

Final Agenda
First Annual Oceans & Human Health Center Directors' Meeting
Rosenstiel School of Marine & Atmospheric Sciences (RSMAS)
University of Miami
Miami, FL

Thursday January 27, 2005

7:30 a.m. **-SHUTTLE FROM MUTINY HOTEL TO RSMAS-**

7:45 a.m.-8:15 a.m. **-BREAKFAST AT RSMAS SLAB SEMINAR ROOM-**

8:15 a.m.-8:45 a.m. **LOCATION: SLAB SEMINAR ROOM**

Welcome & Introductions (Drs Fleming & Smith, and Dean Otis Brown- University of Miami)

The NSF-NIEHS Oceans & Human Health Program

Don Rice, NSF
Fred Tyson, NIEHS

Morning: OHH Center Investigators (10 minute talks with 5 minutes for Q&A)

8:45 a.m.-9:00 a.m. **HABs-** University of Washington: Elaine M. Faustman "Overview"

9:00 a.m.-9:15 a.m. **HABs-** University of Washington: Gabrielle Rocap "Toxic Algae Research Project"

9:15 a.m.-9:30 a.m. **HABs-** University of Washington: Allan Devol "Environment Facility Core"

9:30 a.m.-9:45 a.m. **HABs-** University of Washington: Clem Furlong "Biosensors Facility Core"

9:45 a.m.-10:00 a.m. **-BREAK- AT SLAB SEMINAR ROOM**

10:00 a.m.-10:15 a.m. **HABs-** Woods Hole Oceanographic Institute: Don Anderson "Alexandrium population biology in the Gulf of Maine" Co-Authored by Deana Erdner


10:15 a.m.-10:30 a.m. **HABs-** Woods Hole Oceanographic Institute: Dennis McGillicuddy "Modeling Alexandrium populations"

10:30 a.m.-10:45 a.m. **HABs-** University of Miami: Larry Brand "Toxic HABs"

10:45 a.m.-11:00 a.m. **HABs-** University of Miami: Douglas Crawford "HAB Genomics: *Karenia brevis*"

11:00 a.m.-11:15 a.m. **HABs-** University of Hawaii: Paul Bienfang "Ciguatera Fish Poisoning Research Focus at the University of Hawaii"

11:15 a.m.-11:30 a.m. **Microbes-** Woods Hole Oceanographic Institute: Rebecca Gast "Coastal Distribution of Human Parasites"

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- 11:30 a.m.-11:45 p.m. Microbes- Woods Hole Oceanographic Institute: Martin Polz “Evolutionary and ecological emergence of the marine bacterial pathogens *Vibrio vulnificus* and *V. parahaemolyticus*”
- 11:45 a.m.-12:00 p.m. Microbes- University of Miami: Helena Solo-Gabriele “Recreational Microbes”
- 12:00 p.m.-12:15 p.m. Microbes- University of Hawaii: Roger Fujioka “Microbial ecology explains why alternative fecal indicators and alternative recreational water quality standards are needed for Hawaii and other tropical regions”
- 12:15 p.m.-12:30 p.m. **Bio-Active Natural Products** - University of Hawaii: Thomas Hemscheidt “New Microorganisms as Sources of New Natural Products”
- 12:30 p.m.-1:30 p.m. **-LUNCH- AT SLAB SEMINAR ROOM**
- 12:30 p.m.-1:30 p.m. **WORKING LUNCH FOR CENTER DIRECTORS, DR. TYSON, AND DR. RICE in DEAN’S CONFERENCE ROOM**

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| 1:30 p.m.-3:00 p.m. | Break-Out Meeting-Theme: HABs , Facilitator: Sharon Smith at Library Map & Chart Room |
| | -OR- |
| 1:30 p.m.-3:00 p.m. | Break-Out Meeting-Theme: Microbes , Facilitator: Ric Yanagihara at SLAB Seminar Room |

- 3:00 p.m.-3:30 p.m. **-BREAK- AT SLAB SEMINAR ROOM**
- 3:30 p.m.-5:00 p.m. Break-Out Meeting-Report (Plenary) at SLAB Seminar Room
- 5:00 p.m. **SHUTTLE FROM RSMAS TO MUTINY HOTEL AND FREE TIME (MEET AT FLAGPOLE)**
- 5:00 p.m.-5:30 p.m. Center Directors’ Meeting-Directors only at Dean’s Conference Room
- 6:30 p.m. **SHUTTLE PICK-UP AT MUTINY HOTEL TO PORCAO RESTAURANT**
- 7:00 p.m.-7:30 p.m. **COCKTAILS AT PORCAO RESTAURANT (Cash Bar)**
- 7:30 p.m.-9:00 p.m. **DINNER AT PORCAO RESTAURANT (Cash Bar)**
- 9:00 p.m. **SHUTTLE BACK TO MUTINY HOTEL**

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Friday January 28, 2005

7:00 a.m. **-SHUTTLE FROM MUTINY HOTEL TO RSMAS-**

7:30 a.m.-8:00 a.m. **-BREAKFAST AT RSMAS SLAB SEMINAR ROOM-**

Morning: SLAB SEMINAR ROOM
Guest Speakers (20 minute talks with 10 minutes for Q&A)

8:00 a.m.-8:30 a.m. Guest Speaker: Al Dufour (EPA) "Recreational Water Quality & Health Effects in Swimmers" (Ed Laws to introduce)

8:30 a.m.-9:00 a.m. Guest Speaker: Juli Trtanj (NOAA) "NOAA OHH Program" (Kelly Goodwin to introduce)

9:00 a.m.-10:30 a.m. Break-Out Meeting-Theme: **Models**, Facilitator: Dennis McGillicuddy in Seminar Room -OR-

