de México
3:45p - 4:00p	Spatial and Temporal Variability of 234Th Inventories and Mass Accumulation Rates over the 5 Years following the DWH Event	Rebekka Larson, Eckerd College
4:00p - 4:15p	Source and Distribution of Polycyclic Aromatic Hydrocarbons in the IXTOC I Spill Area	Adolfo Gracia, Universidad Nacional Autónoma de México
4:15p - 4:30p	Evidence for Sea Floor Oil Sedimentation Associated with the Ixtoc Oil Spill	Samantha Bosman, Florida State University
4:30p - 4:45p	Geochemical Characterization and Accumulation Rates in Sediment Cores Influenced by the IXTOC Oil Spill in the Southern Gulf of Mexico	Ana Carolina Ruiz Fernandez, Universidad Nacional Autónoma de México
4:45p - 5:00p	Comparison of Sedimentary Redox Conditions following Two Major Marine Blowouts: Deepwater Horizon and Ixtoc-1	David Hastings, Eckerd College

Session 004

SUSTAINABLE COASTS AND HUMAN IMPACTS ON MARSH FOOD WEBS IN THE GULF OF MEXICO I

Tuesday, February 2, 1:30p - 5:00p, Grand Salon A

R. Eugene Turner, Louisiana State University
Olaf Jensen, Rutgers University
Nancy Rabalais, Louisiana Universities Marine Consortium
Michael Polito, Louisiana State University

This session will discuss perspectives for a sustainable GOM coast. Shifts in biodiversity and commercial fishing, items in the Farm Bill, and restoration converge at the coast. The size of organisms diminishes with climate change (Bergman's Rule), storm frequency and size will shift, and cropping patterns will change. The strengths are numerous and diminishing, the threats growing, and the possibilities for improvement may seem elusive. The first part of this session will discuss the present conditions of stressed water quality, uneven management engagement, and sliding backwards in context of the future threats of climate change, population and more intense resource exploitation. Speakers will identify key recent investigations about how microtidal coasts adapt to climate change, the baseline shift of fishing, and the meager use of management options. Recent modeling results will be presented, protected areas discussed, and successful examples given. The second part of this session will focus on how changes to the oiled and unoiled GOM coastal marsh affect food webs. How resilient or vulnerable are marsh food webs to oil and associated impacts? What measures of food web stability and structure are the most responsive to anthropogenic stressors? Are there critical "keystone species" whose response triggers significant changes in the rest of the food web? Or is there trophic redundancy in which multiple species fill overlapping roles? Can we respond to oil spills in ways that increase resilience of marsh food webs? How do changes in food webs alter the ecosystem services provided by salt marshes?

Time	Title	Presenter
1:30p - 2:00p	The 'Dead Zone' is a Lesson in Complexities and What Should Be Done	Nancy Rabalais, Louisiana Universities Marine Consortium
2:00p - 2:30p	Diversified Cropping Practices in the U.S. Corn Belt for Water Quality Protection in the Gulf of Mexico	Matt Liebman, Iowa State University
2:30p - 3:00p	Developing High-efficiency Agricultural Systems: A Forever Green Agricultural Initiative	Donald Wyse, University of Minnesota
3:00p - 3:30p	Coffee Break	
3:30p - 4:00p	Climate and Sea Level Rise (SLR) - the Nuts and Bolts of an Inescapable Coastal Driver	Jeffrey Chanton, Florida State University
4:00p - 4:30p	Goodbye Miami: Sea Level Rise, Drowning Habitats, and the Inevitably Soggy Future of the Coastal Gulf of Mexico	Jeremy Jackson, Scripps Institution of Oceanography
4:30p - 5:00p	#OceanOptimism: Why Even Small-Scale Examples of Success in Ocean Conservation and Restoration Matter	Nancy Knowlton, Smithsonian Institution

Session 005

ONE HEALTH: UNRAVELING THE INTERCONNECTEDNESS BETWEEN HUMAN AND ECOSYSTEM HEALTH THROUGH THE LENS OF OIL SPILLS I

Tuesday, February 2, 1:30p - 5:00p, Grand Salon G

Maureen Lichtveld, Tulane University, School of Public Health and Tropical Medicine
Blanca Laffon, University of A Coruña
Elaine Faustman, University of Washington
Mina Ha, Dankook University College of Medicine

Human and ecosystem health are impacted by the environment in its broadest sense: from physicochemical processes to the built, psychosocial and policy realms. Oil spills and other releases of hazardous substances into the environment have traditionally been examined in a silo fashion as a strict physicochemical event; Moreover, minimal progress has been made to support transdisciplinary research examining the reciprocal impact of oil spills on human and ecosystem health as one interconnected system. The goal of this session is to examine the interconnectedness between human and ecosystem health through the lens of oil spills from three science-driven perspectives: the biology to health outcome approach- “from bench to trench”; cumulative risk associated with the interaction of chemical and non-chemical stressors; and the pathophysiology to repair continuum. In addition to the central focus on Gulf coast communities and its ecosystem, to broaden our knowledge base, this session will prominently feature recent international oil spill research findings. The session is designed to present results of current research as well as advances in research translation, outreach and education, and the impact of health-related capacity building practices especially strategies showcasing the interconnectedness of human and ecosystem health. A moderated capstone panel representing international and domestic investigators and funding organizations will interact with the conference audience to inform key research priorities. The session will address five conference themes through the following objectives:

1 Share transdisciplinary research findings assessing the interconnected impact of oil spills on human and ecosystem health;

2 Examine the complex biological and pathophysiological processes influencing the interconnected impact of oil spills on human and ecosystem health;

3 Identify research priorities strengthening the science base associated with the interconnected impact of oil spills on human and ecosystem health.

Time	Title	Presenter
1:30p - 2:00p	Genotoxic Effects Related to Participation in Prestige Oil Clean-up: Immediate and Follow-up	Blanca Laffon, University of A Coruña
2:00p - 2:15p	Oil Spill Clean-up Exposures and Incident Hypertension in the GuLF STUDY	Dale Sandler, National Institute of Environmental Health Sciences (NIEHS)
2:15p - 2:30p	The Effect of Mobile Health Technology-enabled Community Health Workers on Disaster Readiness and Resilience in Low-income, First-time Pregnant Women	Christopher Mundorf, Tulane University School of Public Health and Tropical Medicine
2:30p - 2:45p	Method Development to Assess Cardiovascular and Blood Hemostasis Effects of Oral and Dermal Oil Toxicity Testing in Double-Crested Cormorant (Phalacrocorax auritus)	Kendal Harr, URIKA, LLC
2:45p - 3:00p	Obesogenic Activity of Oil Dispersant Corexit 9500 in the American Alligator	Amelia Brumbaugh, Maryville College
3:00p - 3:30p	Coffee Break	
3:30p - 3:45p	Improving Disaster Research to Better Understand Oil Spills and Human Health	Richard Kwok, NIEHS
3:45p - 4:00p	The Gulf Oil Spill and Multiple Disaster Exposures: Cumulative risk, Sensitization, or Habituation?	Leah Zilversmit, Tulane University
4:00p - 4:15p	Self-reported Perceptions Regarding Seafood Safety and Consumption in Southeast Louisiana Following the Deepwater Horizon Accident	Jeffrey Wickliffe, Tulane University
4:15p - 4:30p	One Health Case Study: Community-based Science to Bridge Environmental & Public Health Concerns Post-DWH in Gulf Coast Communities	Andrew Kane, University of Florida
4:30p - 4:45p	Environmental Exposure Assessment in the Women and Their Children's Health (WaTCH) Study	Daniel Harrington, Louisiana State University
4:45p - 5:00p	Post Oil Spill Indoor Air Threats and the Role of Culture in Air Management Strategies among Low-income Mothers	Christopher Mundorf, Tulane University School of Public Health and Tropical Medicine

Poster Sessions

Tuesday, February 2, 5:30p - 7:30p

Tampa Convention Center

#	Title	Presenter
Session 001		
1	The Effect of the Deepwater Horizon Oil Spill on Ecosystem Services in the Gulf of Mexico	Melissa Rohal, Texas A&M University - Corpus Christi
2	Marsh Platform Flow, Hydroperiod and Plant Productivity Associates with Natural Infrastructure Barrier Design	Susan Taylor, Abt Associates
Session 002		
118	Stability of Submerged Crude Oil and Petroleum Hydrocarbon Aggregates over Time	Daria Boglaienko, Florida International University
120	Biodegradability of Dispersed Heavy Fuel Oil at 5 and 25 °C	Mobing Zhuang, University of Cincinnati
122	Crude Oil Biodegradation by Estuarine Sediment Microbial Communities from Diverse Coastal Environments	Beth Orcutt, Bigelow Laboratory for Ocean Sciences
123	Acoustical and Optical Characterization of Marine Snow Layers in the Northern Gulf of Mexico: Layer Types and Mechanisms of Formation	Adam Greer, University of Southern Mississippi
124	Experimental Study of the Time and Space Scales on the Dispersant-Oil Droplet Interaction	Vadoud Dehkharghanian, Texas A&M University
125	Monitoring Bacterial Attachment to Array of Microscale Oil Droplet	Maryam Jalali-Mousavi, Texas Tech University
126	Observations of Natural Gas Seep Site MC118 in the Northern Gulf of Mexico during GISR Cruise G08, 2015	Binbin Wang, Texas A&M University
127	Sedimentation of Oil in Association with Diatom Aggregates	Simone Francis, University of California, Santa Barbara
128	Surface Dynamics of Fresh and Weathered Oil in the Presence of Dispersants: Laboratory Experiment and Numerical Simulation	Alexander Soloviev, Nova Southeastern University
129	Anaerobic Hydrocarbon Degradation Under Iron- and Sulfate-reducing Conditions by Sedimentary Microorganisms from the Northern Gulf of Mexico	Boryoung Shin, Georgia Institute of Technology
130	Production of Oily Marine Aerosol by Raindrop Splashing	David Murphy, Johns Hopkins University
131	High Resolution Measurement of Droplet Size Distribution Resulting from Breaking Waves impacting on Oil Slick	Cheng Li, Johns Hopkins University
132	Interactions of Passive and Active Marine Particles at the Oil-Water Interfaces	Ali Khodayari Bavil, Texas Tech University
133	Direct Numerical Simulations of Oil Plumes in Water and Raindrops Impacting Oil Slicks	Olivier Coutier-Delgosha, Arts et Metiers ParisTech
134	Deep Sea in a Can: Online Monitoring of Crude Oil Biodegradation under High Pressure Conditions	Juan Viamonte, Hamburg University of Technology
Session 003		
3	Comparative Records of Planktic Foraminiferal Mass Accumulation Rates following the 2010 DWH and 1979 IXTOC Blowout Events: A Microfossil Indicator of Marine Oil Snow Sedimentation	Erika Fridrik, University of South Florida
4	Comparison of the 2015 Abkatun (Mexico) and 2013 Hercules-265 (USA) Blowout Events in the Southern and Northern Gulf Using Benthic Foraminifera as Environmental Proxies of Hydrocarbon Pollution	Bryan O'Malley, University of South Florida

#	Title	Presenter
Session 004		
216	A Coupled Ocean-Wave Model for the Barataria Bay, Louisiana	Haosheng Huang, Louisiana State University
217	Application of Otolith Microchemistry to Understand Utilization of Subhabitats by Salt Marsh Fishes	Paola Lopez-Duarte, Rutgers University Marine Field Station
218	Potential and in-situ Denitrification Rates in Oiled and Unoiled Louisiana Salt Marsh Sediments following the Deepwater Horizon Spill	Anne Giblin, Marine Biological Laboratory
219	Highly Variable Biogeochemical Process Rates across Salt Marsh Soil Subhabitats: Implications for Scaling-up Plot Level Measurements	Brian Roberts, Louisiana Universities Marine Consortium
220	Tracing Carbon Flow from Primary Production to a Gulf Coast Salt Marsh Consumer, the Seaside Sparrow (Ammodramus maritimus)	Jessica Johnson, Louisiana State University
221	Reactive Nitrogen Sinks in the Water Column of a Large Coastal Hypoxic Area, the Gulf of Mexico “Dead Zone”	Mary Katherine Rogener, University of Georgia
222	Denitrification Rates in Deepwater Horizon Impacted Saltmarshes	Sarra Hinshaw, University of Alabama
Session 005		
135	Public Health Consequences of Oil Spills and Overfishing	John Walsh, University of South Florida
136	Global DNA Methylation Status in the Subjects with Exposure to Hebei Spirit Oil Spill due to Long Term Clean-up Work	Nivedita Chatterjee, University of Seoul
137	Epigenetic Mechanism is Involved in the Transgenerational Toxicity of Iranian Heavy Crude Oil in the Nematode, Caenohabditis elegans	JiSu Yang, University of Seoul
138	Follow-up Measure of Oxidative Stress Biomarkers in Residents 1.5 and 6 Years after the Hebei Spirit Oil Spill	JungAh Kim, Taean Environmental Health Center
139	From Oiled Stem Cells to Pregnant Women: Methodically Navigating Between Complex Environments and Human Health	Demetri Spyropoulos, Medical University of South Carolina
140	Correlations between Pulmonary Function and Children Asthma 5years after the Hebei Spirit Oil Spill	Yeonhee Chu, Taean Institute of Environmental Health Center
141	Rapid and Sensitive Assay Screening Reveals Multiple Potential Hormone Disrupting Activities in MC252 Crude Oil and Different Dispersants	Alexis Temkin, Medical University of South Carolina
143	Seafood Consumption in the Women and Their Children’s Health (WaTCH) Study After the Deepwater Horizon Oil Spill	Symielle Gaston, Louisiana State University Health Sciences Center School of Public Health
144	Five Years Later: Determining Public Perception of Community Recovery and Post-crisis Management following the Deepwater Horizon (DWH) Oil Spill	Angela Lindsey, University of Florida
145	Oil Spill Clean-up Work and Incident Coronary Heart Disease in the GuLF STUDY	Dale Sandler, NIEHS
146	Correlation of Toxicity Outcomes in Rats of Crude Oil from Different Sources with GC/MS Spectral Fingerprints to Identify Active Constituents	Sharon Meyer, University of Louisiana - Monroe
147	Coastal Seafood Consumption Post-DWH is >200 Fold Higher than National Estimates: Opportunities for Improved Risk Assessment in Seafood Safety	Makyba Charles, University of Florida

#	Title	Presenter
Session 006		
223	Molecular Characterization of Organic Indicators of Petroleum Biosouring	Jeremy Nowak, University Of California, Berkeley
224	Deep Sea in a Can: Changes of the Hydrocarbon Degrading Community under High Pressure	Steffen Hackbusch, Technical University Hamburg-Harburg
225	Deep Layer Circulation, Transport and Mixing in the Northern Gulf of Mexico: Deep Phenomena and Dispersion over the Continental Slope	Annalisa Bracco, Georgia Institute of Technology
226	Deep Sea in a Can: Aerobic Methane Oxidation under High Pressure	Nuttapol Noirungsee, Hamburg University of Technology
227	A Multi-scale Large-eddy Simulation Study of the Oil Transport in the Ocean Mixed Layer	Bicheng Chen, Pennsylvania State University
228	Kinetic energy spectrum from ADCP data during GLAD	Francisco Beron-Vera, University of Miami
229	Biodegradability of Diluted Bitumen Oil by Kalamazoo River Cultures in Freshwater	Ruta Deshpande, University of Cincinnati
230	Quantifying Initial and Wind Forcing Uncertainties in Forecasts of the Gulf of Mexico Circulation	Mohamed Iskandarani, University of Miami
231	Sensitivity of Storm Surge Predictions to Meteorological Forcing for Hurricane Isaac (2012)	Joel Dietrich, North Carolina State University
232	Dissolved Gas Distribution within Gulf of Mexico Natural Deep-sea Methane Plumes	John Breier, University of Texas Rio Grande Valley
233	High Resolution Analytical Techniques for the Analysis of Methane Oxidation in Mesocosm Experiments	Eric Chan, University of Rochester
234	Modeling Near-surface Oil Dispersion by Boundary Layer Turbulence	Ramsey Harcourt, University of Washington
235	Observations of Inner Shelf Flows Influenced by a Small-Scale River Plume in the Northern Gulf of Mexico	Mathias Roth, Naval Postgraduate School
236	Prediction of Surface Oil Slick Transport Using the 3D Baroclinic ADCIRC on High-resolution Unstructured Finite Element Grids	Arash Fathi, University of Texas at Austin
237	Light Rare Earth Element Depletion during Deepwater Horizon Methane Consumption	Alan Shiller, University of Southern Mississippi
238	Use of Autonomous Platforms to Study the Hydrography around Natural Hydrocarbon Seeps in the Gulf of Mexico	Ajit Subramaniam, Lamont Doherty Earth Observatory
239	Flow through Dog Keys Pass in the Mississippi Barrier Island System	Jeffrey Book, Naval Research Laboratory
240	Temperature, Salinity, Mixing, and Plankton Variability East of the Mississippi Delta in Autumn	Sabrina Parra, University of Florida
241	Drifter Observations of an Ebb Tidal Plume Dispersion and Circulation in a Critical Estuary-Shelf Environment, Main Pass, Mobile, AL	Steven Dykstra, Dauphin Island Sea Lab
242	Role of River Discharge on the Hydrography and Circulation in the Coastal Waters of Alabama, Northern Gulf of Mexico	Brian Dzwonkowski, University of South Alabama
243	Exploring Microbial and Hydrocarbon Dynamics along a Surface Transect of a Persistent Oil Slick at Taylor Energy	Sarah Harrison, University of Georgia
244	Near-Bottom Currents and Dispersal at GC600 and OC26	Andreas Thurnherr, Lamont-Doherty Earth Observatory
245	Meta-Omics Analysis Demonstrates Biodegradation of MC252 Oil in Sand Patties Originating from the Deepwater Horizon Oil Spill	Jamie Johnson, University of Oklahoma

