

Third Anniversary of Deepwater Horizon Incident  
Conference On

“Louisiana Research Perspectives on  
the Deepwater Horizon 2010 Spill:  
*The Good, The Bad, & The Ugly*”

Consecutive Sessions and Poster Displays

Join us in discussions based on research generated to date with a strong focus on what has been learned and what new research questions this knowledge has generated. Four separate thematic sessions and a poster session will be held as part of the conference.

An evening dinner with a featured guest speaker will conclude the conference.

April 22, 2013

Lod Cook Conference Center  
3848 W. Lakeshore Drive, Baton Rouge, Louisiana

LSU

Organizing Committee

Thomas Klei, LSU  
Matthew R. Lee, LSU  
Kalliat Valsaraj, LSU  
Richard Shaw, LSU  
Christopher D'Elia, LSU

Conference Coordinator

Holly Carruth, LSU

# “Louisiana Research Perspectives on the Deepwater Horizon 2010 Spill: The Good, The Bad, & The Ugly”

## Conference Agenda - Monday, April 22, 2013

**Sunday, April 21**

Reception - 6:00 PM - 8:00 PM

**Monday, April 22**

7:30 AM – 8:00 AM

Registration, Poster Set-up and Continental Breakfast

**Welcome and Introduction to the Deepwater Horizon Oil Spill Conference**

**Noland Laborde**

8:00 AM – 8:30 AM

Stuart Bell, Executive Vice Chancellor & Provost, Louisiana State University

Thomas Klei, Interim Vice Chancellor, Office of Research & Economic Development, Louisiana State University

Kevin Shaw, Program Manager, Gulf of Mexico Research Initiative

**Plenary Sessions**

8:30 AM – 10:00 AM

**Session I: Fate of DH Crude Oil on Louisiana Environment**

**Noland Laborde**

Introduction: Ed Overton, LSU

Title: What happens if there is another oil spill in the Gulf of Mexico?

Speaker – Chris Reddy, Woods Hole Oceanographic Institute

**Session II – Impacts/effects of DH Crude on Louisiana Environments at Multiple Scales**

**Noland Laborde**

Introduction: Eugene Turner, LSU

Title: Oil in the Marine Ecosystem

Speaker – John Teal, Woods Hole Oceanographic Institute

10:00 AM – 10:15 AM

Break

**Concurrent Sessions**

10:15 AM – 12:00 PM

**Topic 1 - Fate of DH Crude Oil on Louisiana Environments**

**Cook**

Samuel Bentley, John White & John Pardue - Session Chairs

10:15 AM – 10:45 AM

Title: Multiscale modeling and simulation approach - possibilities and limitations

Speaker: Bala Balachandar, University of Florida

10:30 AM – 10:45 AM

Title: Assessing the effects of pulsed river diversions on oil transport in deltaic Louisiana estuaries -

Speaker: Dubravko Justic, LSU

10:45 AM – 11:00 AM

Title: Hydrocarbons in near shore coastal waters one year after Deepwater Horizon Oil Spill

Speaker: Ed Overton, LSU

11:00 AM – 11:15 AM

Title: Distribution and fate of surface oil residues on a coastal headland beach

Speaker: John Pardue, LSU

11:15 AM – 11:30 AM

Title: Hydrocarbon Solubilization - The proximate cause for follow-on processes that control oil material fate in deep water releases.

