WELCOME

Subsea Blowout Modeling Workshop

November 27 - 28, 2012
Subsea Blowout Modeling Workshop

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Evan Variano
UC Berkeley
Subsea Blowout Modeling Workshop

November 27 - 28, 2012

Nancy E. Kinner
University of New Hampshire
THANK YOU
for Participating!

25+ at Berkeley
10 Remotely
Logistics

- Fire Exits
- Restrooms
- Dining: breakfasts, lunches & breaks
  - Faculty Club: Breakfasts and dinner
  - Lunches: Here
  - Breaks: Coffee shop down hallway
- Cellphones: Prefer off, at least silent
- Internet: Passes at check-in
  - Not on internet during workshop discussions
Introduction

• Here to facilitate workshop
• UNH Director: Coastal Response Research Center (CRRC)
  • NOAA funded partnership since 2004
• Director: Center for Spills in the Environment (CSE)
  • Funds from all non-NOAA entities
  • This workshop facilitation under CSE
    • Outreach donation
CRRC and CSE Missions

• Conduct and Oversee Basic and Applied Research and Outreach on Spill Response and Restoration
• Transform Research Results into Practice
• Serve as Hub for Oil Spill R&D
• Educate/Train Students Who will Pursue Careers in Spill Response and Restoration
• Facilitate discussions among all stakeholders in oil spill community to solve problems
Facilitation Pledge

• I will recognize and encourage everyone to speak
• I will discourage side conversations
• I commit to:
  • Being engaged in meeting
  • Keeping us on task and time
  • Being neutral, fair, kind, and faithful to the process
• Stop me if I am not doing this!
Integrated Modeling Workshop
September 2006

Bring experts from diverse fields together with NOAA OR&R scientists to discuss how to improve and integrate trajectory fate and effects forecasting capabilities

http://www.crrc.unh.edu/fall_institute/
CRRC - Modeling Background:

Modeling Working Group
2007-2011

Brings modelers together to discuss common elements, state-of-the-art models in use, and discover ways to improve spill response modeling

http://crrc.unh.edu/mwg/index.html
Modeling Working Group

- Ceased meeting after May 2011
- Members overtaking by Deepwater Horizon
- Biological Effects subgroup issues with DWH
- Natural Resource Damage Assessment
- Funding to model upgrades
  - e.g., NOAA GNOME and ADIOS
- Need further development of subsea blowout models
Tuesday Morning

Tuesday, November 27

Background: Introduction of Workshop goals, review of response modeling needs, summary of the existing operational response models and their future directions.

8:00 am  Registration

8:30 am  Welcome and Logistics
  • Nancy Kinner, University of New Hampshire, Coastal Response Research Center
  • Evan Variano, University of California, Berkeley

8:40 am  Background and Goals of Workshop
  • Scott Socolofsky, Texas A&M University

8:55 am  Participant Introductions
  (Name, Affiliation, Broad Modeling Approach/Plan, Individual’s Goals for Workshop)

9:15 am  Goals and Uses of Operational Subsea Blowout Models
  • Chris Barker, NOAA Office of Response and Restoration

9:30 am  Future Directions of Existing Modeling Platforms I (30 minutes each)
  • GNOME – NOAA Office of Response and Restoration

10:30 am  Break

10:45 am  Future Directions of Existing Modeling Platforms II (30 minutes each)
  • OSCAR – SINTEF
  • ERO3S – U.S. Environmental Protection Agency

11:45 am  Lunch
Tuesday Afternoon

Plenary Discussion of Topic Areas: The workshop participants will discuss together in an open forum five topic areas related to subsea blowout dynamics and modeling. A panel of experts in each topic will lead the topic discussion. The panel will introduce each topic in a brief presentation covering:

12:45 pm  Topic 1: Initial Droplet Size
   - Panel: Steven Masutani (University of Hawaii), Michel Boufadel (New Jersey Institute of Technology), Øistein Johansen (SINTEF)

1:45 pm  Topic 2: Plume Models
   - Panel: Scott Socolofsky (Texas A&M University), E. Eric Adams (Massachusetts Institute of Technology), Øistein Johansen (SINTEF)

2:45 pm  Break

3:00 pm  Topic 3: CFD Models
   - Panel: Thorsten Stoesser (Cardiff University), Tamay Ozgokmen (University of Miami), Ruoying He (North Carolina State University)

4:00 pm  Open Discussion
   - Scott Socolofsky (Moderator)
     Summarize key open research questions, key collaborations, and review action items for Wednesday workgroups

4:45 pm  Adjourn Day 1

6:30 pm  Dinner
   Group Dinner, venue to be announced (Pay your own way)
Wednesday, November 28

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<tr>
<th>Time</th>
<th>Event</th>
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<tr>
<td>8:30 am</td>
<td>Recap of Day 1 and Overview of Day 2</td>
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<td>• Nancy Kinner, University of New Hampshire, Coastal Response Research Center</td>
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<tr>
<td>8:45 am</td>
<td>Plenary Session Invited Talk “Biological Effects Modeling” Presented by Applied Science Associates</td>
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<td>9:15 am</td>
<td>Topic 4: Lagrangian Models</td>
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<td>• Panel: E. Eric Adams (Massachusetts Institute of Technology), Elizabeth North (University of Maryland), Claire Paris (University of Miami)</td>
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<td>10:15 am</td>
<td>Break</td>
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<tr>
<td>10:30 am</td>
<td>Topic 5: Fate Modeling (state equations, dissolution, degradation etc.)</td>
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<td>• Panel: Ira Leifer (University of California, Santa Barbara), Scott Socolofsky (Texas A&amp;M University), Jonathan Levine (Colorado School of Mines)</td>
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<td>11:30 am</td>
<td>Lunch</td>
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### Wednesday Afternoon

<table>
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| 12:30 pm | Working Group Sessions<br>Workshop participants will break up into smaller working groups to address the action items identified in the plenary discussions. In general, the workgroups will follow the plenary topics and address the following:  
  - Respond to action items identified during the Plenary discussion  
  - Identify specific gaps in R&D  
  - Summarize research and collaboration opportunities, to share with the broader community  
  - Summarize recommended action items to share with the broader community  
  - Outline path forward |
| 2:30 pm | Break                                                      |
| 2:45 pm | Plenary Discussion of Working Group Outcomes  
  - Nancy Kinner (Moderator) |
| 3:45 pm | Plenary Discussion: Recommendations for Improving Upcoming and Future Field Experiments  
  - Scott Socolofsky (Moderator) |
| 4:15 pm | Closing Discussion to Address Path Forward  
  - Scott Socolofsky (Moderator) |
| 4:45 pm | Adjourn Workshop                                           |
Workshop Background and Goals

Scott Socolofsky
Texas A&M
Participant Introductions

• Name
• Affiliation
• Broad Modeling Approach/Plan
• Your Goals for Workshop
Goals and Uses of Operational Subsea Blowout Models

Chris Barker

NOAA

Office Response and Restoration
Overview of Existing Modeling Platforms

Scott Socolofsky
Texas A&M