#	Title	Presenter
246	Changes in Microbial and Phytoplankton Communities in Response to Oil and Nutrients in the Northern Gulf of Mexico: Correlating Experiments with Field Observations	Nigel D'souza, Georgia Institute of Technology
247	Changes in the Molecular Composition of a Crude Oil resulting from Microbial Degradation by Pseudomonas aeruginosa	Gregory Hitz, Florida A&M University
248	Gulf of Mexico Water Mass Characterization Using Stable Carbon and Nitrogen Isotopes of Particulate Organic Matter	Diego Lopez-Veneroni, Instituto Mexicano del Petroleo (IMP)
Session 007		
173	Effects of Acute Crude Oil Exposure on Growth and Survival of Two Life Stages of the Blue Crab, *Callinectes sapidus*	Sarah Giltz, Tulane University
174	Evaluation of DWHOS Ecosystem Impacts using an Atlantis Biogeochemical Model	Cameron Ainsworth, University of South Florida
175	Effects of 2- and 6-hydroxylated Chrysene on the Development of Danio rerio Embryos	Graciel Diamante, University of California, Riverside
176	Molecular Characterization of Antioxidant Response in Mahi Mahi (*Coryphaena hippurus*) Embryos Co-exposed to Oil and Ultraviolet Radiation	Jason Magnuson, University of North Texas
177	An Evaluation of Mortality and Burrowing Behavior of Fiddler Crabs (*Uca sp.*) in Response to Exposure to Petroleum Hydrocarbons	Marco Franco, University of Louisiana at Lafayette
178	Toxicity of Crude Oil and Nanoparticles on *Caenorhabditis elegans*	Illya Tietzel, Southern University at New Orleans
179	Combined Effects of Deepwater Horizon Crude Oil Exposure, Temperature and Developmental Stage on Oxygen Consumption of Embryonic and Larval Mahi Mahi	Christina Pasparakis, University of Miami
180	Foraging Behavior and Predator Prey Interactions of Mahi Mahi (Coryphaena hippurus) Exposed to Crude Oil from the Deep Water Horizon Event	Lela Schlenker, University of Miami
181	Exposure to Deepwater Horizon Oil in Sediment Inhibited Growth in Juvenile Red Drum and Pacific White Shrimp	Jeffrey Morris, Abt Associates
182	OXPHOS Capacity in Mahi Mahi (*Coryphaena hippurus*) and Sheepshead Minnows (*Cyprinodon variegatus variegatus*) after Crude Oil Exposure	Amanda Reynolds, University of North Texas
183	Hemodynamics throughout Recovery from Polycyclic Aromatic Hydrocarbon Exposure in Juvenile Mahi Mahi (*Coryphaena hippurus*)	Derek Nelson, University of North Texas
184	Influence of Hypoxia on Biochemical and Cellular Responses of Sheepshead Minnow Larvae (*Cyprinodon variegatus*) Exposed to Oil Spill Contaminants	Subham Dasgupta, Stony Brook University
Session 008		
73	Sun Glint Requirement for the Remote Detection of Surface Oil Films	Shaojie Sun, University of South Florida
74	Drop Dissolution and Stabilization in the Water Column	Andrea Prosperetti, Johns Hopkins University
75	The Effect of Pressure and Viscosity on Oil-in-Water Droplet Size Distributions	Zachary Aman, University of Western Australia
76	Numerical Methods to Estimate Near-Field Turbulence in Deepwater Blowout	Zachary Aman, University of Western Australia
77	The Influence of Spatial and Temporal Resolutions of Hydrodynamic Model on the Deepwater Oil Spill Model predictions: Case Study Using OSCAR	Haibo Niu, Dalhousie University
78	Volume and Area Time Series of DWH Surface Oil: Comparison of Modeling and Remote Sensing Results	Ian MacDonald, Florida State University

#	Title	Presenter
79	Numerical Circulation Model Skill Assessment from Observed Deepwater Currents over 2 Years on the Continental Slope near the Macondo Spill Site	Christian Nygren, Texas A&M University
80	Improving the Efficiency of Hazardous Spill Cleanup Efforts Using in situ Drifter Observations	Brent Bartels, Vencore, Inc.
81	Predicting (Natural and Chemical) Dispersion of Floating Oil	AlberTinka Murk, Wageningen University
82	Numerical Simulation of Oil Biodegradation and Bioremediation in a Tidally-influenced Sand Beach	Xiaolong Geng, New Jersey Institute of Technology
General Poster Session I		
83	Oil Droplets Transport due to Irregular Waves: Development of Large-scale Spreading Coefficients	Xiaolong Geng, New Jersey Institute of Technology
84	Detection of PAHs via Energy Transfer using Mixed Cyclodextrins Solutions	Benjamin Smith, University of Rhode Island
85	Cyclodextrin-Based Systems for Environmental Remediation Applications	Mindy Levine, University of Rhode Island
86	The Relative Potency of Methylated Chrysenes in Aryl Hydrocarbon Receptor (AhR) Activation	Jonathan Cuccia, Tulane University
87	Peak-interpolation Method for Differentiating Deepwater Horizon Crude Oil from other Gulf of Mexico Crude Oils	Yuling Han, Auburn University
88	Understanding the Role Oil and Surfactants Play in Controlling Gas Hydrate Stability	Laura Lapham, University of Maryland Center for Environmental Science
89	Experiments to Test Whether Toxicity is Different at Hydrostatic Pressure	J Strickler, University of Wisconsin - Milwaukee
90	Analysis of Marsh Loss and Erosion within Northern Barataria Bay Louisiana: the Effects of the Deepwater Horizon Oil Spill	Donald Deis, Atkins
91	Development of a Biophysical Model to Predict the Presence of Two Scyphozoan Jellyfish in the Gulf of Mexico	Katrina Aleksa, University of Southern Mississippi
92	Jellyfish, Forage Fish and the Gulf of Mexico Menhaden Fishery	Katrina Aleksa, University of Southern Mississippi
93	Analysis of Long-term Datasets Indicates Heterogeneous Impacts Resulting from the DWH Accident on Nekton in the Northcentral Gulf of Mexico	John Valentine, Dauphin Island Sea Lab
94	Immediate and Prolonged Changes to Swim Performance of Red Drum (Sciaenops ocellatus) following Acute Exposure to Naturally Weathered Crude Oil	Jacob Johansen, University of Texas
95	Impacts of Deepwater Horizon Oil Pollution on Wetlands Resiliency	A. Randall Hughes, Northeastern University
96	Examining Internal Waves on the Northern Gulf of Mexico Continental Shelf with Navy Coastal Ocean Model, NCOM	Mustafa Cambazoglu, University of Southern Mississippi
97	Laboratory Measurements of Near-Surface Wind-Wave-Current Interaction	Nathan Laxague, University of Miami
98	High Frequency Multibeam Sonar Water Column Backscatter: A 3D View of Water Column Acoustic Anomalies to Facilitate Ecosystem Science	Maxwell Williamson, University of Southern Mississippi
99	Establishing Relative Baselines of Reef Fish Populations and Habitat on the West Florida Shelf using Multibeam and Towed Camera Systems	Sarah Grasty, University of South Florida
101	Surface VOC Emissions from Subsurface Oil Releases with and without Dispersant Application: Flume Tank Tests	Brian Robinson, Fisheries and Oceans Canada

#	Title	Presenter
102	The Significance of Coherent Material Eddies in the Ocean	Maria Olascoaga, University of Miami
103	Use of Semi-permeable Membrane Devices to Assess Petroleum Hydrocarbon Contamination in the Waters of Coastal Florida and a Mesophotic Reef in the Northern Gulf of Mexico	Timothy Bargar, U.S. Geological Survey
104	Evaluating the Relationship between Integrated Hydrocarbon Exposure and Coral Occurrence	Kelsey Rogers, Florida State University
105	In vivo Exposure and Stem Cell Transcriptomics to Determine If Dioctyl Sodium Sulfosuccinate (DOSS) Is A Bona Fide Obesogen	Robert Bowers, Medical University of South Carolina
106	Early Life Sensitivity of Red Drum, Sciaenops ocellatus, to Source and Naturally Weathered Oil	Alexis Khursigara, University of Texas at Austin
107	Deepwater Horizon Oil Spill in Early Life Stages Impairs Cardiac Development of Three Gulf of Mexico Fishes (Gulf Killifish, Redfish and Mahi Mahi)	Prescilla Perrichon, University of North Texas
108	How Was the Deep Scattering layers (DSLs) Influenced by the Deepwater Horizon Spill? --- Evidences from 10-year NTL Oil/Gas ADCP Backscattering Data Collected at the Spill Site	Zhankun Wang, Texas A&M University
109	Application of High-Resolution Multibeam Sonar Backscatter to Estimate Benthic Sediment Type Distributions in the Mississippi Bight	Lauren Quas, University of Southern Mississippi
110	Microbial Communities and Bioturbation Work Together to Accelerate Degradation of Oil Components in Coastal Sediments	Nihar Deb Adhikary, University of Louisiana at Lafayette
111	Initial Analysis of Microbial Community Response to Oil and Corexit in Coastal Water Mesocosms	Shawn Doyle, Texas A&M University
112	Storm-induced Sediment Resuspension in the Mississippi Canyon Affects Deepwater Particle Fluxes and Heterotrophic Bacterial Activities	Kai Ziervogel, University of New Hampshire
113	Eicosanomics: Novel Approaches to Investigate the Effect of Oil/Dispersant Exposure on Eicosanoid Biosynthesis in Sentinel Species	Theresa Cantu, Medical University of South Carolina
114	Toxicity Studies of Sciaenops ocellatus and Menidia beryllina Exposed to Deepwater Horizon Oil and Corexit 9500	Rebecca Medvecky, Mote Marine Laboratory
115	Transcriptional Upregulation of CYP1A1 and CYP1B1 by Alkylated Polycyclic Aromatic Hydrocarbons Found in Crude Oil in the Human RPTEC/TERT1 Cell Line	Jeffrey Wickliffe, Tulane University
116	Biodegradation of Finasol OSR 52 and Dispersed Alaska North Slope Crude Oil at 5 °C and 25 °C	Yu Zhang, University of Cincinnati
117	Aggregation and Submergence Behavior of Floating Hydrophobic Liquids by Fine Quartz Sand	Daria Boglaienko, Florida International University

Gulf of Mexico Science and Restoration Programs Poster Section

Several post-Deepwater Horizon Gulf of Mexico science and restoration programs will present posters on their programs and have representatives available to answer questions. A calendar outlining funding opportunities for each program over the next three years will be available as well. The programs that will be participating include the National Academies of Science's Gulf Research Program, Florida RESTORE Act Centers of Excellence Program, RESTORE Act Center of Excellence for Louisiana, NOAA RESTORE Act Science Program, Gulf Coast Ecosystem Restoration Council, and Natural Resources Damage Assessment.

A researcher collects marine samples in Appalachicola Bay, Florida.

(Photo credit: ECOGIG, D. Moynahan)

Wednesday, February 3

7:30a-6:00p	Registration & Check-in Open	Escalator Landing, 2nd Floor
8:00a-6:00p	Exhibits Open	Grand Ballroom Foyer
7:30a-6:00p	Speaker Ready Room Open	Meeting Room 3
8:00a-8:00p	Poster Hall Open	Tampa Convention Center

Scientific Program Schedule

Starts at 7:00a	BREAKFAST	Grand Ballroom Foyer
8:30a-10:00a	Session 003	Grand Salon E
	Session 004	Grand Salon A
	Session 005	Grand Salon G
	Session 006	Florida Salon I-III
	Session 007	Grand Salon F
	Session 008	Florida Salon V
	Session 009	Florida Salon IV
10:00a-10:30a	BREAK	Grand Ballroom Foyer
10:30a-12:00p	Session 003	Grand Salon E
	Session 004	Grand Salon A
	Session 005	Grand Salon G
	Session 006	Florida Salon I-III
	Session 007	Grand Salon F
	Session 008	Florida Salon V
	Session 009	Florida Salon IV
12:00p-1:30p	LUNCH	
1:30p-3:00p	Session 009	Florida Salon IV
	Session 010	Florida Salon VI
	Session 011	Grand Salon G
	Session 012	Grand Salon A
	Session 013	Florida Salon V
	Session 014	Florida Salon I-III
	Session 015	Grand Salon F
	Session 016	Grand Salon E
3:00p-3:30p	BREAK	Grand Ballroom Foyer
3:30p-5:00p	Session 009	Florida Salon IV
	Session 010	Florida Salon VI
	Session 011	Grand Salon G
	Session 012	Grand Salon A
	Session 013	Florida Salon V
	Session 014	Florida Salon I-III
	Session 015	Grand Salon F
	Session 016	Grand Salon E
5:30p-7:30p	Poster Session & Reception (featuring Sessions 009 – 018 and General Poster Session II)	Tampa Convention Center

Associated Meetings and Events

7:30a-8:30a	Environmental Disasters Data Management (EDDM)	Meeting Rooms 5 & 6
10:00a-10:30a	GRIIDC Data Organization	Meeting Room 1
3:00pm-3:30pm	Introduction to GRIIDC	Meeting Room 1

Session 003 *(Continued from Tuesday)*

A TALE OF TWO (MEGA) SPILLS: COMPARISON OF DWH AND IXTOC-1 SCENARIOS, FATES AND EFFECTS II

Wednesday, February 3, 8:30a - 12:00p, Grand Salon E

David Hollander, University of South Florida

Adolfo Gracia, Universidad Nacional Autónoma de México

David Yoskowitz, Harte Research Institute**

Marine oil well blowouts, although rare, have proven to be difficult to seal and can lead to a massive discharge of oil and gas over a long duration of time. To date, there have been two prominent sub-marine blowouts, the IXTOC-1 event in the Bay of Campeche, southern Gulf of Mexico (1979-80) and the Deepwater Horizon (DWH) event in the northern Gulf of Mexico (2010). The IXTOC-1 event occurred 80 kms offshore at 56-meters depth and released >140 million gallons of oil over a 9.7-month interval while the DWH event occurred 80 kms offshore at 1500-meters depth and released >200 million gallons of oil over a 3-month interval. Although the depths and duration of these two events were quite different, both were characterized by the widespread coverage of surface oil and the deposition of sedimentary oil impacting waters, coastlines, sediments and biological systems with tremendous consequences on marine ecosystems, coastal human communities and regional economies. This session encourages submissions that provide a comparative perspective of the IXTOC-1 and DWH events that relate to: 1) fundamental physics of the blowouts at the wellhead, 2) water chemical-contaminant distributions, 3) impact of oil spill response strategies, 4) mechanisms, distribution, and fate of sedimentary oil deposition, 5) biological impacts, ecosystem consequences and recovery times, and 6) disruption of ecosystem services and economies. A goal of the session will be to define commonality and delineate differences that the IXTOC-1 and DWH blowout events had on: i) partitioning of oil and gas in the near-field, ii) trajectories and distribution of surfacing oil in the far-field- (coastal beaches and marshes to offshore environments), iii) MOSSFA- oil sedimentation processes, iv) microbial degradation, transformation and persistence of sedimentary hydrocarbons v) planktonic and benthic ecosystems (primary producers and consumers, larval and juvenile fish, nursery habitats, corals, invertebrates), vi) fisheries (onshore; oysters, shrimp vs offshore; shrimp, grouper, red snapper), vii) broader biological impact (dolphins, whales, seabirds, turtles), and viii) marine ecosystem services and economies (petroleum drilling moratorium, tourism, recreational and commercial fishing).

***Invited Speaker*

Time	Title	Presenter
8:30a - 9:00a	Connecting People and Places: A Tale of Two Gulf Spills	David Yoskowitz, Harte Research Institute
9:00a - 9:15a	A Large Scale Comparison of Seafloor Microbial Communities in Regions Impacted by Two Gulf of Mexico Mega Spills	Will Overholt, Georgia Institute of Technology
9:15a - 9:30a	Benthic Foraminiferal Response to the IXTOC Oil Spill, Southern Gulf of Mexico	Maria Machain-Castillo, Universidad Nacional Autónoma de México
9:30a - 9:45a	Using Foraminifera to Assess Benthic Distribution, Impacts and Recovery following Sedimentary Oil Deposition Associated with the DWH and Ixtoc Events	Patrick Schwing, University of South Florida
9:45a - 10:00a	Tails of Two Spills: Comparison of Marine Fish Communities in the Aftermath of Deepwater Horizon and IXTOC-I	Steven Murawski, University of South Florida
10:00a - 10:30a	Coffee Break	
10:30a - 10:45a	Comparing PAH Profiles across the Gulf of Mexico: Red Snapper Liver Analysis	Susan Snyder, University of South Florida
10:45a - 11:00a	An Assessment of Fish Health in the Northern and Southern Gulf of Mexico in 2015 Using Traditional Immune System Markers	Kristina Deak, University of South Florida
11:00a - 11:15a	Two White Shrimp Fisheries in Two Mega Oil Blowouts	Adolfo Gracia Universidad Nacional Autónoma de México
11:15a - 11:30a	Development of an Atlantis Ecosystem Model to Study the Impact of IXTOC Oil Spill	Joel Ortega-Ortiz, University of South Florida
11:30a - 11:45a	Can Lessons Learned from the 1979 IXTOC-1 Oil Spill (SGoM) Foretell the Recovery Time and Long Term Ecologic Consequences of the 2010 DWH Oil Spill (NGoM)?	David Hollander, University of South Florida
11:45a - 12:00p	Discussion	

Session 004 *(Continued from Tuesday)*

SUSTAINABLE COASTS AND HUMAN IMPACTS ON MARSH FOOD WEBS IN THE GULF OF MEXICO II

Wednesday, February 3, 8:30a - 12:00p, Grand Salon A

Olaf Jensen, Rutgers University
R. Eugene Turner, Louisiana State University
Nancy Rabalais, Louisiana Universities Marine Consortium
Michael Polito, Louisiana State University

This session will discuss perspectives for a sustainable GOM coast. Shifts in biodiversity and commercial fishing, items in the Farm Bill, and restoration converge at the coast. The size of organisms diminishes with climate change (Bergman's Rule), storm frequency and size will shift, and cropping patterns will change. The strengths are numerous and diminishing, the threats growing, and the possibilities for improvement may seem elusive. The first part of this session will discuss the present conditions of stressed water quality, uneven management engagement, and sliding backwards in context of the future threats of climate change, population and more intense resource exploitation. Speakers will identify key recent investigations about how microtidal coasts adapt to climate change, the baseline shift of fishing, and the meager use of management options. Recent modeling results will be presented, protected areas discussed, and successful examples given. The second part of this session will focus on how changes to the oiled and unoiled GOM coastal marsh affect food webs. How resilient or vulnerable are marsh food webs to oil and associated impacts? What measures of food web stability and structure are the most responsive to anthropogenic stressors? Are there critical "keystone species" whose response triggers significant changes in the rest of the food web? Or is there trophic redundancy in which multiple species fill overlapping roles? Can we respond to oil spills in ways that increase resilience of marsh food webs? How do changes in food webs alter the ecosystem services provided by salt marshes?