Speaker: Louis Thibodeaux, LSU



# “Louisiana Research Perspectives on the Deepwater Horizon 2010 Spill: The Good, The Bad, & The Ugly”

## Conference Agenda - Monday, April 22, 2013

11:45 AM – 12:00 PM	<p>Title: Distribution and Recovery Trajectory of Macondo 252 Oil in Louisiana Salt Marshes Speaker: Eugene Turner, LSU</p>
10:15 AM – 12:00 PM	<p><b>Topic 2 - Impacts/effects of DH Crude on Louisiana Environments at Multiple Scales</b> <span style="float: right;"><b>Anderson</b></span> Eugene Turner, Linda Hooper-Bui, Ferndano Galvez - Session Chairs</p>
10:15 AM – 10:30 AM	<p>Title: ZOOVIS-Deep: A high-resolution plankton imaging system with applications from estuaries to the deep-sea. Speaker: Mark Benfield, LSU</p>
10:30 AM – 10:45 AM	<p>Comparing toxicity among Macando crude and other Louisiana crude Speaker: Logan Boudreaux, LSU</p>
10:45 AM – 11:00 AM	<p>Title: Tissue-level, molecular, and reproductive measures of exposure and the effects of crude oil in Gulf killifish (<i>Fundulus grandis</i>) populations in the Barataria Bay Basin. Speaker: Benjamin Dubansky, LSU</p>
11:00 AM – 11:15 AM	<p>Title: Individually and Combined: Effects of Deepwater Horizon Water-In-Oil Emulsion and the Dispersant, Corexit, Upon Early Fish Development Speaker: Kevin Kleinow, LSU</p>
11:15 AM – 11:30 AM	<p>Title: Morphological and Molecular Evidence for Zebrafish Embryotoxicity Resulting from Direct Exposure to Deepwater Horizon Crude Oil Emulsions Speaker: Arthur Penn, LSU</p>
11:30 AM – 11:45 AM	<p>Title: Silent Spring Revisited: Insects and Spiders in Louisiana’s Saltwater Marshes after the Macondo Blowout Speaker: Linda Hooper-Bui, LSU</p>
12:00 PM – 1:00 PM	Lunch
<b>Plenary Sessions</b>	
1:15 PM – 2:45 PM	<p><b>Plenary Session III – Engineering/Energy/Economic Aspects</b> <span style="float: right;"><b>Noland Laborde</b></span> Introduction: K. Nandakumar Title: Response Zone Dynamics of the Deepwater Horizon Accident: Gas Dissolution, Subsurface Plume Formation, and Dispersant Effectiveness Speaker – Scott Socolofsky, Texas A&amp;M University</p>
	<p><b>Plenary Session IV – Social Sciences &amp; Public Health Aspects</b> <span style="float: right;"><b>Noland Laborde</b></span> Introduction: Matthew R. Lee, LSU Title: The Gulf of Mexico Oil spill: breaking down the silos in public health and ecosystem research Speaker – Maureen Lichtveld, Tulane University</p>
2:45 PM – 3:00 PM	Break

# “Louisiana Research Perspectives on the Deepwater Horizon 2010 Spill: The Good, The Bad, & The Ugly”

## Conference Agenda - Monday, April 22, 2013

### Concurrent Sessions

3:00 PM – 4:45 PM	<b>Topic 3 - Engineering/Energy/Economic Aspects</b> K. Nandakumar, John Smith & David Dismukes - Session Chairs	<b>Anderson</b>
3:00 PM – 3:30 PM	Title: Response Capabilities for Future Blowouts Based on Past Gulf of Mexico Incidents Speaker: Louise Smith, Shell	
3:30 PM – 3:50 PM	Title: Aerosolization of Oil Spill Matter via Bursting Bubbles Speaker: Franz Erenhauser, LSU	
3:50 PM – 4:10 PM	Title: Simulations of Oil Plume Trajectory in a Cross-flow Speaker: Pranaya Pokhare, LSU	
4:10 PM – 4:30 PM	Title: Clay nanotubes - natural abundantly available material for oil sorption Speaker: Yuri Lvov, La Tech	
4:30 PM – 4:50 PM	Title: Satellite-observed surface oil motion, drifter and ADCP data yields new perspectives on Gulf circulation processes Speaker: Nan Walker, LSU	
3:00 PM – 4:45 PM	<b>Topic 4 - Social Sciences &amp; Public Health Aspects</b> Matthew R. Lee - Session Chair	<b>Cook</b>
3:00 PM – 3:30 PM	Title: The BP Oil Spill Before and After, The Truth Not The Commercials Speaker: George Barisich, President of the United Commercial Fisherman’s Alliance	
3:30 PM – 3:50 PM	Title: Health Impacts from the BP Deepwater Horizon Disaster: Understanding the Role of Time, Community Attachment, and Natural Resource Employment Speaker: Tim Slack, LSU	
3:50 PM – 4:10 PM	Title: Disasters are associated with interpersonal distress and threats to health Speaker: Katie Cherry, LSU	
4:10 PM – 4:30 PM	Title: Spatial Aspects of the impacts on business performance resulting from the DWH Spill Speaker: Kelley Pace, LSU	
4:30 PM – 4:50 PM	Title: Inherent Resilience and Oil Spills in Coastal Louisiana Speaker: Craig Colten, LSU	
4:45 PM – 5:00 PM	Break	
5:00 PM – 6:00 PM	<b>Poster Session</b>	<b>Abell</b>
6:30 PM – 8:30 PM	Dinner Introduction: Kalliat T. Valsaraj, LSU Speaker: Chuck Wilson, Chief Scientific Officer, Gulf of Mexico Research Initiative	