Time	Title	Presenter
8:30a - 8:45a	Assessing the Effects of River Diversions on Oil Transport in Deltaic Louisiana Estuaries	Dubravko Justic, Louisiana State University
8:45a - 9:00a	Nitrification, Denitrification, and Greenhouse Gas Production During Peak Growing Season in Oiled and Unoiled Louisiana Salt Marshes	Ariella Chelsky, Louisiana Universities Marine Consortium
9:00a - 9:15a	Tracking Organic Carbon Changes in Louisiana Marshes following the Deepwater Horizon Oil Spill	Annette Engel, University of Tennessee - Knoxville
9:15a - 9:30a	A Three Year Record of Spartina *alterniflora* Biomass, Primary Production, and Allometry in Coastal Louisiana	Troy Hill, Louisiana Universities Marine Consortium
9:30a - 9:45a	Effects of Oil on Submerged Vegetation: an Experimental Assessment of *Ruppia maritima*	Charles Martin, Louisiana State University
9:45a - 10:00a	Macondo Oil Effects on Terrestrial Arthropods in Louisiana Marshes	Linda Hooper-Bui, Louisiana State University
10:00a - 10:30a	Coffee Break	
10:30a - 10:45a	Phytoplankton-Zooplankton Interactions in Gulf of Mexico Upper Waters as Inferred from Stable Isotopes	Diego Lopez-Veneroni, Instituto Mexicano del Petroleo (IMP)
10:45a - 11:00a	Estimating Predator-Prey Relationships in Louisiana Salt Marshes: a Combination of Stomach Content, Stable Isotope, and Fatty Acid Analysis	Paola Lopez-Duarte, Rutgers University Marine Field Station
11:00a - 11:15a	Tracking Carbon Flow through Marsh Food Webs Using Compound Specific-Stable Isotope Analysis	Michael Polito, Louisiana State University
11:15a - 11:30a	Louisiana Commercial Fishing Industry Response to the Deepwater Horizon Oil Spill	Giovanna McClenachan, Louisiana State University
11:30a - 11:45a	Coastal Ecosystem Supply Chain Vulnerability: A Framework for Propagation of Impacts and Recovery	Berrin Tansel, Florida International University
11:45a - 12:00p	Using a Food Web Network Model to Understand Vulnerability of Gulf of Mexico Salt Marsh Food Webs to Oiling	Michael McCann, Rutgers University

Session 005 *(Continued from Tuesday)*

ONE HEALTH: UNRAVELING THE INTERCONNECTEDNESS BETWEEN HUMAN AND ECOSYSTEM HEALTH THROUGH THE LENS OF OIL SPILLS II

Wednesday, February 3, 8:30a - 12:00p, Grand Salon G

Maureen Lichtveld, Tulane University School of Public Health and Tropical Medicine
Blanca Laffon, University of A Coruña
Elaine Faustman, University of Washington
Mina Ha, Dankook University College of Medicine
Linda Birnbaum, National Institutes of Health**
Bernard Goldstein, University of Pittsburgh**
LeighAnne Olsen, Gulf Research Program**

Human and ecosystem health are impacted by the environment in its broadest sense: from physicochemical processes to the built, psychosocial and policy realms. Oil spills and other releases of hazardous substances into the environment have traditionally been examined in a silo fashion as a strict physicochemical event; Moreover, minimal progress has been made to support transdisciplinary research examining the reciprocal impact of oil spills on human and ecosystem health as one interconnected system. The goal of this session is to examine the interconnectedness between human and ecosystem health through the lens of oil spills from three science-driven perspectives: the biology to health outcome approach- "from bench to trench"; cumulative risk associated with the interaction of chemical and non-chemical stressors; and the pathophysiology to repair continuum. In addition to the central focus on Gulf coast communities and its ecosystem, to broaden our knowledge base, this session will prominently feature recent international oil spill research findings. The session is designed to present results of current research as well as advances in research translation, outreach and education, and the impact of health-related capacity building practices especially strategies showcasing the interconnectedness of human and ecosystem health. A moderated capstone panel representing international and domestic investigators and funding organizations will interact with the conference audience to inform key research priorities. The session will address five conference themes through the following objectives:

1 Share transdisciplinary research findings assessing the interconnected impact of oil spills on human and ecosystem health;

2 Examine the complex biological and pathophysiological processes influencing the interconnected impact of oil spills on human and ecosystem health;

3 Identify research priorities strengthening the science base associated with the interconnected impact of oil spills on human and ecosystem health.

***Invited Speaker*

Time	Title	Presenter
8:30a - 9:00a	The Health Effect Research on Hebei Sprit Oil Spill (HEROS) Study in Taean, Korea	Myung Sook Park, Taean Environmental Health Center
9:00a - 9:15a	A Review of Exposure Pathways for Oil Spill Dispersants, the Effects of Constituents, and Analysis of Human Health Studies	Wolfgang Konkel, ExxonMobil
9:15a - 9:30a	Respiratory Symptoms and Eye Irritation Related to Corexit 9500A and 9527A Exposure in the GuLF STUDY	Dale Sandler, NIEHS
9:30a - 9:45a	Bayou to Bench and Back: How Dissemination of Personal Air and Seafood Sample Results are Improving Health Literacy in Southeast LA	Jessi Howard, Tulane University
9:45a - 10:00a	Process and Impact Evaluation Findings from an Applied Community-Based Participatory Research Curriculum for Gulf Cost Communities in Louisiana	Lisanne Brown, Louisiana Public Health Institute
10:00a - 10:30a	Coffee Break	
10:30a - 11:00a	Examination of One Health Concepts for Determining and Predicting Oil Spill Impacts	Elaine Faustman, University of Washington
11:00a - 12:00p	Expert Panel	Linda Birnbaum, National Institutes of Health Bernard Goldstein, University of Pittsburgh LeighAnne Olsen, Gulf Research Program

Session 006

OCEANOGRAPHIC CONTROLS OF OIL TRANSPORT AND MICROBIAL HYDROCARBON BIODEGRADATION IN THE WATER COLUMN: FROM THE SURFACE TO THE DEEPSEA

Wednesday, February 3, 8:30a - 12:00p, Florida Salon I-III

Joel Kostka, Georgia Institute of Technology
Annalisa Bracco, Georgia Institute of Technology
Claire Paris, University of Miami**

The goal of this session is to synthesize information from a wide range of disciplines to improve our predictive understanding of the physical, chemical and biological processes that are most relevant to both lateral and vertical transport of oil and other active tracers in the Gulf of Mexico, as well as understanding of the polyphasic response of biodegradation or weathering of hydrocarbons to prevailing oceanographic conditions. The fate of discharged oil is determined by a complex interplay between hydrocarbon chemistry and ambient oceanographic processes including transport, mixing, dispersion, dilution, dissolution, particle flocculation and aggregation, sedimentation, evaporation, and biodegradation. Biodegradation mediated by indigenous microbial communities is the ultimate fate of the majority of petroleum (oil and gas) that enters the marine environment. Local environmental conditions of temperature, pressure, and the availability of oxygen and nutrients, which have been shown to limit the rate and extent of hydrocarbon degradation or weathering, are determined by physical processes and the exchange of water masses throughout the Gulf of Mexico. The majority of hydrocarbon biodegradation studies have been performed in the laboratory under conditions that resemble the surface ocean, and few studies have been conducted under high pressure and low temperature conditions that mimic deep-water conditions. This lack of knowledge of the impacts of oceanographic controls, especially in the deepsea, acts as a critical obstacle to the effective parameterization of oil plume models. We solicit talks on field observations, numerical model results and tools, and laboratory experiments across all time and space scales, as well as across a wide range of depths, from the surface to the deep ocean. The session will engage speakers and the audience on at least three topics:

1 Field observations or laboratory experiments that characterize the movement, degradation/weathering of oil or buoyant matter within the water column.

2 Developments in parameterized representations of biodegradation and of boundary layer and submesoscale dispersion processes in regional and large-scale ocean models.

3 The use of observations and/or numerical developments for data assimilation and operational forecasting purposes to improve forecast in future deep oil spills.

***Invited Speaker*

Time	Title	Presenter
8:30a - 8:45a	Planetary and High-pressure Effects on Deep Blowout	Claire Paris, University of Miami
8:45a - 9:00a	Oceanographic Controls of Microbial Hydrocarbon Degradation	Xiaoxu Sun, Georgia Institute of Technology
9:00a - 9:15a	Boundary Mixing along the Northern Deep Water Gulf of Mexico	Kurt Polzin, Woods Hole Oceanographic Institution
9:15a - 9:30a	Vertical-Velocity Observations in the Northeastern Gulf of Mexico	Andreas Thurnherr, Lamont-Doherty Earth Observatory
9:30a - 9:45a	Time-Series Measurements of Methane Transport and Sediment Total Oxygen Utilization in the Northern Gulf of Mexico Using Novel Sensor Technologies	Christopher S. Martens, University of North Carolina at Chapel Hill
9:45a - 10:00a	Lateral and Vertical Dispersion Induced by Submesoscale Dynamics in the Gulf of Mexico	Jun Choi, Georgia Institute of Technology
10:00a - 10:30a	Coffee Break	
10:30a - 10:45a	Sedimentation of Oil-derived Material to the Seabed is an Unrecognized Fate for Oil Derived from Natural Seepage	Samantha Joye, University of Georgia
10:45a - 11:00a	Bacterial Production of Ancient Dissolved Organic Matter from Deepwater Horizon Oil: Insights from Carbon Isotopes, 4 Years after the Spill	Brett Walker, University of California, Irvine
11:00a - 11:15a	Hydrocarbon Biodegradation in Permanently Cold Marine Sediment	Amy Noel, University of Calgary
11:15a - 11:30a	Investigating the Chemical and Isotopic Kinetics of Aerobic Methane Oxidation in Two Different Novel Environments	Eric Chan, University of Rochester
11:30a - 11:45a	Effects of Surface Waves on Ocean Currents and Transport in Hurricane Isaac (2012) and Winter Storms in Gulf of Mexico	Milan Curcic, University of Miami
11:45a - 12:00p	Lagrangian Transport and Parameterization of Submesoscales Coupled with Mesosocale Flows	Angelique Haza, University of Miami

Session 007

THE PHYSIOLOGICAL RESILIENCY OF MARINE FISH AND INVERTEBRATES FOLLOWING OIL EXPOSURE

Wednesday, February 3, 8:30a - 12:00p, Grand Salon F

Aaron Roberts, University of North Texas
Dane Crossley, University of North Texas
Martin Grosell, University of Miami**

Recovery is a key metric that needs to be assessed when investigating the long-term ecological impact of an oil spill event. The physiological responses and adaptations of species that inhabit an ecosystem are the primary drivers that facilitate recovery. Fish and invertebrate species comprise a crucial component of the Gulf of Mexico ecosystem as commercially, recreationally, and ecologically important species. Recent publications have highlighted the sensitivity of these species to oil-derived polycyclic aromatic hydrocarbon (PAH) toxicity. In particular, effects on swim performance, development, and sensitivity to UV-radiation have been highlighted. The goal of this session is to communicate advances in science examining physiological responses of marine fish and invertebrates to oil or other natural stressors that may impact their ability to respond to oil. Presentations in the session focus on physiological responses to oil in fish and invertebrates, physiological responses to “natural” stressors that have implications for oil toxicity to fish and invertebrates, advances in technology/techniques that improve scientists’ ability to detect or assess these responses, and the ability of these species to physiologically recover from oil toxicity.

***Invited Speaker*

Time	Title	Presenter
8:30a - 9:00a	Sublethal and Often Subtle Impacts of Oil Exposure on Aquatic Animals Can Inform Us of Modes of Action and Long Term Effects	Martin Grosell, University of Miami
9:00a - 9:15a	Eco-Physiological Implication of Early Life Cardiotoxicity in a Coastal Fish Species, *Sciaenops ocellatus*	Andrew Esbaugh, University of Texas Marine Science Institute
9:15a - 9:30a	Effects of the Presence of Plankton on the Acute Toxicity and Morphological Effects of Crude Oil to Larval Bay Anchovy (*Anchoa mitchilli*)	Sarah Webb, Louisiana Universities Marine Consortium
9:30a - 9:45a	Exposure to Ultraviolet Radiation Increases the Toxicity of Oil to Mahi Mahi (*Coryphaena hippurus*) Embryos	Lauren Sweet, University of North Texas
9:45a - 10:00a	Effects of Deepwater Horizon Crude Oil Exposure on the Intestinal Transport Physiology of the Gulf Toadfish (*Opsanus beta*)	Edward Mager, University of Miami
10:00a - 10:30a	Coffee Break	
10:30a - 10:45a	Toxicity of Very Thin Surface Slicks of Deepwater Horizon Oil to Pelagic Gulf of Mexico Fish Embryos and Invertebrates	Jeffrey Morris, Abt Associates
10:45a - 11:00a	Oil Degradation in Deep Sea Mussels of the Genus *Bathymodiolus*: Physiological Insights from Metagenomics	Matthew Saxton, University of Georgia
11:00a - 11:15a	Metabolomics as a Cutting-Edge Tool to Examine the Effect of Oil on Deep-Water Corals	Samuel Vohsen, Pennsylvania State University
11:15a - 11:30a	Potential Genetic Impacts of the Deepwater Horizon Oil Spill on a Demersal, Sedentary Deepwater-burrowing Species	Shannon O'Leary, Harte Research Institute
11:30a - 11:45a	Genome-wide Transcriptional Responses to Deepwater Horizon Oil in Mahi Mahi (*Coryhaena hippurus*) Embryos	Genbo Xu, University of California, Riverside
11:45a - 12:00p	Epigenetic Transgenerational Inheritance and Its Implications for Organismal Resilience to Oil Spills	Warren Burggren, University of North Texas

Session 008

APPLICATIONS OF RESEARCH IN OIL SPILL TRANSPORT, FATE AND EFFECTS MODELING FOR DECISION SUPPORT AND ECOSYSTEM SERVICES

Wednesday, February 3, 8:30a - 12:00p, Florida Salon V

CJ Beegle-Krause, SINTEF MK Environmental Technology
Christopher Barker, NOAA
Louis Thibodeaux, Louisiana State University

Oil spill models are integrated computer systems that simulate the transport, fate and effects of oil spills. Such models are critical to Decision Makers before, during and after an oil spill. Before an oil spill, these models provide risk assessment and planning opportunities, during a spill these models provide guidance to the response, including evaluating tradeoffs between different response options, and after a spill, these models are used to assess injury. The session covers specific types of modeling, different processes modeled, data input for models, and key natural resources areas.

The morning portion of this session provides recent research from leading integrated modeling systems in government, private, industrial research and academia. The Bureau of Ocean Energy Management (BOEM) discusses application of Extreme Value Theory as now applied in their oil spill risk assessments. Two presentations on response option modeling show how effects change with the addition of subsurface dispersant application as a response option, and how future oil spill decision support modeling could change with advancements in modeling integrated with Common Operational Picture concepts. Hindcasting the persistence of slicks from natural seeps is presented. Also, an analysis of different wind products and how the circulation of the Gulf of Mexico varies with winds lead to near inertial resonance for the northern Gulf of Mexico.

The second portion of the session has a variety of topics including oil weathering, the influence of river plume plumes on the Mississippi Shelf, oiled marshes and gas-liquid-water partitioning in the Macondo reservoir fluid. Two presentations cover the advances in dissolution modeling. These fit together with a presentation of modeling oil composition in order to constrain the overall transport of spilled oil. Dynamic bioptical / physical events are discussed in the context of river plumes on a coastal shelf. Advances in assessment of oiled marshes are also presented.

Time	Title	Presenter
8:30a - 8:45a	Application of Extreme Value Theory to Oil Spill Risk Analysis	Zhen-Gang Ji, Bureau of Ocean Energy Management
8:45a - 9:00a	Hindcast Modelling for the Persistence of Floating Oil Slicks Released from Natural Seeps	Samira Daneshgar Asl, Florida State University
9:00a - 9:15a	Next Generation Oil Spill Contingency and Response Modelling and Integrated Results for Decision Making and Common Operating Picture	Ute Brönner, SINTEF MK Environmental Technology
9:15a - 9:30a	Effect of Subsea Dispersant Application on Oil Fate and Water Column Hydrocarbon Concentrations - Evaluation of the Deepwater Horizon Spill	Deborah French-McCay, RPS ASA
9:30a - 9:45a	A Numerical Study of Near-Inertial Resonant Response in the Northern Gulf of Mexico to Various Surface Wind Products	Chuan-Yuan Hsu, Texas A&M University
9:45a - 10:00a	Lagrangian Simulations of Oil Droplets with Biodegradation and Chemical Dispersal: Applications for Decision Support	Elizabeth North, University of Maryland Center for Environmental Science
10:00a - 10:30a	Coffee Break	
10:30a - 10:45a	Defining Dynamic Bio-optical / Physical Events across the Mississippi Shelf and the Influence of River Plumes for Water Mass Transport	Robert Arnone, University of Southern Mississippi
10:45a - 11:00a	How Far and How Much? Modeling Oil Weathering Using Comprehensive Composition to Constrain Transport and Pollutant Formation	Greg Drozd, University of California, Berkeley
11:00a - 11:15a	New Approach to Dissolution Calculations in Oil Behavior Modeling	William Lehr, NOAA
11:15a - 11:30a	Mineral Oil Evaporative and Dissolution Weathering and Dense Residual Sinking: Laboratory Experiments and Model Testing	Louis Thibodeaux, Louisiana State University
11:30a - 11:45a	Thermodynamic Modeling of Gas-Liquid-Water Partitioning and Fluid Properties for Macondo Reservoir Fluid at Deep-Water Conditions	Jonas Gros, École Polytechnique Fédérale de Lausanne
11:45a - 12:00p	Assessing Oil Exposure in Gulf of Mexico Marshes	Jamie Holmes, Abt Associates

Session 009

ANIMAL OIL/DISPERSANT EXPOSURE TRIALS POST-DEEPWATER HORIZON: DESIGN, ANALYSIS AND INTERPRETATION OF RESULTS I

Wednesday, February 3, 8:30a - 12:00p, Florida Salon IV

Steven Murawski, University of South Florida
Dana Wetzel, Mote Marine Laboratory
Robert (Joe) Griffitt, University of Southern Mississippi**

In vitro experiments are a commonly used methodology to understand and interpret dose-response effects and for identifying health outcomes for species contaminated with petrochemicals (e.g., oil and dispersants). Such experiments offer the opportunity to isolate particular oil components and exposure routes free from the confounding effects in nature such as chronic exposure to target and non-target chemicals, as with field-caught specimens. Robust experimental designs can generate information to interpret field-level exposures, but require consideration of a number of factors including: (1) exposure concentration(s), (2) exposure duration (e.g., chronic, acute or combination), (3) exposure modality (water, prey, sediment), (4) timing of measurements and choice of matrices, post contamination, (5) inter- and intra-specific variability, and sample sizes required for statistical inference, and (6) demographic factors (sex, age). Numerous animal exposure trials have been completed in the wake of Deepwater Horizon, and new, large-scale trials are ongoing. Identifying the key results to date and factors that allow extrapolation of mechanisms from controlled experimentation to interpreting health effects from in vivo studies of animal species will be the key outcome from the session. The session will include a keynote address outlining some of the salient issues in experimental design, a series of papers outlining specific project results and findings, and several discussion papers outlining plans for additional exposure trials. Facilitated discussions will be used to identify important design principles, particularly focusing on extrapolating test results to natural populations.

A primary goal of the session will be to review results to date, identify logical gaps in exposure studies conducted to date and suggest high-priority experiments going forward. Additional goals will be to determine which parameters are important for informing toxicokinetic models, and for developing a series of “best practices” when designing exposure trials involving oil and dispersant effects.

***Invited Speaker*

Time	Title	Presenter
8:30a - 9:00a	Design and Interpretation of Laboratory-based Toxicology Exposures in the Aftermath of Deepwater Horizon	Joseph Griffitt, University of Southern Mississippi
9:00a - 9:15a	Status and Results of the Trustee Toxicity Testing Program Conducted in Support of the Deepwater Horizon Natural Resource Damage Assessment	Jeffrey Morris, Abt Associates
9:15a - 9:30a	Photo-Induced Toxicity of Deepwater Horizon Oil to Native Gulf of Mexico Fish and Invertebrate Species	Jeffrey Morris, Abt Associates
9:30a - 9:45a	Characterization of the Various Sediment Preparation Techniques Used During Toxicity Testing in Support of the Deepwater Horizon NRDA	Ryan Takeshita, Abt Associates
9:45a - 10:00a	Cross-taxonomic Consistency of Toxicological Effects of Deepwater Horizon Oil	Ryan Takeshita, Abt Associates
10:00a - 10:30a	Coffee Break	
10:30a - 10:45a	Quantifying Hydrocarbon Toxicity to Shallow-water Corals: Phenanthrene	Abigail Renegar, Nova Southeastern University
10:45a - 11:00a	Vulnerability of Swiftia Sea Fans to Oil and Chemical Dispersant	Janessy Frometa, College of Charleston
11:00a - 11:15a	Dispersant Exposure Causes Generalized Shutdown at the Gene-level in Crabs	Hernan Vazquez Miranda, Florida International University
11:15a - 11:30a	Physiological and Molecular Responses of Oil and Dispersant Exposure in Blue Crab, *Callinectes sapidus*, Juveniles	Susan Chiasson, Tulane University
11:30a - 11:45a	Estrogenic Effects of CWAF Exposure on Sex Determination in the American Alligator	Cameron Williams, College of Charleston
11:45a - 12:00p	Investigating Estrogenicity and Developmental Effects of the Dispersant COREXIT® EC9500A in the American Alligator	Nicole McNabb, College of Charleston

Session 009 *(Continued)*

ANIMAL OIL/DISPERSANT EXPOSURE TRIALS POST-DEEPWATER HORIZON: DESIGN, ANALYSIS AND INTERPRETATION OF RESULTS II

Wednesday, February 3, 1:30p - 5:00p, Florida Salon IV

Steven Murawski, University of South Florida

Dana Wetzel, Mote Marine Laboratory

In vitro experiments are a commonly used methodology to understand and interpret dose-response effects and for identifying health outcomes for species contaminated with petrochemicals (e.g., oil and dispersants). Such experiments offer the opportunity to isolate particular oil components and exposure routes free from the confounding effects in nature such as chronic exposure to target and non-target chemicals, as with field-caught specimens. Robust experimental designs can generate information to interpret field-level exposures, but require consideration of a number of factors including: (1) exposure concentration(s), (2) exposure duration (e.g., chronic, acute or combination), (3) exposure modality (water, prey, sediment), (4) timing of measurements and choice of matrices, post contamination, (5) inter- and intra-specific variability, and sample sizes required for statistical inference, and (6) demographic factors (sex, age). Numerous animal exposure trials have been completed in the wake of Deepwater Horizon, and new, large-scale trials are ongoing. Identifying the key results to date and factors that allow extrapolation of mechanisms from controlled experimentation to interpreting health effects from in vivo studies of animal species will be the key outcome from the session. The session will include a keynote address outlining some of the salient issues in experimental design, a series of papers outlining specific project results and findings, and several discussion papers outlining plans for additional exposure trials. Facilitated discussions will be used to identify important design principles, particularly focusing on extrapolating test results to natural populations.

A primary goal of the session will be to review results to date, identify logical gaps in exposure studies conducted to date and suggest high-priority experiments going forward. Additional goals will be to determine which parameters are important for informing toxicokinetic models, and for developing a series of “best practices” when designing exposure trials involving oil and dispersant effects.

***Invited Speaker*

Time	Title	Presenter
1:30p - 1:45p	Effects of Deepwater Horizon Oil on Red-Eared Sliders (*Trachemys scripta elegans*) and Common Snapping Turtles (*Chelydra serpentina*) as Surrogate Species for Sea Turtles	Carys Mitchelmore, University of Maryland
1:45p - 2:00p	Avian Flight Patterns, Behavior and Body Mass are Altered Following External Exposure to Deepwater Horizon Oil	Cristina Perez, University of Nevada
2:00p - 2:15p	Weathered MC252 Crude Oil-Induced Anemia and Abnormal Erythroid Morphology in Double-crested Cormorants (*Phalacrocorax auritus*) with Light Microscopic and Ultrastructural Description of Avian Heinz Bodies	Kendal Harr, URIKA, LLC
2:15p - 2:30p	Method Development for Oil Toxicity Testing in Double-Crested Cormorant (*Phalacrocorax auritus*) Using Oral Dosing and External Oiling	Katherine Healy, U.S Fish & Wildlife Service
2:30p - 2:45p	Combined Effects of Polycyclic Aromatic Hydrocarbons and other Environmental Stressors on an Estuarine Fish Species	Jennifer Serafin, Purdue University
2:45p - 3:00p	Synergistic Effects of Deepwater Horizon Source Oil Exposures and Suboptimal Environmental Conditions during Early Life Development Stages in Sheepshead Minnow (*Cyprinodon variegatus*)	Danielle Simning, University of Southern Mississippi
3:00p - 3:30p	Coffee Break	
3:30p - 3:45p	Tracking Biologically Significant Endpoints in Oil Exposed Adult Fish of the Gulf of Mexico using Large Scale Mesocosm Systems	Dana Wetzel, Mote Marine Laboratory
3:45p - 4:00p	Transcriptome Characterization of an IP Crude Oil Injected Non-model Fish Species; Red Drum (*Sciaenops ocellatus*)	Tracy Sherwood, Mote Marine Laboratory
4:00p - 4:15p	Species Specific Metabolic Capacity of PAHs in Three Species of Marine Teleosts Exposed to Deepwater Horizon Crude Oil	Erin Pulster, University of South Florida
4:15p - 4:30p	Development and Validation of Toxicokinetic Models for Evaluating PAH Impacts on Gulf of Mexico Fishes	Steven Murawski, University of South Florida
4:30p - 4:45p	EPA's New Oil and Dispersant Testing Program	Mace Barron, U.S. Environmental Protection Agency
4:45p - 5:00p	Discussion	

Session 010

DATA PORTALS, INTEGRATED DATASETS, AND TOOLS SUPPORTING RESEARCHERS SYNTHESIZING GULF OF MEXICO OIL SPILL AND ECOSYSTEM SCIENCE

Wednesday, February 3, 1:30p - 5:00p, Florida Salon VI

James Gibeaut, Texas A&M University - Corpus Christi
Matthew Howard, Texas A&M University - College Station
Cynthia Chandler, Woods Hole Oceanographic Institution**

Synthesis of scientific information follows data analysis to yield knowledge, which researchers, environmental managers, and policymakers use to make effective decisions following events that damage the environment or preceding restoration activities. In 2016, more than five years after the Deepwater Horizon event, pre- and post-spill data collections and data analyses results have reached the critical mass needed to support synthesis activities. Synthesis activities have begun and more are expected to be funded in the future. Data management and informatics support synthesis efforts by making data and information easier to find, use, and understand. Data and product portals aggregate related data and information and serve them in useful and uniform ways. Online tools support synthesis workflows by facilitating data access, online data browse, data integration and workgroup collaborations. This session invites those who build and maintain existing publicly available data portals, integrated datasets, and tools to discuss, display, and demonstrate those assets and resources to researchers, managers and policymakers who are in the midst of synthesis activities or plan to be in the future. Researchers are encouraged to attend and provide input and feedback from their perspective.

***Invited Speaker*

Time	Title	Presenter
1:30p - 1:45p	Introduction	
1:45p - 2:00p	BCO-DMO: A Resource for NSF Funded Marine Research Data	Cynthia Chandler, WHOI
2:00p - 2:15p	Managing and Accessing Integrated Natural Resource Damage Assessment (NRDA) Data from the Deepwater Horizon Oil Spill	Ben Shorr, NOAA
2:15p - 2:30p	NOAA's National Database of Deep Sea Corals & Sponges: A Resource to Inform Conservation and Management, and Baseline Habitat Conditions in the Gulf of Mexico	Enrique Salgado, NOAA
2:30p - 2:45p	A Geospatial Tool for Discovery and Access of Bureau of Ocean Energy Management's Gulf of Mexico Ocean Science	Michael Rasser, BOEM
2:45p - 3:00p	An Inventory of Long-term Monitoring Efforts in the Gulf of Mexico: A Tool for Data Integration	Alexis Baldera, Ocean Conservancy
3:00p - 3:30p	Coffee Break	
3:30p - 3:45p	Integrated Biogeographic Assessments: Objective Approaches for Synthesis of Multidisciplinary Data and Applications for Supporting Management, Restoration, and Conservation of Marine Ecosystems	Christopher Jeffrey, NOAA
3:45p - 4:00p	Influence of Physical Processes on the Concentration of Suspended Particulate Matter Derived from MODIS Reflectance at 645 nm in the Mississippi Sound	Stephan O'Brien, University of Southern Mississippi
4:00p - 4:15p	Uniform Data Access through Distributed ERDDAP/TDS	Matthew Howard, Texas A&M University
4:15p - 4:30p	Digital Object Identifier: Evolving Standard as a Persistent Identifier	Felimon Gayanilo, Texas A&M University - Corpus Christi
4:30p - 4:45p	Integrating Multi-Source Biophysical Data through a Virtual Antenna System	Chuanmin Hu, University of South Florida
4:45p - 5:00p	Case Study Analysis of the Real-Time Mesoscale Analysis (RTMA) in the Northern Gulf of Mexico	Pat Fitzpatrick, Mississippi State University

Session 011

GULF OF MEXICO'S LARGE MARINE VERTEBRATES AS INDICATORS OF ECOSYSTEM RECOVERY, RESILIENCE AND RESTORATION SUCCESS

Wednesday, February 3, 1:30p - 5:00p, Grand Salon G

Pamela Plotkin, Texas A&M University
Vicki Cornish, Marine Mammal Commission
Jeffrey Gleason, U.S. Fish & Wildlife Service

The session will highlight research and monitoring approaches and findings on the health and long-term resilience of large marine vertebrates in the Gulf (birds, sea turtles, marine mammals, and pelagic fish) following one of the largest oil spills in U.S. history. Large marine vertebrates are important indicators of ecosystem health due to their long-life, ecological diversity, and ability to integrate changes in the environment over space and time. Presenters will address research and monitoring being conducted at multiple scales—individual, population, and ecosystem—to better understand the long-term effects of oil spills and associated restoration efforts, as well as how other physical, chemical, or biological factors may influence recovery and restoration efforts. The primary goal for this session is to highlight and expand interdisciplinary collaboration focused on identifying and mitigating the impacts of natural and anthropogenic factors to large marine vertebrates. Discussion at the end of the session will focus on how research and monitoring of large marine vertebrates can be used to enhance public awareness of how various factors affect the health of the Gulf ecosystem and also how it can inform decision-makers involved in natural resource management and restoration of the Gulf.

Time	Title	Presenter
1:30p - 1:45p	Assessment of Large Marine Vertebrate Monitoring in the Gulf of Mexico - the Foundation for a Deepwater Horizon Oil Spill Recovery Monitoring Program	Matt Love, Ocean Conservancy
1:45p - 2:00p	Assessing the Potential of a Monitoring Network for the Gulf of Mexico Based on Large Vertebrate Species	William Kendall, U.S. Geological Survey
2:00p - 2:15p	Development of a Gulf-wide Monitoring Scheme for Breeding Tidal Marsh Birds	Mark Woodrey, Mississippi State University
2:15p - 2:30p	Establishing Explicit Biological Objectives to Guide Strategic Habitat Conservation for the Gulf of Mexico Coast: Case Study with the Brown Pelican	John Tirpak, U.S. Fish and Wildlife Service
2:30p - 2:45p	Determining Pre-disaster Baselines after the Disaster: Impact of the Deepwater Horizon Oil Spill on Sea Turtle Foraging	Hannah Vander Zanden, University of Utah
2:45p - 3:00p	Recent Decline of the Kemp's Ridley Sea Turtle - An Oil Spill Impact on Age Structure or Density Related Change in Vital Rates?	Benny Gallaway, LGL Ecological Research Associates, Inc.
3:00p - 3:30p	Coffee Break	
3:30p - 3:45p	Long-term, Consistent Data Sets from Stranded Marine Mammals are an Important Tool for Understanding the Impacts of and Monitoring Recovery from the Deepwater Horizon Oil Spill	Jenny Litz, National Marine Fisheries Service
3:45p - 4:00p	Gulf of Mexico Pelagic Dolphin Density Trends from Passive Acoustics	Kaitlin Frasier, Scripps Institution of Oceanography
4:00p - 4:15p	Temporal and Seasonal Trends in Deep-Diving Cetacean Presence in the Gulf of Mexico following the Deepwater Horizon Oil Spill	John Hildebrand, Scripps Institution of Oceanography
4:15p - 4:30p	A Gulf-Wide Population-Habitat Model for Bottlenose Dolphins Reveals Strongest Response to Moderate Levels of Oil and Gas Rig Density	Paula Moreno, University of Southern Mississippi
4:30p - 4:45p	Monitoring the Foraging Behavior of Sperm Whales as Apex Predators Reveals Likely Changes in Benthic Communities Affected by Oil Around the Macondo Spill	Bruce Mate, Oregon State University
4:45p - 5:00p	Discussion	

Session 012

DETERMINATION OF THE OIL DROPLET SIZE DISTRIBUTION AND ITS IMPACT ON THE FATE AND TRANSPORT OF OIL: CONSEQUENCES ON PUBLIC HEALTH AND ECOLOGY I

Wednesday, February 3, 1:30p - 5:00p, Grand Salon A

Michel Boufadel, New Jersey Institute of Technology

Robyn Conmy, U.S. Environmental Protection Agency

Thomas King, Bedford Institute of Oceanography

Kenneth Lee, Commonwealth Scientific and Industry Research Organization (CSIRO)**

The Deepwater Horizon blowout revealed that knowledge of the droplet size distribution (DSD) is crucial for evaluating the fate and transport of oil. Increasing the portion of small droplets results in an increase of the surface area per unit mass of oil, which would enhance the dissolution of hydrocarbon components in the water column. It would also enhance oil biodegradation, as the biodegradation of low- solubility oil components in the droplets occurs at the water-oil interface. In addition, for a given oil, large droplets have larger buoyancy than smaller droplets, and thus rise to the water surface faster; while large droplets (say larger than 1.0 mm) from a blowout can rise to the surface in minutes or hours, small droplets could require weeks to reach the surface, a time scale at which they could biodegrade. In addition, small oil droplets at the water surface could get transported by wind, and potentially impact adversely responders and coastal communities, and ecosystem services. The Deepwater Horizon blowout occurred from a 0.40 m orifice, and released oil and gas simultaneously under high pressure and temperature. The oil was also “live” (i.e., containing dissolved gases). Reproducing these conditions to estimate the DSD from the spill is not possible experimentally and even numerically, especially when dispersants are used. For this reason, researchers have developed approaches to capture salient aspects of the blowout, such as high pressure, high temperature, mixing energy, or the balance between turbulence forces and interfacial tension forces (i.e., the Weber number). In parallel, research has been conducted to quantify the oil DSD in waves, and the subsequent transport of oil in the water or in the atmosphere. This session invites researchers to share their novel theoretical/numerical and experimental approaches related to the formation of the droplet size distribution of oil, with the goal of developing unifying frameworks and establishing common areas of agreement. In addition, the session encourages articles that elucidate the impact of oil on the ecosystem and public health when a slick is broken into small droplets that could be uptaken (for example) by filter feeders or respired by animals and humans on land.