# “Louisiana Research Perspectives on the Deepwater Horizon 2010 Spill: The Good, The Bad, & The Ugly”

Posters - Monday, April 22, 2013 - Time: 5:00 PM - 6:00 PM - Location: Abell

1. Enhancing LSUs capability to quantify and interpret the distribution and abundance of zooplankton and ichthyoplankton in relation to the MC252 spill.  
Authors: Mark Benfield and Malinda Sutor
2. Developmental Impacts of Macondo-252 crude and Corexit-9500 on the embryogenesis of the Gulf killifish, *Fundulus grandis*  
Author: Charles Brown
3. After the British Petroleum Oil Spill: On Cumulative Adversity and Psychological Well-Being in Commercial Fishers from South Louisiana  
Author: Katie Cherry
4. Impacts of washover events on fate and distribution of MC252 oil in a coastal system.  
Authors: David Curtis, Vijai Elango and John Pardue
5. Biodegradability of MC252 oil across a tidal gradient on a coastal headland beach.  
Authors: Vijai Elango, Marilany Urbano and John Pardue
6. Composition and structure of northern Gulf of Mexico bacterioplankton communities prior to the DWH oil spill: a baseline analysis.  
Authors: G.M. King, Conor Smith and Craig Judd
7. Water-In-Oil Emulsion Elicits Fish Developmental Toxicity Following Prolonged Washout  
Author: Kevin Kleinow
8. Evaluation of bioindicators to assess oyster health following oil exposure  
Authors: Jerome La Peyre, Sandra Casas and Scott Miles
9. Waves and Currents Along Louisiana Coast During and After DWH Oil Spill: WAVCIS Overview  
Authors: C. Li, B. Liu, B. Gibson, N. Rabalais, Peter Luo, H. Lin
10. Effects of Deepwater Horizon Oil Spill on Coastal Salt Marshes and Subsequent Recovery  
Authors: Qianxin Lin and Irving A. Mendelssohn
11. Shrimp Species Identification and Assessment by Mass Spectrometry Fingerprinting  
Author: Kermit Murray
12. Acute Toxicity of surfactants and chemical products, including COREXIT, to larvae of Gulf killifish, *Fundulus grandis*  
Author: Andrew Nyman
13. Title Requested  
Authors: Kelley Pace, Nina Lam, Margaret Reams, and R. Campanella
14. Biodegradation of emulsified MC252 crude oil in salt marshes  
Authors: John H. Pardue and Vijai Elango
15. Effects of 2010 BP-Macondo Oil Spill on Wetland Soil Denitrification Potential  
Authors: J.P. Pietroski, R.D. Delaune, and J.R. White
16. Understanding the dynamics of an oil droplet rising in quiescent water column  
Authors: Abhijit Rao, Rupesh Reddy Guntaka, K. Nandakumar, Franz Ehrenhauser and K.T. Valsaraj
17. Nutrient impacts on biodegradation of MC252 crude oil in a salt marsh  
Authors: Matthew Rodrigue, Vijai Elango and John Pardue
18. Degradation of Crude Oil from BP's DH Accident Studied by Synchrotron-Based Techniques  
Author: Amitava Roy
19. Molecular ecological analysis of the distribution and diversity of northern Gulf of Mexico alkane-degrading bacteria.  
Authors: Conor Smith, Craig Judd and G.M. King
20. Investigating the Potential Ecological Impacts of the Deepwater Horizon Oil Spill and the Biologically-mediated Mechanisms of Removal of Polycyclic Aromatic Hydrocarbons (PAHs)  
Author: Malinda Sutor
21. Deepwater Oil Spill Scenarios Development and Their Risk Analysis  
Authors: Muhammad Zulqarnain and Mayank Tyagi
22. Functional Capabilities and Capacity Sizing of a Subsea Capping Stack  
Authors: Muhammad Zulqarnain, Mayank Tyagi, and John R. Smith
23. Effect of biosurfactant and redox conditions on oil hydrocarbons degradation in saline marsh soils  
Authors: Jim Wang
24. Biogeochemical controls on fate of subsurface oil mats on a coastal headland beach  
Author: Autumn Westrick
25. Heavy Metal Analysis of Northern Gulf of Mexico White Shrimp Harvested Following the Deepwater Horizon Oil Spill  
Authors: Patricia M Williams PhD, DABT, Bhaskar Kura, PhD, PE, Charles David Day, Suruchi Verma
26. Oil Spill Topic Map and Taxonomy  
Author: Yejun Wu

# “Louisiana Research Perspectives on the Deepwater Horizon 2010 Spill: The Good, The Bad, & The Ugly”

## Conference Agenda - Monday, April 22, 2013

We would like to thank the following for making this conference possible:

The Office of Research & Economic Development

School of the Coast & Environment

College of Engineering

College of Science

College of Humanities & Social Sciences

Gulf of Mexico Research Initiative

The book to the right outlines the mobilization of LSU’s assets in response to the national disaster. The coordination efforts to facilitate scholarly work related to the spill, the communication efforts to ensure timely and accurate sharing of information, the science behind the spill, and the lessons learned from this truly incredible experience are conveyed to the reader to both preserve this moment in time and to guide those who find themselves facing adversity in the future. The volume closes with a set of vivid reflections from key players who were instrumental in fostering the response.

An emergent theme of this volume is that there simply is no other type of institution in American society that is capable of launching such an enormous research and outreach effort. World-class research universities like LSU have assets and expertise across a spectacular array of scholarly fields. The LSU community put this expertise to good use and responded to this challenge with incredible determination and commitment. We hope that the residents of Louisiana and our alumni all over the world have a chance to read this volume and hear the tale of how LSU, their University, proactively responded to this incredible challenge.