***Invited Speaker*

Time	Title	Presenter
1:30p - 2:00p	Oil Droplet Production: Significance on Oil Persistence and Ecological Impacts	Kenneth Lee, CSIRO
2:00p - 2:15p	Interaction of Oil Droplets and Gas Bubbles in Blowouts: New Development of VDROP Model	Lin Zhao, New Jersey Institute of Technology
2:15p - 2:45p	Overview of the American Petroleum Institute (API) Joint Industry Task Force Subsea Dispersant Injection Project	Tim Nedwed, ExxonMobil
2:45p - 3:00p	Dispersant-to-Oil Ratio and Temperature Limitations on Droplet Size Distribution in a Subsurface Oil Release	Brian Robinson, Fisheries and Oceans Canada
3:00p - 3:30p	Coffee Break	
3:30p - 3:45p	Subsea Oil Plume Simulations: Tracking Oil Droplet Size Distribution and Fluorescence within High Release Jets	Robyn Conmy, U.S. EPA
3:45p - 4:00p	Numerical Simulation of Oil Jet Underwater-CFD Simulation and Trace of Individual Droplets by Lagrangian Method	Feng Gao, New Jersey Institute of Technology
4:00p - 4:15p	Verifying Algorithms for Initial Droplet Formation (Modified Weber Scaling) by Performing Experimental Subsea Releases of Oil Generating Full-scale Droplet Sizes	Per Johan Brandvik, SINTEF MK Environmental Technology
4:15p - 4:30p	An Oil Droplet Size Model under Subsurface Blowout Release Conditions including Application of Chemical Dispersants	Zhengkai Li, RPS ASA
4:30p - 4:45p	Oil Droplet Formation and Effectiveness of Subsea Dispersant Injection as a Function of Hydrostatic Pressure	Per Johan Brandvik, SINTEF MK Environmental Technology
4:45p - 5:00p	Experimental Determination of Oil Droplet Size Distribution in “Live Oil” under Artificial Deep Sea Conditions	Karen Malone, Hamburg University of Technology

Session 013

HUMAN FUNCTIONING AND ADAPTATION TO STRESS: IMPLICATIONS OF PROLONGED EXPOSURE FOR INDIVIDUALS AND COMMUNITIES I

Wednesday, February 3, 1:30p - 5:00p, Florida Salon V

Howard Osofsky, MD, Louisiana State University Health Sciences Center
Ann Hayward Walker, SEA Consulting Group
Lisanne Brown, Louisiana Public Health Institute
Melissa Brymer, National Center for Child Traumatic Stress**

The consequences of the 2010 DWH oil spill on the psychological and physical health of humans was immediate, continues to the present time, and will impact the quality of life of communities and people for the foreseeable future. Human functioning and adaptation to adverse events is often misunderstood and misinterpreted by policy makers, public officials, supervisors, and most unfortunately, individuals who are directly affected. This session will examine the impact of acute and prolonged exposure to stressors on multiple aspects of response and recovery. Chronic stress, and the related anxiety and depression that follow, reduces job performance, increases symptoms of poor health, and complicates the recovery of persons and communities. The three conference objectives identified above will be addressed from the perspective that behavioral health---its restoration, adjustment, and preservation--is an essential strategy that if woven into all aspects of scientific communication and understanding of risks will facilitate physical and behavioral health and overall well-being. The session will also examine multiple aspects of recovery throughout the Gulf region and the implications for strengthening human resilience and mitigating aspects of future adverse incidents on human functioning. The session will emphasize the importance of restoring individual and community trust and its widespread utility across all phases of ecosystem science and social sciences as a major factor in the long-term recovery of individuals and communities in the Gulf of Mexico. The session will examine opportunities to link psychosocial interventions and incident management strategies to improve future oil spill preparedness and response. Finally, we will describe community-level strategies that help its members adjust to the ongoing adversities faced by its members while creating policies/programs to making it stronger.

***Invited Speaker*

Time	Title	Presenter
1:30p - 1:45p	Introduction	
1:45p - 2:00p	Opening Remarks	Melissa Brymer, National Center for Child Traumatic Stress
2:00p - 2:15p	Planning for Societal Impacts from Oil Spills: Lessons Learned From the Past and Suggestions for the Future	Ed Levine, NOAA
2:15p - 2:30p	Gulf Oil Spill Stress Affects Telomere Length in Children	Andrew Dismukes, Tulane University
2:30p - 2:45p	Factors Contributing to Mental and Physical Health Care in a Disaster-Prone Environment	Howard Osofsky, Louisiana State University Health Sciences Center
2:45p - 3:00p	The Adaptation and Resilience Initiative on the Mississippi Gulf Coast: Findings and Implications for Social Work Practice	Bret Blackmon, University of Southern Mississippi - Gulf Coast
3:00p - 3:30p	Coffee Break	
3:30p - 3:45p	Untangling the Disaster-Depression Knot: The Role of Social Ties after Deepwater Horizon	Ariane Rung, Louisiana State University Health Sciences Center
3:45p - 4:00p	The Gulf Coast Behavioral Health and Resiliency Center: A Strategic Plan to Promote Wide-Spread Resilience	Jennifer Langhinrichsen-Rohling, University of South Alabama
4:00p - 4:15p	Risk Assessment from Beach Sands Impacted by Oil Spill Chemicals	Helena Solo-Gabriele, University of Miami
4:15p - 4:30p	NIEHS/SAMHSA Gulf Responder Resilience Training Initiative: Lessons Learned	Joseph Hughes, NIEHS
4:30p - 4:45p	Using Integrated Research and Outreach to Build Community Resilience	Melissa Finucane, RAND Gulf States Policy Institute
4:45p - 5:00p	Discussion	

Session 014

EXTENDING THE USE OF INFORMATION FROM OIL SPILLS: SYNTHESIS AND APPLICATION OF RESEARCH AND OBSERVATIONS FROM REGIONS ALONG THE U.S. OUTER CONTINENTAL SHELF I

Wednesday, February 3, 1:30p - 5:00p, Florida Salon I-III

LeighAnne Olsen, Gulf Research Program
Maggie Walser, Gulf Research Program
Rebecca Green, Bureau of Ocean Energy Management
John Farrington, Woods Hole Oceanographic Institution**
Duane Gill, Oklahoma State University **

Research conducted in the aftermath of major offshore oil spills has contributed to a growing body of knowledge about the physical processes, ecosystem impacts, and socio-economic and health implications of oil spills. Significant scientific information has been collected from spills in U.S. and surrounding waters, including the Santa Barbara spill (1969), Ixtoc I (1979), Exxon Valdez (1989), Deepwater Horizon (2010), and more recent incidents. To minimize future harms to ecosystems and communities, a synthesis and transfer of this knowledge should inform the expansion of offshore oil and gas (O&G) development to new regions, such as those outlined in Department of Interior's draft strategy for offshore O&G leasing along the U.S. outer continental shelf (OCS). Released in January, 2015, this draft strategy proposes 14 potential lease sales in different regions, including 10 in the Gulf of Mexico, three off the coast of Alaska, and one in a portion of the Mid- and South Atlantic. Through presentations and panel discussions, this day-long session will encourage a synthesis of research and observations associated with both recent and historical oil spills (e.g., DWH and Exxon Valdez), regarding the sensitivity and resiliency of ecosystem health and human communities to these events. The session will seek to identify research needs and opportunities to apply existing knowledge from oil spills to improve the protection of communities and ecosystems in U.S. OCS regions in which offshore oil and gas development occurs or may occur. Discussion will include perspectives from both the natural sciences (physical, chemical, biological) and social sciences (human health, socioeconomics, cultural resources) and explore three related questions:

1 What set of long-term observations or indicators would be most helpful for understanding the impacts of offshore O&G production on ecosystems and communities in regions along the U.S. OCS?

2 How could long-term observations related to O&G development also contribute to understanding chronic and emerging environmental change and the potential impacts on the health of coastal ecosystems and communities?

3 What observational approaches are most appropriate to teasing apart the multiple stressors that may impact an ecosystem or community, thus providing a more mechanistic understanding and predictive capability for understanding change?

***Invited Speaker*

Time	Title	Presenter
1:30p - 1:45p	Introduction	
1:45p - 2:15p	Opportunities for Scientific Synthesis and Research to Improve Planning for Offshore Oil and Gas Development Including Management of Spills	John Farrington, WHOI
2:15p - 2:45p	Understanding Community Aspects of Oil Spills: Social Science as a Foundation for the Future	Duane Gill, Oklahoma State University
2:45p - 3:00p	Resources at Risk from Coastal Oil Spills Over the Last 30+ Years - Evolving Information Needs for Oil Spills in the Outer Continental Shelf	Ann Hayward Walker, SEA Consulting Group
3:00p - 3:30p	Coffee Break	
3:30p - 3:45p	Ocean Circulation Modeling Efforts in Support of Offshore Oil and Gas Leasing at Bureau of Ocean Energy Management	Zhen Li, BOEM
3:45p - 4:00p	The Interplay of Data Needs and Data Analysis Frameworks to Optimize the Collection and Use of Data from Oil Spills	Ann Michelle Morrison, Exponent Environmental Sciences
4:00p - 4:15p	An Overview of Data Requirements for Net Environmental Benefit Analysis in Spill Response Decision-making	Victoria Broje, Shell Exploration & Production Company
4:15p - 4:30p	Scientific Data Integration into Net Environmental Benefit Analysis	Victoria Broje, Shell Exploration & Production Company
4:30p - 4:45p	Evaluating Oil Spill Science Communication Using Social Network Analysis	Chris Ellis, NOAA
4:45p - 5:00p	Discussion	

Session 015

ECOLOGICAL IMPACTS OF THE DEEPWATER HORIZON OIL SPILL IMPACTS ACROSS MULTIPLE SCALES I

Wednesday, February 3, 1:30p - 5:15p, Grand Salon F

David Portnoy, Texas A&M - Corpus Christi
Will Patterson, University of South Alabama
Jeff Chanton, Florida State University**

Environmental contaminants, such as petroleum compounds, can disrupt marine ecosystem functioning on multiple temporal and spatial scales, which ultimately affects ecosystem services important to human welfare. Results of studies on impacts to ecosystems and ecosystem services from previous large-scale oil spills heightened the concern about potential Deepwater Horizon Oil Spill (DWH) impacts to the Gulf of Mexico (Gulf) large marine ecosystem. Now that five years have passed since the catastrophic sinking of the Deepwater Horizon drilling rig, a much greater understanding exists as to the spatial and temporal scales over which spill impacts have occurred, some of which continue to persist and may sometime into the future. Evidence also has emerged with respect to the resiliency displayed by certain components of the Gulf ecosystem. The purpose of this session will be to summarize and discuss acute and chronic effects of the spill from organismal to ecosystem levels, and to describe the nature of Gulf ecosystem recovery where evidence of recovery exists. Of particular interest will be whether observed recovery indicates resilience (return to pre-oil spill state) or movement to a new stable state. The session will accept papers that focus on research at the organismal to population levels, from plankton to mammals, as well as papers that focus on research at community to ecosystem scales. An emphasis of this session will be impacts on ecosystem services important to human beings, such as microbial biogeochemical processes, recreational activities, and fisheries. In particular it will be important to identify which ecosystem services seem to have recovered from acute effects of the spill and which services are still impacted by chronic effects. In doing so, discussion will be generated about the use of oil spill ecosystem science to inform policy related to management and restoration efforts aimed at promoting Gulf recovery.

***Invited Speaker*

Time	Title	Presenter
1:30p - 2:00p	Isotopic Tracers: Documenting Ecosystem Effects of the DWH Oil Spill	Jeffrey Chanton, Florida State University
2:00p - 2:15p	Hydrocarbons and Deepwater Nitrogen Fixation: Who's Doing it, Where, and Why?	Joseph Montoya, Georgia Institute of Technology
2:15p - 2:30p	Carbon and Nitrogen Stable Isotopes in Plankton in Mississippi Canyon MC118 from 2010 to 2012: Insights into Nutrient Sources	Ana Fernandez, Georgia Institute of Technology
2:30p - 2:45p	Impacts of Oil on Population Dynamics and Community Composition of Ammonia Oxidizers and Relationships with Nitrification Rates in Louisiana Salt Marshes	Anne Bernhard, Connecticut College
2:45p - 3:00p	Horse Fly Population Crashes Show Impact of 2010 Gulf of Mexico Oil Spill on Marsh	Claudia Husseneder, Louisiana State University
3:00p - 3:30p	Coffee Break	
3:30p - 3:45p	Post-Spill Monitoring of Coastal Marshes in Barataria Basin, LA	Yu Mo, University of Maryland
3:45p - 4:00p	Living on the Edge: Understanding Seaside Sparrows in the Wake of the Deepwater Horizon Oil Spill	Stefan Woltmann, Austin Peay State University
4:00p - 4:15p	Shifting Baselines and Slippery Slopes: The Oil Spill Signal and Long-Term Trends in Fishery-Independent Monitoring Data	Joseph Neigel, University of Louisiana at Lafayette
4:15p - 4:30p	New Forensic Methods for Describing the Histories of Fish	Amy Wallace, University of South Florida
4:30p - 4:45p	Assessment of Nearshore Crude Oil Contamination in the Gulf of Mexico Using Gulf Menhaden: "Menhaden Watch"	Gregory Olson, Louisiana State University
4:45p - 5:00p	Variability in Larval Red Snapper (*Lutjanus campechanus*) Abundance and Condition in Relation to the Deepwater Horizon Oil Spill	Frank Hernandez, University of Southern Mississippi
5:00p - 5:15p	Disturbance of Northern Gulf of Mexico Reef Fish Communities: The Deepwater Horizon Oil Spill and the Lionfish Invasion	Kristen Dahl, University of South Alabama

Session 016

THE EVOLUTION OF THE DEEPWATER HORIZON OIL SPILL: UPDATES ON FATE AND TRANSPORT OF THE OIL I

Wednesday, February 3, 1:30p - 5:00p, Grand Salon E

Paul Boehm, Exponent Environmental Sciences

David Hollander, University of South Florida

Over the past five years much has been learned about the physical, chemical, biological and geologic processes controlling the selective partitioning, transport and fate (weathering, transformation, degradation and sedimentation) of petroleum (oil and gas) released from the Macondo well. These processes and their role in the evolution of oil in the environment have led to innovative observations and new hypotheses for interpreting the ultimate impacts of the spill. However, as a result of these new insights and transformative understanding of the behavior of released oil there is not total agreement on the ultimate fate of the oil both in terms of the diversity and complexity of processes involved and the spatial and temporal extent to which hydrocarbons are cycled through the environment. The purpose of this session is to bring together researchers of varying points of view and relevant extensive data sets to present and discuss what is known, what is still unknown, and what are testable extant and new hypothesis that set the stage for additional work that are needed to develop a quantitative "terminal" budget for the released oil. This session strives to provide the scientific and lay communities with a technically based narrative on what happened to the oil and its components after release in support of developing a final accounting of the Macondo 252 oil. Presentations/papers will address the array of processes and the influence of oil spill response strategies that control oil weathering, transformation and degradation, changes in oil chemistry, and partitioning of oil components in the oil in the water column, on the water's surface, to the sediments, and to the shoreline that created various "footprints" their changes over time. Discussions are not to focus directly on toxicology, biological impact or human health and safety; however, this session's discussions will bear directly on those issue important in developing the linkages between changing oil chemistry and occurrence and the health of the Gulf's people, animals and ecosystems – past, present and future.

Time	Title	Presenter
1:30p - 1:45p	Towards an Understanding the Evolution (Fate and Transport) of the 2010 Deepwater Horizon Oil Spill	Paul Boehm, Exponent Environmental Sciences
1:45p - 2:00p	Weathering of MC252 Oil from Release to Shoreline: Stages of Weathering	Linda Cook, Exponent Environmental Sciences
2:00p - 2:15p	Spatial and Temporal Extent of PAHs Associated with Surface Waters during the Deepwater Horizon Spill	Karen Murray, Exponent Environmental Sciences
2:15p - 2:30p	Polycyclic Aromatic Hydrocarbon Concentrations in the Upper Water Column during the Deepwater Horizon Oil Spill	Connie Travers, Abt Associates
2:30p - 2:45p	Weathering of MC252 Oil Dramatically Decreases both the Amount of PAH in the Oil and the Ability of the Residual PAH to Partition from Oil to Water	Damian Shea, North Carolina State University
2:45p - 3:00p	Biodegradation of Crude Oil in the Gulf of Mexico: From the Water Column to the Shorelines--What We Learned from the Deepwater Horizon Accident	Ronald Atlas, University of Louisville
3:00p - 3:30p	Coffee Break	
3:30p - 3:45p	Sources of Carbon to Particulates in the Gulf of Mexico	Kelsey Rogers, Florida State University
3:45p - 4:00p	Marine Aggregates - Material Transport in the Deep Gulf of Mexico	Arne Diercks, University of Southern Mississippi
4:00p - 4:15p	Seasonal and Interannual Patterns of Marine Snow in the Region of the Deepwater Horizon Oil Spill: Impacts on Oil Sedimentation	Kendra Daly, University of South Florida
4:15p - 4:30p	Continuous Sedimentation of Spilled Oils in the Northern Gulf of Mexico after DWH Oil Spill	Beizhan Yan, Lamont-Doherty Earth Observatory
4:30p - 4:45p	Four Years of Chemical Measurements from the Deepwater Horizon Oil Spill Define the Deep Sea Sediment Footprint and Subsequent Recovery	Karen Murray, Exponent Environmental Sciences
4:45p - 5:00p	Chemical Evidence for the Presence and Distribution of Macondo Oil in Deep-sea Sediments following the Deepwater Horizon Oil Spill	Scott Stout, NewFields Environmental Forensics Practice

Poster Sessions

Wednesday, February 3, 5:30p - 7:30p

Tampa Convention Center

#	Title	Presenter
Session 009		
166	Quantifying Hydrocarbon Toxicity to Shallow-water Corals: 1-methylnapthlene	Nicholas Turner, Nova Southeastern University
167	The Effects of the Deepwater Horizon Oil Spill on Blue Crab Embryos	Kelsie Kelly, Tulane University
168	Annual Variation in Phytoplankton Abundance due to Water Accommodated Petroleum Hydrocarbon Exposure in the Northern Gulf of Mexico	Liesl Cole, University of South Alabama
169	Mercury Found in MC252 & CWAF Depleted MC252 Can Be Transmitted through the American Alligator Eggshell to the Embryo	Frances Nilsen, National Institute of Standards & Technology
170	Toxic Effects of Deepwater Horizon Oil on Early Life-stage Red Drum and Speckled Seatrout	Ryan Takeshita, Abt Associates
171	Design and Testing of a Novel System for Producing Weathered Oil	Jeremy Johnson, University of Southern Mississippi
172	Light External Exposure to Deepwater Horizon Oil Effects Avian Flight Behavior	Chris Pritsos, University of Nevada
Session 011		
158	Research and Monitoring Priorities for Gulf of Mexico Sea Turtles	Pamela Plotkin, Texas A&M University
159	LADC-GEMM: Towed Hydrophone Cetacean Survey Using Autonomous Surface Vehicles (ASVs)	Chris Pierpoint, Seiche Limited
160	The Dynamics of Vertical Movement in the Oceanic Gulf of Mexico after Deepwater Horizon: Active Linkage of Large Vertebrates and Deep-Pelagic Nekton	Tracey Sutton, Nova Southeastern University
161	Shared Foraging Areas in the Gulf of Mexico for Two Imperiled Species: Kemp's Ridley and Loggerhead Sea Turtles	Kristen Hart, U.S. Geological Survey
162	Tampa Bay Bottlenose Dolphins: Long Term Study to Explore Impacts of the Deepwater Horizon Oil Spill on a Relatively Distant and Protected Population	Shannon Gowans, Eckerd College
163	Testing the Genomic Impacts of the DWH Oil Spill on Red Snapper	Jonathan Puritz, Texas A&M - Corpus Christi
164	Manatee Habitat Use in the Northern Gulf of Mexico: A Project to Assist with Management of Coastal Resources	Daniel Slone, U.S. Geological Survey
165	Oil Vapors from Deepwater Horizon Oil and Altered Development of Avian Embryos	Benjamin Dubansky, University of North Texas
Session 012		
186	Evaluation of Sorbent and Solidifier Properties and their Impact on Oil Removal Efficiency	Devi Sundaravadivelu, University of Cincinnati
187	Advancing Technology to Extend the Limits of Particle Measurements in Subsea Blowouts	Emlyn Davies, SINTEF Materials and Chemistry
188	Effects of Chemical Dispersants on Intrusion Dynamics of Oil Droplets from a Deep Ocean Blowout	Dayang Wang, Massachusetts Institute of Technology

#	Title	Presenter
Session 013		
5	Does Environmental Concern Influence Women to Postpone Pregnancy? The Environmental Worry Scale and the Effect on Reproductive Decision Making	Leah Zilversmit, Tulane University
6	Trauma, Resilience, and Opportunities among Neighborhoods in the Gulf: Design and Administration of the STRONG Survey	Rajeev Ramchand, RAND Corporation
Session 015		
189	Taxonomic Stability and Ecosystem Assessment: Twelve Years of Changes to the Known Cephalopod Fauna of the Western Central Atlantic Ocean	Michael Vecchione, NMFS National Systematics Laboratory
190	Vertical Distribution Patterns of the Cephalopod Fauna of the Gulf of Mexico	Heather Judkins, University of South Florida St. Petersburg
191	Towed Camera Applications for Monitoring Mesophotic Marine Resources	Katie Davis, University of South Florida
192	Trophic Structure, Feeding Ecology and Hg Bioaccumulation of the Three Species of Hagfish Found in the Gulf of Mexico	Alejandra Mickle, Florida State University
193	Shipwrecks of Opportunity: Monitoring Oil Spill Impacts on Deep Reef Ecosystems in the Gulf of Mexico	Leila Hamdan, George Mason University
195	A Time-series Assessment of Polycyclic Aromatic Hydrocarbons in Fish Communities before and after the DWH Event	Isabel Romero, University of South Florida
196	Using Image-Based Long-Term Monitoring to Estimate the Recovery of Deep-Sea Corals after the Deepwater Horizon Oil Spill	Fanny Girard, Pennsylvania State University
197	Comparative Toxicity of Two Oil Spill Dispersants in Estuarine Organisms; Laboratory and Mesocosm Exposures	Marie DeLorenzo, NOAA
198	Association of Oil-related Trace Metals with Lesioned Fish Collected after the Deepwater Horizon Oil Disaster	Jennifer Granneman, University of South Florida
199	Otolith δ13C and Δ14C Document Food Web Impacts of the Deepwater Horizon Oil Spill	Beverly Barnett, National Marine Fisheries Service
200	Age Frequency, Growth and PAH Levels of Roughtongue Bass, *Pronotogrammus martinicensis*, Following the Deepwater Horizon Oil Spill	Lindsay Biermann, Auburn University
201	Increasing Blood PAH Concentrations in Wintering Common Loons off the Louisiana Coast Negatively Affect Body Mass and Hematocrit Levels	James Paruk, Biodiversity Research Institute
202	Health of the Mud Shrimp *Lepidophthalmus louisianensis* in Response to Crude Oil Exposure	Alex Kascak, University of Louisiana at Lafayette
203	Persistence of Mutagenicity in Sediments Three Years post DWH Spill	Lauren McDaniel, University of South Florida
204	Spatial and Temporal Variation in DeSoto Canyon Macrofaunal Community Structure	Arvind Shantharam, Florida State University
205	CONCORDE: Measurement of Fine- to Sub-Mesoscale Processes Driving Autumn Plankton Distributions and Transport in the Highly Dynamic Coastal Shelf System of the Northern Gulf of Mexico	Robert Cowen, Oregon State University

#	Title	Presenter
206	Increased Growth in the Estuarine-Dependent Spotted Seatrout following the Deepwater Horizon Oil Spill in the Gulf of Mexico	Debra Murie, University of Florida
207	Sediment Bioturbation Affects the Fate of Pyrene in Laboratory Mesocosms	Paul Klerks, University of Louisiana at Lafayette
208	The Interplay of Geomorphic and Ecological Factors and Ultimate Survival of Tidal Wetlands	John Stevenson, University of Maryland Center for Environmental Science
209	Polycyclic Aromatic Hydrocarbons in Red Snapper, *Lutjanus campechanus*, and Sediment Samples Following the Deepwater Horizon Oil Spill	Claire Roberts, Auburn University
210	Benthic Indicators of a Deep-Sea Blowout	Travis Washburn, Texas A&M University - Corpus Christi
211	Temporal Variability of Deep-sea Coral-associated Macrofauna in Gulf of Mexico Sediment after the Deepwater Horizon Oil Spill	Jill Bourque, U.S. Geological Survey
212	Assessing Hydrocarbon Incorporation into the Planktonic Food Web at Cold Seeps	Ana Clavere-Graciette, Georgia Institute of Technology
213	Effects of Salinity Alterations on Soil Greenhouse Gas Production and Denitrification along a Wetland Salinity Gradient in Barataria Bay, Louisiana	Natalie Ceresnak, Louisiana State University
214	The Effects of Planting and Fertilization on Native Soil Microbial Community in Louisiana Coastal Marshes Affected by the Deepwater Horizon Oil Spill	Grace Cagle, Louisiana State University
215	Toxicity Responses of Killifish Embryos Exposed to Saturate, Aromatic, and Polar Fractions of Louisiana Sweet Crude Oil	Rachel Struch, University of California, Davis
Session 016		
46	Characterization of Oil and Water Accommodated Fractions used to Conduct Toxicity Testing for the Deepwater Horizon Natural Resource Damage Assessment	Jeffrey Morris, Abt Associates
47	Effect of Photooxidation on the Biodegradability of Macondo Oil Sand Patties Deposited on Gulf Shore Beaches	Brian Harriman, University of Oklahoma
48	Hydrocarbon Composition and Bacterial Community Associated with Tarballs following the Texas City “Y” Oil Spill	Hernando Bacosa, University of Texas at Austin
49	Sedimentological Signature of the 2010 DWH Event: Will It Be Preserved?	Savannah Carter, Eckerd College
50	Characterization of Sedimentary Biomarker Species from the Northeastern Gulf of Mexico Using Ultra-High Resolution FTICR-MS	Jagos Radovic, University of Calgary
51	Analysis of Hydrocarbons in WAF and CWAF by Fluorescence: Results of an Intercalibration Exercise	Gerardo Gold Bouchot, Texas A&M University
52	Compositional Changes in Oil Exposed to Sunlight	Matthew Tarr, University of New Orleans
53	Potential to Accurately Characterize Alkyl-PAHs in Weathered Oils in Environmental Matrices Using Gas Chromatography-Triple Quadrupole Mass Spectrometry (GC/MS/MS)	Puspa Adhikari, Louisiana State University
54	Hydrostatic Modeling of Buoyant Plumes	William Dewar, Florida State University
55	The Influence of Mixing Energy on the Concentration, Composition, Toxicity, and Relevance of Laboratory Toxicity Tests	Susan Kane Driscoll, Exponent Environmental Sciences
56	The Effect of Oil Spills on Marine Microbes: the Importance of Where, When, and How	Wade Jeffrey, University of West Florida
57	Monitoring the Aerosol Composition Changes in Oil Evaporation and Oxidation Experiments	Omar Amador-Munoz, University of California, Berkeley

#	Title	Presenter
58	Water Accommodated Fraction (WAF) and Chemical Enhanced Water Accommodated Fraction (CWAF) production using BP Surrogate Oil and COREXIT 9500A for Dosing of ADDOMEX Mesocosms: Experiment 1	Maya Morales-McDevitt, Texas A&M University
59	Distribution of Estimated Oil Equivalence (EOE) and Polycyclic Aromatic Hydrocarbon (PAH) in Water Samples after the Deepwater Horizon Incident	Dawei Shi, Texas A&M University
60	Oxygen Biostimulation of Buried MC252 Oil in Coastal Beach Sands	LeeAnn Fitch, Louisiana State University
61	A Field Trial of in situ Bioremediation as an Response Option for Oil-Contaminated Beaches	Zachary Romaine, Louisiana State University
62	Cuticle Accumulation of Petrogenic PAHs on Spartina: a Novel Exposure Pathway for Marsh Biota	John Pardue, Louisiana State University
63	Chemical Evidence for Exposure of Red Crabs (*Chaceon quinquedens*) to Macondo Oil after the Deepwater Horizon Oil Spill	Gregory Douglas, NewFields Environmental Forensics Practice
64	Intact Ribosomal RNA in Mercury-poisoned Sediment Trap Samples: Preservation or Growth?	Barbara MacGregor, University of North Carolina at Chapel Hill
65	Elucidation of Biodegradation Products and Rates of Surfactants from Corexit® 9500 Dispersant in Seawater under Aerobic Conditions	Sarah Choyke, Duke University
Session 017		
66	Hyperbranched Polymers as Oil Dispersants: Influence of Salinity, pH, and Concentration on Dispersion Effectiveness	Kristen Carpenter, Clemson University
67	Capturing Floating Oils with Floating Granular Materials: Sorptive Carpets	Daria Boglaienko, Florida International University
69	Fate of Oil Droplets and Dispersants on Zooplankton and Its Effect on the Ecosystem	Ai Nihongi, University of Wisconsin - Milwaukee
70	Interaction of a Natural Protist Community with Crude Oil Results in Dominance by a Dinoflagellate	Brad Gemmell, University of South Florida
71	Impact of Marine Snow on Fate and Effects of Oil in Multispecies Experiments: You're Invited to Join!	Edwin Foekema, IMARES Wageningen UR
72	CONCORDE: Preliminary Distribution of Plankton along Three Sampling Corridors in the Northern Gulf of Mexico	Alison Deary, University of Southern Mississippi
Session 018		
148	Mapping of Phragmites Australis in Gulf of Mexico Wetlands Using Small UAS	Sathishkumar Samiappan, Mississippi State University
149	Assessment of the 2010 Oil Spill Impact on Deep Diving Marine Mammals: Beaked Whales	Tingting Tang, University of Louisiana at Lafayette
150	Baseline High-Resolution Multi-Sensor Remote Mapping of Wetlands in the Barataria Bay Estuarine System	Ramesh Shreshta, University of Houston
151	CONCORDE: Modeling and Synthesis	Jerry Wiggert, University of Southern Mississippi
152	Automated Detection and Classification Algorithm for Beaked Whales in the Northern Gulf of Mexico	Kun Li, University of Louisiana at Lafayette
153	CONCORDE: Environmental Observations and Planktonic Processes	Frank Hernandez, University of Southern Mississippi
154	Numerical Simulation of Diel Vertical Migrations of Zooplankton in Oil Emulsions and Freshwater Lenses	Cayla Dean, Nova Southeastern University
155	Impact of the 2010 Deepwater Horizon Oil Spill on Southeastern Louisiana Marshes Evaluated with Landsat Data from 1984 - 2015	Alexis Riter, University of Maryland
156	Defining Surface Land Cover Features Using High Resolution Imagery from Unmanned Aerial Systems	Christopher Zarzar, Mississippi State University

#	Title	Presenter
General Poster Session II		
7	Reducing Uncertainty in Multibeam Sonar Depth Estimates through Integration with High Resolution Numerical Modeling	Ian Church, University of Southern Mississippi
8	Surface Ocean Variability and Transport Pathways in the Gulf of Mexico	Renato Castelao, University of Georgia
9	Marine Nematode Assemblages in the Gulf of Mexico Continental Shelf	Katherine Beaton, Troy University
10	Spatial Dynamics of Microbial Community across the Northwestern Gulf of Mexico	Cole Easson, Nova Southeastern University
11	Stable Carbon Isotope Composition of Remineralizing Organic Matter in the Hypoxic Zone of the Northern Gulf of Mexico	Xinping Hu, Texas A&M University - Corpus Christi
12	Identifying the Most Effective Strategies in Tracking the DWH Deepwater Plume from a Natural Resource Damage Assessment (NRDA) Perspective	James Payne, Payne Environmental Consultants, Inc.
13	A Preliminary Trophic Analysis of Deep-Pelagic Assemblages in the Northern Gulf of Mexico	Travis Richards, Texas A&M University at Galveston
14	CONCORDE: Enabling Slocum Glider Flight on a River-Dominated Continental Shelf	Travis Miles, Rutgers University
15	Coupling a High Resolution Circulation Model, Ocean Color Satellite Imagery and Field Data to Characterize the 3-Dimensional Mississippi River Plume	Inia Soto, University of Southern Mississippi
16	Adsorption and Photodegradation of Polycyclic Aromatic Hydrocarbons in Seawater Using a New Class of Activated Charcoal Supported Titanate Nanotubes	Dongye Zhao, Auburn University
17	Assessment of the Environmental Stress Factor for Four Years Post BP Oil Spill in the Gulf of Mexico and Its Potential Impact on Public Health	Darrell Esnault, Dillard University
18	Particle Size Distribution in Two-Phase Oil and Gas Jets under Deep-Sea Conditions	Simeon Pesch, Hamburg University of Technology
19	Blue Crab Larval Dispersal during the Deepwater Horizon Oil Spill in Context of Interannual Variability from 2003-2012	Joanna Gyory, Tulane University
20	Diversity and Connectivity of a Mesopelagic Shrimp as Proxies for Ecosystem Health and Recovery in the Gulf of Mexico	Laura Timm, Florida International University
21	Fluid Dynamic Behavior of Methane-saturated Oil Jets under Deep-sea Conditions	Michael Schlüter, Hamburg University of Technology
22	Using Multiple-frequency, Broadband Acoustic Backscatter to Identify and Quantify the Organisms Composing the Deep Sea Mesopelagic Scattering Layers in the Gulf of Mexico	Joseph Warren, Stony Brook University
23	AUV Jubilee 2015: An Exercise in Adaptive Sampling Using Integrated Ocean Observations	Ryan Vandermeulen, University of Southern Mississippi
24	Differential Response of *Pseudomonas aeruginosa* Cells to Interfacial Stress	Tagbo Niepa, University of Pennsylvania
25	Microbial Community Dynamics of a Coastal Alabama Salt Marsh Impacted by the Deepwater Horizon Oil Spill	Suja Rajan, University of Alabama
26	Physical and Geochemical Drivers of CDOM Variability near a Natural Seep Site	Catherine Edwards, Skidaway Institute of Oceanography
27	Long-term Response of Coastal Salt Marsh Vegetation to the Deepwater Horizon Oil Spill	Qianxin Lin, Louisiana State University
28	Microzooplankton Grazing within Planktonic Thin Layers in the Northern Gulf of Mexico	Adam Boyette, University of Southern Mississippi
29	Changes in Sedimentary Barium Following the BP DWH Blowout Event	Thea Bartlett, Eckerd College

#	Title	Presenter
30	Large-eddy Simulation (LES) of Langmuir Supercells under Constant Surface Cooling or Heating	Andres Tejada-Martinez, University of South Florida
31	LES of Langmuir Supercells under Constant and Oscillating Crosswind Tidal Forcing	Jie Zhang, University of South Florida
32	Dissolved Inorganic Carbon and Methane Interactions in the Deep Gulf of Mexico	Constance Previti, Texas A&M University
33	Quantifying the Impacts of Deepwater Horizon on Commercial Reef-fish Fisheries: Spatial Patterns before, during, and after the Spill	Marcy Cockrell, University of South Florida
34	Homogeneity of Microbial Communities in Marsh Soils since the Deepwater Horizon Oil Spill	Brandon Bagley, University of Tennessee Knoxville
35	Exposure to PAHs during Early Stages of Development of the Chicken (*Gallus gallus*) Affects Cardiovascular Structure	Maria Rojas, University of North Texas
36	Effects of Crude Oil on Growth Rate and Variable Fluorescence of Marine Cyanobacteria	Andrew Juhl, Lamont Doherty Earth Observatory
37	Retention of DOSS and Primary Metabolites by Sheepshead Minnows (*Cyprinodon variegatus*)	Darrell Sparks, Mississippi State Chemical Laboratory
38	The Combined Effect of Oil Exposure and Environmental Stressors on Reproduction of Sheepshead Minnow (*Cyprinodon variegatus*)	Lindsay Jasperse, University of Connecticut
39	Sorption of DOSS to Marine Sediments: Its Fate in the Field and Laboratory	Benedette Adewale, Stony Brook University
40	Chemical Characterization of the Natural Oil Seeps From GC-600 Lease Block by FT-ICR MS, GC/MS, and API-GC/MS-MS	Vladislav Lobodin, National High Magnetic Field Laboratory
41	Determinants of Genetic Diversity and Historical Demography in Deep-sea Fishes	Max Weber, Texas A&M University at Galveston
42	Benthic Diatom Population Responses to the Oiling in the Chandeleur Islands, Louisiana	Jeffrey Zingre, Florida Gulf Coast University
43	Southwest Florida Coastal Mesocosm Oiling Experiments	Adam Catasus, Florida Gulf Coast University
44	Oxygen Fluxes in Gulf of Mexico Sediments	Kelly Dorgan, Dauphin Island Sea Lab
45	Buoyancy and Diameter of Bay Anchovy, Mahi Mahi, Red Drum, and Red Snapper Eggs Found in the Northern Gulf of Mexico	Jeffrey Morris, Abt Associates

This sediment sampling trench on Pensacola Bay, Florida, shows layers of weathered oil.

(Photo credit: DEEP-C, M. Huettel, FSU)

Thursday, February 4

7:30a-12:00p	Registration & Check-in Open	Escalator Landing, 2nd Floor
	Exhibits Open	Grand Ballroom Foyer
7:00a-8:00a	Speaker Ready Room Open	Meeting Room 3

Scientific Program Schedule

Starts at 7:00a	BREAKFAST	Grand Ballroom Foyer
8:30a-10:00a	Session 012	Grand Salon A
	Session 013	Florida Salon V
	Session 014	Florida Salon I-III
	Session 015	Grand Salon F
	Session 016	Grand Salon E
	Session 017	Florida Salon IV
	Session 018	Grand Salon G
10:00a-10:30a	BREAK	Grand Ballroom Foyer
10:30a-12:00p	Session 012	Grand Salon A
	Session 013	Florida Salon V
	Session 014	Florida Salon I-III
	Session 015	Grand Salon F
	Session 016	Grand Salon E
	Session 017	Florida Salon IV
	Session 018	Grand Salon G
12:00p-1:30p	LUNCH	

Plenary Program Schedule

1:30p-3:30p	Session Summaries and Discussion *Moderated by Dr. Chris Elfring, Gulf Research Program* Conference Wrap-Up *Dr. Chris Elfring*	Grand Ballroom

Special Event

3:30p-4:30p	Dispatches from the Gulf	Grand Ballroom

Associated Meetings and Events

10:00a-10:30a	GRIIDC Data Submission	Meeting Room 1

Session 012 *(Continued from Wednesday)*

DETERMINATION OF THE OIL DROPLET SIZE DISTRIBUTION AND ITS IMPACT ON THE FATE AND TRANSPORT OF OIL: CONSEQUENCES ON PUBLIC HEALTH AND ECOLOGY II

Thursday, February 4, 8:30a - 12:00p, Grand Salon A

Michel Boufadel, New Jersey Institute of Technology
Robyn Conmy, US Environmental Protection Agency
Thomas King, Bedford Institute of Oceanography
Joseph Katz, Johns Hopkins University**

The Deepwater Horizon blowout revealed that knowledge of the droplet size distribution (DSD) is crucial for evaluating the fate and transport of oil. Increasing the portion of small droplets results in an increase of the surface area per unit mass of oil, which would enhance the dissolution of hydrocarbon components in the water column. It would also enhance oil biodegradation, as the biodegradation of low- solubility oil components in the droplets occurs at the water-oil interface. In addition, for a given oil, large droplets have larger buoyancy than smaller droplets, and thus rise to the water surface faster; while large droplets (say larger than 1.0 mm) from a blowout can rise to the surface in minutes or hours, small droplets could require weeks to reach the surface, a time scale at which they could biodegrade. In addition, small oil droplets at the water surface could get transported by wind, and potentially impact adversely responders and coastal communities, and ecosystem services. The Deepwater Horizon blowout occurred from a 0.40 m orifice, and released oil and gas simultaneously under high pressure and temperature. The oil was also “live” (i.e., containing dissolved gases). Reproducing these conditions to estimate the DSD from the spill is not possible experimentally and even numerically, especially when dispersants are used. For this reason, researchers have developed approaches to capture salient aspects of the blowout, such as high pressure, high temperature, mixing energy, or the balance between turbulence forces and interfacial tension forces (i.e., the Weber number). In parallel, research has been conducted to quantify the oil DSD in waves, and the subsequent transport of oil in the water or in the atmosphere. This session invites researchers to share their novel theoretical/numerical and experimental approaches related to the formation of the droplet size distribution of oil, with the goal of developing unifying frameworks and establishing common areas of agreement. In addition, the session encourages articles that elucidate the impact of oil on the ecosystem and public health when a slick is broken into small droplets that could be uptaken (for example) by filter feeders or respired by animals and humans on land.

***Invited Speaker*

Time	Title	Presenter
8:30a - 9:00a	Processes and Considerations Associated with Aerosolized Oil	Joseph Katz, Johns Hopkins University
9:00a - 9:15a	Impacts of Waves on Particulate and Gaseous Emissions from Oil and Oil-Dispersant Contaminated Sea Waters	Nima Afshar-Mohajer, Johns Hopkins University
9:15a - 9:30a	Using the Baffled Flask to Test Dispersant Effectiveness with 23 Crude Oils and Comparison with Other Testing Protocols	Edith Holder, Pegasus Technical Services, Inc.
9:30a - 9:45a	Simulation of Oil Dispersion under Breaking Waves	Zhangping Wei, Johns Hopkins University
9:45a - 10:00a	The Role of Oil Viscosity and the Oil-water Interfacial Tension in the Formation of Oil Dispersion under Breaking Waves: Experiments and Simulations	Roozbeh Golshan, New Jersey Institute of Technology
10:00a - 10:30a	Coffee Break	
10:30a - 10:45a	Formation of Oil Particle Aggregates (OPA): Experimental Studies and Development of the OPM model	Lin Zhao, New Jersey Institute of Technology
10:45a - 11:00a	Formation, Transport, and Breakup of Submerged Oil Particle Aggregates in Freshwater Riverine Environments	Faith Fitzpatrick, U.S. Geological Survey
11:00a - 11:15a	Biosurfactant Based Dispersants: Isolation of Biosurfactant Producers, Economic Production and Enhanced Oil Dispersion	Baiyu Zhang, Memorial University of Newfoundland
11:15a - 11:30a	Controlled Oil-in-Water Droplet Size Distributions via Environmentally Compatible Dispersants	Zachary Aman, University of Western Australia
11:30a - 11:45a	Oil in Water Fluorescence and Backscattering Relationships	Ian Walsh, Sea-Bird Scientific
11:45a - 12:00p	Detection and Quantification of Submerged Oil Droplets by a Broadband, High-frequency Echo Sounder	Scott Loranger, University of New Hampshire

Session 013 *(Continued from Wednesday)*

HUMAN FUNCTIONING AND ADAPTATION TO STRESS: IMPLICATIONS OF PROLONGED EXPOSURE FOR INDIVIDUALS AND COMMUNITIES II

Thursday, February 4, 8:30a - 12:00p, Florida Salon V

Howard Osofsky, MD, Louisiana State University Health Sciences Center
Ann Hayward Walker, SEA Consulting Group
Lisanne Brown, Louisiana Public Health Institute
Paul Sandifer, College of Charleston**

The consequences of the 2010 DWH oil spill on the psychological and physical health of humans was immediate, continues to the present time, and will impact the quality of life of communities and people for the foreseeable future. Human functioning and adaptation to adverse events is often misunderstood and misinterpreted by policy makers, public officials, supervisors, and most unfortunately, individuals who are directly affected. This session will examine the impact of acute and prolonged exposure to stressors on multiple aspects of response and recovery. Chronic stress, and the related anxiety and depression that follow, reduces job performance, increases symptoms of poor health, and complicates the recovery of persons and communities. The three conference objectives identified above will be addressed from the perspective that behavioral health---its restoration, adjustment, and preservation--is an essential strategy that if woven into all aspects of scientific communication and understanding of risks will facilitate physical and behavioral health and overall well-being. The session will also examine multiple aspects of recovery throughout the Gulf region and the implications for strengthening human resilience and mitigating aspects of future adverse incidents on human functioning. The session will emphasize the importance of restoring individual and community trust and its widespread utility across all phases of ecosystem science and social sciences as a major factor in the long-term recovery of individuals and communities in the Gulf of Mexico. The session will examine opportunities to link psychosocial interventions and incident management strategies to improve future oil spill preparedness and response. Finally, we will describe community-level strategies that help its members adjust to the ongoing adversities faced by its members while creating policies/programs to making it stronger.

***Invited Speaker*

Time	Title	Presenter
8:30a - 8:45a	Introduction	
8:45a - 9:00a	Trajectories of Posttraumatic Stress Symptoms for Children and Adolescent with Prolonged Exposure to Disasters	Joy Osofsky, Louisiana State University Health Sciences Center
9:00a - 9:30a	**Children and Families Panel**	
	Discordant Reports of Psychological Distress, Behavioral Problems, and Serious Emotional Disturbance among Mothers and Children in the WaTCH Study	Sarah Friedman, New York University
	Health among Two Cohorts of Women Following the DWH Disaster (DWHD)	Edward Trapido, Louisiana State University Health Sciences Center
	Post-Traumatic Stress Disorder (PTSD) among Women in Southeast Louisiana Impacted By The Deepwater Horizon Oil Spill (DHOS)	Edward Peters, Louisiana State University
9:30a - 10:00a	**Impact and Resilience Panel**	
	The Deepwater Horizon Oil Spill's Health Impacts on Vulnerable Residents in the Alabama Gulf Coast	Rongbing Xie, University of Alabama at Birmingham
	Ten Years after Katrina, Five Years after Deepwater Horizon: Risk Perception and Resilience among Residents of the Mississippi Gulf Coast	David Cochran, University of Southern Mississippi
	A Critical Analysis of Technological Disaster Resilience Literature: Recommendations and Lessons Learnt for Addressing Hydrocarbon Events	Ky Luu, Tulane University
10:00a - 10:30a	Coffee Break	
10:30a - 11:00a	**Integrated Health Response Panel**	
	The Electronic Health Record: The Nexus of Integrated Mental and Behavioral Health Care	Jennifer Langhinrichsen-Rohling, University of South Alabama
	An Emerging Lexicon for Cross Discipline Communication: Integrated Behavioral Health and Primary Care	Anthony Speier, Louisiana State University Health Sciences Center
	The Role of Community Health Workers in Emergency Management: Conceptions of Community	Keith Nicholls, University of South Alabama
11:00a - 11:30a	**Collaborative Models Panel**	
	Disseminating Oil Spill Knowledge through an Exhibit at the Estuarium	David Ladner, Clemson University
	Multi-Hazard Risk Analysis by Segmentation of Gulf of Mexico Coastline: Natural and Man-Made Hazards	Berrin Tansel, Florida International University
	Applying Ecological Systems Theory to Disaster Resilience and Recovery	Candace Bright, University of Southern Mississippi
11:30a - 11:45a	Progress toward Modeling Stress-Associated Health Effects of Multiple Impacted Ecosystem Services in the Gulf of Mexico	Paul Sandifer, College of Charleston
11:45a - 12:00p	Discussion	

Session 014 *(Continued from Wednesday)*

EXTENDING THE USE OF INFORMATION FROM OIL SPILLS: SYNTHESIS AND APPLICATION OF RESEARCH AND OBSERVATIONS FROM REGIONS ALONG THE U.S. OUTER CONTINENTAL SHELF II

Thursday, February 4, 8:30a - 12:00p, Florida Salon I-III

LeighAnne Olsen, Gulf Research Program

Maggie Walser, Gulf Research Program

Rebecca Green, Bureau of Ocean Energy Management

Research conducted in the aftermath of major offshore oil spills has contributed to a growing body of knowledge about the physical processes, ecosystem impacts, and socio-economic and health implications of oil spills. Significant scientific information has been collected from spills in U.S. and surrounding waters, including the Santa Barbara spill (1969), Ixtoc I (1979), Exxon Valdez (1989), Deepwater Horizon (2010), and more recent incidents. To minimize future harms to ecosystems and communities, a synthesis and transfer of this knowledge should inform the expansion of offshore oil and gas (O&G) development to new regions, such as those outlined in Department of Interior's draft strategy for offshore O&G leasing along the U.S. outer continental shelf (OCS). Released in January, 2015, this draft strategy proposes 14 potential lease sales in different regions, including 10 in the Gulf of Mexico, three off the coast of Alaska, and one in a portion of the Mid- and South Atlantic. Through presentations and panel discussions, this day-long session will encourage a synthesis of research and observations associated with both recent and historical oil spills (e.g., DWH and Exxon Valdez), regarding the sensitivity and resiliency of ecosystem health and human communities to these events. The session will seek to identify research needs and opportunities to apply existing knowledge from oil spills to improve the protection of communities and ecosystems in U.S. OCS regions in which offshore oil and gas development occurs or may occur. Discussion will include perspectives from both the natural sciences (physical, chemical, biological) and social sciences (human health, socioeconomics, cultural resources) and explore three related questions:

1 What set of long-term observations or indicators would be most helpful for understanding the impacts of offshore O&G production on ecosystems and communities in regions along the U.S. OCS?

2 How could long-term observations related to O&G development also contribute to understanding chronic and emerging environmental change and the potential impacts on the health of coastal ecosystems and communities?

3 What observational approaches are most appropriate to teasing apart the multiple stressors that may impact an ecosystem or community, thus providing a more mechanistic understanding and predictive capability for understanding change?

Time	Title	Presenter
8:30a - 8:45a	Long-Term Data Provide Perspective on Ecosystem Recovery Following the Exxon Valdez Oil Spill	Daniel Esler, U.S. Geological Survey
8:45a - 9:15a	Gulf Watch Alaska: Monitoring the Pulse of the Gulf of Alaska's Changing Ecosystems 26 Years after the Exxon Valdez Oil Spill	Tammy Hoem Neher, NOAA
9:15a - 9:30a	Pacific Herring Research in Prince William Sound	William Pegau, Oil Spill Recovery Institute
9:30a - 9:45a	Environmental Studies in Support of Offshore Energy and Mineral Resource Development by the Bureau of Ocean Energy Management	Walter Johnson, BOEM
9:45a - 10:00a	Use of Modeling and Deepwater Horizon NRDA Water Column Sample Analyses for Assessment of Potential Impacts of Blowouts on Deep Water Communities	Deborah French-McCay, RPS ASA
10:00a - 10:30a	Coffee Break	
10:30a - 10:45a	A Survey of the Oil Spill Literature: Trends since 1968 and Changes since Deepwater Horizon	David Murphy, Johns Hopkins University
10:45a - 11:00a	How Drilling Impacts Inform Oil and Gas Management Worldwide: Introducing the DOSI Oil & Gas Working Group	Erik Cordes, Temple University
11:00a - 11:15a	A Real-World Test Bed for Oil Spill Research Offshore Louisiana	Ian MacDonald, Florida State University
11:15a - 11:45a	Deepening the Bench of Spills for Lessons Learned and Future Action Taking; Taking Advantage of Lessons Learned (and Relearned) from Smaller Incidents	Doug Helton, NOAA
11:45a - 12:00p	Discussion	

Session 015 *(Continued from Wednesday)*

ECOLOGICAL IMPACTS OF THE DEEPWATER HORIZON OIL SPILL IMPACTS ACROSS MULTIPLE SCALES II

Thursday, February 4, 8:30a - 12:00p, Grand Salon F

David Portnoy, Texas A&M - Corpus Christi
William Patterson, University of South Alabama
Dean Grubbs, FSU Coastal and Marine Lab**

Environmental contaminants, such as petroleum compounds, can disrupt marine ecosystem functioning on multiple temporal and spatial scales, which ultimately affects ecosystem services important to human welfare. Results of studies on impacts to ecosystems and ecosystem services from previous large-scale oil spills heightened the concern about potential Deepwater Horizon Oil Spill (DWH) impacts to the Gulf of Mexico (Gulf) large marine ecosystem. Now that five years have passed since the catastrophic sinking of the Deepwater Horizon drilling rig, a much greater understanding exists as to the spatial and temporal scales over which spill impacts have occurred, some of which continue to persist and may sometime into the future. Evidence also has emerged with respect to the resiliency displayed by certain components of the Gulf ecosystem. The purpose of this session will be to summarize and discuss acute and chronic effects of the spill from organismal to ecosystem levels, and to describe the nature of Gulf ecosystem recovery where evidence of recovery exists. Of particular interest will be whether observed recovery indicates resilience (return to pre-oil spill state) or movement to a new stable state. The session will accept papers that focus on research at the organismal to population levels, from plankton to mammals, as well as papers that focus on research at community to ecosystem scales. An emphasis of this session will be impacts on ecosystem services important to human beings, such as microbial biogeochemical processes, recreational activities, and fisheries. In particular it will be important to identify which ecosystem services seem to have recovered from acute effects of the spill and which services are still impacted by chronic effects. In doing so, discussion will be generated about the use of oil spill ecosystem science to inform policy related to management and restoration efforts aimed at promoting Gulf recovery.

***Invited Speaker*

Time	Title	Presenter
8:30a - 9:00a	Assessing the Effects of the DWH Oil Spill on Large Fishes as Functions of Habitat, Trophic Ecology and Life Histories	Dean Grubbs, Florida State University
9:00a - 9:15a	Insight into the Response of *in situ* Impacted Cold-Water Corals Following the Deepwater Horizon Oil Spill	Danielle DeLeo, Temple University
9:15a - 9:30a	Vulnerability, Resilience and Potential Recovery: Mesophotic Reef Fish Community Response to Major Disturbance from the Deepwater Horizon Event	Kenneth Sulak, U.S. Geological Survey
9:30a - 9:45a	Natural Resource Damage Assessment Overview for the Deepwater Horizon Oil Spill	Lisa DiPinto, NOAA
9:45a - 10:00a	Loss of Oysters as a Result of the Deepwater Horizon Oil Spill Degrades Nearshore Ecosystems and Disrupts Facilitation	Sean Powers, University of South Alabama
10:00a - 10:30a	Coffee Break	
10:30a - 10:45a	Persistent Impacts to the Deep Soft-Bottom Benthos Four Years after the Deepwater Horizon Event	Paul Montagna, Texas A&M University - Corpus Christi
10:45a - 11:00a	Estimating the Fractional Mortality of Early Life Stage Fish from the Deepwater Horizon Spill	Constance Travers, Abt Associates
11:00a - 11:15a	Reconciling Organismal Versus Population Responses of Estuarine Fishes to the Macondo Oil Spill - A Five-Year Update	Joel Fodrie, University of North Carolina at Chapel Hill
11:15a - 11:30a	The Ecological Effects of the Deepwater-Horizon Oil Spill: A Meta-analysis	Andrea Bonisoli Alquati, Louisiana State University
11:30a - 11:45a	Acute and Chronic Impacts of the Deepwater Horizon Oil Spill on Red Snapper in the Northern Gulf of Mexico	William Patterson, University of South Alabama
11:45a - 12:00p	Atlantis Modeling of Ecosystem Impacts and Recovery in the Gulf of Mexico after the Deepwater Horizon Blowout	Lindsey Dornberger, University of South Florida

Session 016 *(Continued from Wednesday)*

THE EVOLUTION OF THE DEEPWATER HORIZON OIL SPILL: UPDATES ON FATE AND TRANSPORT OF THE OIL II

Thursday, February 4, 8:30a - 12:00p, Grand Salon E

Paul Boehm, Exponent Environmental Sciences

David Hollander, University of South Florida

Over the past five years much has been learned about the physical, chemical, biological and geologic processes controlling the selective partitioning, transport and fate (weathering, transformation, degradation and sedimentation) of petroleum (oil and gas) released from the Macondo well. These processes and their role in the evolution of oil in the environment have led to innovative observations and new hypotheses for interpreting the ultimate impacts of the spill. However, as a result of these new insights and transformative understanding of the behavior of released oil there is not total agreement on the ultimate fate of the oil both in terms of the diversity and complexity of processes involved and the spatial and temporal extent to which hydrocarbons are cycled through the environment. The purpose of this session is to bring together researchers of varying points of view and relevant extensive data sets to present and discuss what is known, what is still unknown, and what are testable extant and new hypothesis that set the stage for additional work that are needed to develop a quantitative "terminal" budget for the released oil. This session strives to provide the scientific and lay communities with a technically based narrative on what happened to the oil and its components after release in support of developing a final accounting of the Macondo 252 oil. Presentations/papers will address the array of processes and the influence of oil spill response strategies that control oil weathering, transformation and degradation, changes in oil chemistry, and partitioning of oil components in the oil in the water column, on the water's surface, to the sediments, and to the shoreline that created various "footprints" their changes over time. Discussions are not to focus directly on toxicology, biological impact or human health and safety; however, this session's discussions will bear directly on those issue important in developing the linkages between changing oil chemistry and occurrence and the health of the Gulf's people, animals and ecosystems – past, present and future.

Time	Title	Presenter
8:30a - 8:45a	Deposition and Redistribution of Petroleum Hydrocarbons following the Deepwater Horizon Oil Spill: Where Is It Going and How Long Will It Remain?	Isabel Romero, University of South Florida
8:45a - 9:00a	Identifying the Most Effective Strategies in Tracking the DWH Deepwater Plume from a Natural Resource Damage Assessment (NRDA) Perspective	James Payne, Payne Environmental Consultants, Inc.
9:00a - 9:15a	Overview of 14C-Depleted Petrocarbon in Coastal Sediments, on Seafloor and in the Water Column	Brad Rosenheim, University of South Florida
9:15a - 9:30a	Cluster Analysis and Principal Component Analysis of Biomarkers and Polyaromatic Hydrocarbons in Deep Gulf of Mexico Sediments following the Deep Water Horizon Event	Norman Guinasso, Texas A&M University
9:30a - 9:45a	Forensics Methodology for Accurate and Consistent Fingerprinting of Weathered MC 252 Macondo Spill Oil	John Brown, Exponent Environmental Sciences
9:45a - 10:00a	Chemometric Analysis of Coastal Marsh Sediments Collected from 2010-2015	Buffy Meyer, Louisiana State University
10:00a - 10:30a	Coffee Break	
10:30a - 10:45a	Microbial Community Structure in Oiled Sediments Undergoing Natural Attenuation in Coastal Louisiana	Vijaikrishnah Elango, Louisiana State University
10:45a - 11:00a	Evaluation of Chemical Weathering following the Deepwater Horizon Oil Spill in Louisiana Salt Marshes using Ramped Pyrolysis - Gas Chromatography - Mass Spectrometry	Meredith Evans, University of Texas - Austin Marine Science Institute
11:00a - 11:15a	Weathering Patterns of Forensic Biomarker Compounds and PAHs in Coastal Marsh Sediment Samples since the 2010 Deepwater Horizon Oil Spill	Edward Overton, Louisiana State University
11:15a - 11:30a	Evaluation of the Vertical and Horizontal Distribution of Oil Residues in Louisiana Coastal Marshes Impacted by the Deepwater Horizon Oil Spill	Puspa Adhikari, Louisiana State University
11:30a - 11:45a	Spatial Biodegradation of MC252 Crude Oil across a Coastal Headland Beach Profile	John Pardue, Louisiana State University
11:45a - 12:00p	A Review of Science Based Assessments of Residual Oil along Gulf Shorelines Used to Support Response Operations	Wade Bryant, CK Associates

Session 017

THE CHEMISTRY OF OIL EVOLUTION AND EXOPOLYMERIC SUBSTANCES AND THEIR INTERACTION WITH MICROBES IN OIL SPILLS

Thursday, February 4, 8:30a - 12:00p, Florida Salon IV

Jeff Chanton, Florida State University
Antonietta Quigg, Texas A&M University
Ryan Rodgers, National High Magnetic Field Laboratory**
Monica Orellana, University of Washington**
Uta Passow, University of California, Santa Barbara**

After the explosion of the Deepwater Horizon in the Gulf of Mexico, opportunistic microbes and photochemistry led to the transformation, degradation and dispersion of the oil. Recent work may allow differentiation between the effects of microbial and photochemical oxidation on the structure of petroleum. Exudates produced by microbes contributed to the aggregation and sedimentation of petrocarbon and other material into deep waters while chemical transformations altered the water solubility of petroleum based compounds as well as their toxicity. This session brings together those interested in the molecular-level chemistry and evolution of the structure, properties and transformation products of petroleum with those interested in the chemical and physical properties of the exopolymeric substances produced by microbes in response to the petrocarbon and dispersant. The session will explore 1) the chemical, biological, and physical processes that transform hydrocarbons in the environment, their products, and their subsequent environmental impact; and 2) how the presence of hydrocarbons and their transformation products trigger production of exopolymeric substances that may protect microbes from the oil, emulsify the oil, or both, therefore thereby altering its weathering and degradation. Production of exopolymeric substances by microbial communities as a response to oil may lead to the formation of marine snow that functions as microhabitats for complex communities. The type of exopolymeric substances and the composition of the evolving microbial community have been demonstrated to influence oil/dispersant fate and transport; however, the relationship whereby the environmental factors influence community composition and production of exopolymers are not well known. This information is important for developing a process-based understanding of the role that exopolymeric substances, micro-gels, and transparent exopolymer particles play in the fate of oil and the dispersant. We are interested in better defining the interactions between microbes and the petroleum/dispersant system and the subsequent environmental effects in order to address the science of ecosystem recovery.

***Invited Speaker*

Time	Title	Presenter
8:30a - 9:00a	Oxidized Transformation Products from Macondo Well Oil	Ryan Rodgers, National High Magnetic Field Laboratory
9:00a - 9:30a	Marine Microgels	Monica Orellana, University of Washington
9:30a - 9:45a	Atmospheric Ozone Oxidation of Polycyclic Aromatic Hydrocarbons in Seawater and Effects of Oil Dispersant	Dongye Zhao, Auburn University
9:45a - 10:00a	Impact of Oil Spill and Corexit on Marine Microgel Formation	Wei-Chun Chin, University of California, Merced
10:00a - 10:30a	Coffee Break	
10:30a - 11:00a	Oil, Diatom Exudation and Marine Oil Snow	Uta Passow, University of California, Santa Barbara
11:00a - 11:15a	Role of Microbial Exopolymers in Aggregation of Oil and Dispersants	Peter Santschi, Texas A&M University - Galveston
11:15a - 11:30a	The Role of Environmental Factors in Controlling the Oil Weathering in the Gulf of Mexico Waters	Zhanfei Liu, University of Texas - Austin
11:30a - 11:45a	Snow on the Seafloor? Carbohydrates in Deep-sea Sediments Impacted by the Deepwater Horizon Oil Spill	Sara Lincoln, Pennsylvania State University
11:45a - 12:00p	Self-Assembled Surfactant Mesophases as Buoyant Gel Dispersants	Olasehinde Owoseni, Tulane University

Session 018

FUSION OF BIO-PHYSICAL DATA AND PREDICTIVE MODELING TO UNDERSTAND GULF OF MEXICO MARINE SPECIES RESILIENCE TO ENVIRONMENTAL STRESSES AND DISASTERS

Thursday, February 4, 8:30a - 12:00p, Grand Salon G

Natalia Sidorovskaia, University of Louisiana at Lafayette
Azmy Ackleh, University of Louisiana at Lafayette
Hal Caswell, University of Amsterdam**
David Mellinger, Oregon State University**

A change in selected marine species distribution and abundance, caused by environmental stresses or anthropogenic activities, can impact the function of the entire deep water ecosystem. A variety of oceanographic, satellite, visual, and acoustic data have been collected in the Gulf of Mexico in the past decade, especially due to funding investments after the 2010 oil spill. Data collections and modeling target particular research topics including the distribution of pollutants on a regional and global scale, evolution of acoustic soundscapes due to anthropogenic activities and deducing marine mammal abundance and distribution from visual and acoustic observations. However, bringing these data together to learn about the factors responsible for observed population dynamics and to forecast population trends is still in its infancy. Stage-structured population models can provide an excellent tool for gaining insights into marine species population dynamics that is particularly important for conservation and mitigation work targeting endangered and protected species. These models allow for distinguishing between demographic stochasticity (random growth of populations generated by the stochastic outcomes of survival and reproduction) and environmental stochasticity (fluctuations in the vital rates due to fluctuation in environmental conditions) and help identify critical factors that can bring a particular population on the brink of extinction. The session focuses on cross-disciplinary methodologies and data assimilation that advance our understanding of how the regional marine species populations in the Northern Gulf of Mexico have been and will be affected by the 2010 oil spill and extensive everyday industrial operations. We also hope to identify data gaps which limit the predictive capabilities of population dynamics modeling. This will lead to advancements in data collection, processing, and synthesis that will provide meaningful relationships of regional abundance variations to long-term and short-term environmental factors, such as environmental disasters, weather conditions, natural seasonal migration, and regional anthropogenic background noise.

***Invited Speaker*

Time	Title	Presenter
8:30a - 9:00a	Sensitivity Analysis of Transient Population Dynamics during Oil Spill Recovery	Hal Caswell, University of Amsterdam
9:00a - 9:15a	Accessing the Impact of Environmental Disasters on Population Dynamics Using Stochastic Matrix Models	Ross Chiquet, University of Louisiana at Lafayette
9:15a - 9:30a	Population Dynamics Modeling of an Invasive Species, *Pomacea maculata*	Karyn Sutton, University of Louisiana at Lafayette
9:30a - 9:45a	Modeling Green Treefrog Population Dynamics Using Capture-Mark-Recapture Field Data	Baoling Ma, Millersville University of Pennsylvania
9:45a - 10:00a	Development of Spatial Model to Support Oil Spill Response and Natural Resources Damage Assessment	Peter Rubec, Florida Fish and Wildlife Conservation Commission
10:00a - 10:30a	Coffee Break	
10:30a - 11:00a	Acoustic Assessment of Cetacean Population Responses to the Deepwater Horizon Disaster	David Mellinger, Oregon State University
11:00a - 11:15a	Photo-identification Can Be Used to Assess Effects of Natural and Man-made Disasters on Dolphins	Stan Kuczaj, University of Southern Mississippi
11:15a - 11:30a	A Gulf of Mexico Comparative Analysis of Numerical Model Results, Cruise-Based Observations, and Historical Data	Sergio deRada, Naval Research Laboratory
11:30a - 11:45a	CONCORDE: Bio-Physical Observations	Stephan Howden, University of Southern Mississippi
11:45a - 12:00p	CONCORDE: Resolving the Role of Pulsed-River Systems in Oil Spills and Potential Exposure of Organisms to Toxicants	William Graham, University of Southern Mississippi

2016 Closing Plenary

THURSDAY, FEBRUARY 4, 1:30-3:30PM, GRAND BALLROOM

Session Summaries and Discussion

The 2016 conference theme, One Gulf: Healthy Ecosystems, Healthy Communities, aspires to a more comprehensive understanding of the functioning of and connections between human and ecological systems. Chris Elfring, Ph.D., of the Gulf Research Program moderates as each session provides a "big picture" look at its presentations and identifies:

- Contributions to a healthy, sustainable and resilient Gulf
- Research and data gaps
- Challenges to linking research to management and policy

Please join us after the closing plenary for a special screening of "Dispatches from the Gulf," the latest episode in Screenscope's documentary series, *Journey to Planet Earth*. Award-winning producers Hal and Marilyn Weiner will introduce this soon-to-be-released documentary featuring oil spill scientists and their research in the Gulf of Mexico.

Chris Elfring

Director of the Gulf Research Program of The National Academies of Sciences, Engineering, and Medicine

Chris Elfring is the founding Director of the Gulf Research Program of The National Academies of Sciences, Engineering, and Medicine. She is responsible for guiding the program from initial planning to implementation and, ultimately, to a multi-faceted science program of lasting impact. She is involved in strategic planning, interactions with scientific advisors and stakeholders, communications, staff and budget management, and all aspects of program operations. Previously, Ms. Elfring was Director of the Board on Atmospheric Sciences and Climate (BASC) and the Polar Research Board (PRB), and a program officer for the Water Science and Technology Board (WSTB).

Ms. Elfring has a long-standing interest in the policy dimensions of science and communicating science to non-scientists. She began her career in Washington as a AAAS Fellow in 1979. In 2012, the American Meteorological Society (AMS) awarded her the Cleveland Abbe Award for Distinguished Service to the Atmospheric Sciences and she was elected an AMS Fellow. She was a leader in the planning of International Polar Year 2007-2008, and has a geographic feature in Antarctica, Elfring Peak, named in her honor of her polar science work.

Associated Workshops & Meetings

Descriptions are available on the conference website, online program planner and mobile application.

Sharing Oil Spill Science with Non-Scientists: Effectively Communicating Complex Research Results through Outreach and Education Programs

Monday, February 1, 12:30p-5:15p
Grand Salon I

Overview of the DWH NRDA Process

Monday, February 1, 1:00p-4:00p
Grand Salon F

Communicating Your Science

Monday, February 1, 1:00p-5:00p
Grand Salon E

A Tribute to Louis J. Guillette, Jr.: "From Oil Spill to Sentinels and Human Health - Complexity in Modern Environmental Health Research"

Monday, February 1, 1:00p-5:00p
Grand Salon B

Lessons in Designing, Conducting and Interpreting Biodegradation and Toxicity Studies on Crude and Refined Oils

Monday, February 1, 1:00p-5:00p
Grand Salon G

Status and Plans for Coastal & Ocean Observing Systems of the Gulf of Mexico

Monday, February 1, 1:00p-6:00p
Grand Salon H

Nearfield Modeling

Monday, February 1, 1:00p-6:00p
Grand Salon A

Gulf of Mexico Marine Assessment Program for Protected Species (GoMMAPPS) – Informational Meeting

Monday, February 1, 4:00p-6:00p
Grand Salon C

Overview and Status of Science Action Network

Monday, February 1, 5:00p-6:00p
Grand Salon F

Introduction to GRIIDC

Tuesday, February 2, 10:00a-10:30a
Wednesday, February 3, 3:00p-3:30p
Meeting Room 1

Data Managers Luncheon

Tuesday, February 2, 12:00p-1:30p
Meeting Room 1

State-of-Science for Dispersant Use in Arctic Waters

Tuesday, February 2, 12:30p-1:30p
Meeting Room 13

GRIIDC Data Submission

Tuesday, February 2, 3:00p-3:30p
Thursday, February 4, 10:00a-10:30a
Meeting Room 1

Environmental Disasters Data Management (EDDM)

Wednesday, February 3, 7:30a-8:30a
Meeting Rooms 5 & 6

GRIIDC Data Organization

Wednesday, February 3, 10:00a-10:30a
Meeting Room 1

Student Awards & Activities

GOMURC
GULF OF MEXICO UNIVERSITY RESEARCH COLLABORATIVE

The Gulf of Mexico University Research Collaborative (GOMURC) generously provided Student Presenter Awards, which covered registration fees for student presenters from GOMURC member institutions. Congratulations to the student awardees and thank you for presenting your research at the 2016 Gulf of Mexico Oil Spill and Ecosystem Science Conference! Thank you to GOMURC for helping student researchers to attend the conference!

GULF RESEARCH PROGRAM

National Academy of Sciences
National Academy of Engineering
Institute of Medicine
National Research Council

The conference thanks the NAS Gulf Research Program for their generous support of student activities and participation throughout the week.

James D Watkins Student Award for Excellence in Research

Two students will be recognized with the James D. Watkins Student Award for Excellence in Research for outstanding student presentations. The James D. Watkins Student Award for Excellence in Research strives to recognize outstanding research in order to cultivate the next generation of ocean scientists and encourage excitement for presenting their work. Thank you to the award judges for their assistance in evaluating student presentations and to the Consortium for Ocean Leadership for sponsoring this award!