9:00 a.m.-10:30 a.m. Break-Out Meeting-Theme: **Genomics**, Facilitator: Elaine M. Faustman and Gabrielle Rocap in Library Map & Chart Room

10:30 a.m.-10:45 a.m. **-BREAK- AT SLAB SEMINAR ROOM**

10:45 a.m.-11:45 p.m. Break-Out Meeting-Report (Plenary) at SLAB Seminar Room

11:45 a.m.-12:45 p.m. **-WORKING LUNCH-AT SLAB SEMINAR ROOM**

11:45 a.m.-12:00 p.m. Paul Sandifer (NOAA) Hollings Marine Lab –"The History of NOAA OHH"

12:00 p.m.-12:15 p.m. Fred Holland (NOAA) Hollings Marine Lab "Oceans and Human Health Activities at the Hollings Marine Laboratory"

12:15 p.m.-12:30 p.m. Stephen Brandt (NOAA) Great Lakes Environmental Research Lab "NOAA's Center of Excellence for Great Lakes and Human Health"

12:30 p.m.-12:45 p.m. John Stein (NOAA) Seattle Center Environmental Research Lab "Oceans and Human Health Activities at the NW Fisheries Science Center: An Overview".

Afternoon:
Guest Speakers (20 minute talks with 10 minutes for Q&A)

12:45 p.m.-1:15 p.m. Guest Speaker: Eric Mathur (Diversa) "High ThruPut Cultivation for Natural Product Discovery" (Ed Laws will introduce)

1:15 p.m.-1:45 p.m. Guest Speaker: Lorrie Backer (CDC) "Epidemiology for Oceans & Human Health" (Lora Fleming will introduce)

1:45 p.m.-2:00 p.m. **-BREAK-AT SLAB SEMINAR ROOM**

2:00 p.m.-3:30 p.m. Break-Out Meeting-Theme: **Bio-Active Natural Products**, Facilitator: Ed Laws at SLAB Seminar Room

-OR-

2:00 p.m.-3:30 p.m. Break-Out Meeting-Theme: **Epidemiology**, Facilitator: Lora Fleming at Library Map & Chart Room

3:30 p.m.-4:30 p.m. Break-Out Meeting-Report (Plenary) at SLAB Seminar Room

Issues & Administration (Group Discussion) SLAB Seminar Room

4:30 p.m.-5:15 p.m. Database & Information- Facilitator: Elaine M. Faustman & William Griffith

5:15 p.m. - 6:00 p.m. Future Directions- Facilitator: John Stegeman

6:00 p.m.-7:30 p.m. **RECEPTION WITH RSMAS COMMUNITY AT COMMONS (Cash Bar)**

6:30 p.m. & 7:30 p.m. **SHUTTLES FROM RSMAS TO MUTINY HOTEL**

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Questions for Break-Out Meetings 1/27 and 1/28 (In order scheduled):

Theme: HABs, Facilitator: Sharon Smith

What is the ongoing and proposed HAB research at the Centers?

What are some of the key current issues and challenges in HABs research that the Centers are addressing or missing?

What are possible resources for HAB research which could be shared across the Centers and what additional resources are needed?

What are the HAB database needs across the Centers?

How can HAB research be integrated with the Recreational Microbes and Natural Products Development research?

Other HAB Questions:

How are the Centers addressing the issue that there is something fundamentally different ecologically about toxic algae compared to non-toxic algae? What causes HAB blooms and toxin production?

What are the similarities and differences in the ecological settings of different HABs?

What are the similarities and differences in the life cycles and seasonality of different HABs?

Are HABs increasing in occurrence and/or intensity?

Evolutionarily, what is the function of HAB toxins?

What role do species interactions play in HABs?

How can we further quantify the impact of HABs on humans and other animals as well as the environment?

What evidence is there that HABs and their toxins can cause chronic disease in humans and other animals?

Theme: Microbes, Facilitator: Ric Yanagihara

Novel methods to detect and quantitate disease-causing microbes and/or surrogates of pathogenic bacteria in the marine environment. For example, nucleic acid hybridization using microarray technology, flow cytometry, and electrochemistry.

Epidemiology of water-borne diseases, particularly those caused by methicillin-resistant *Staphylococcus aureus* and *Vibrio* species.

Reassessment of EPA standards for recreational water quality in tropical and subtropical marine coastal environments.

Theme: Models, Facilitator: Dennis McGillicuddy
Modeling Working Group

Existing modeling components

HABs

WH

MIA

PNW?

Microbes

WH

MIA

What are the opportunities for synergy amongst ongoing modeling activities?

Are there specific modeling needs in any of the centers that are not being met?

Population dynamics models for target species

Detailed hydrodynamics of nearshore regions

Coupling with the coastal ocean and interactions amongst multiple scales

If so, what steps could be taken to foster modeling initiatives to fill the perceived gaps?

Theme: Genomics, Facilitator: Elaine M. Faustman and Gabrielle Rocap

What genomic resources are available?

What genomic resources would the Centers like to have available?

Are there common sequence needs?

Can we work collectively to obtain/optimize these resources?

Are there methodological approaches that could be shared/optimized across the Centers?

How will center investigators integrate “omic” information? How will they translate observations obtained at the DNA, RNA, and protein assessment level and integrate this information with organism level and ecosystem responses? Do we have a common framework?

Theme: Bio-Active Natural Products, Facilitator: Ed Laws

What sorts of drugs are we especially looking for, and is there any reason to target particular environments or kinds of organisms for these drugs?

What are the relative merits of trying to mass culture promising microbes versus identifying and transferring relevant genes to easily cultured microbes or producing compounds through chemical synthesis?

Are we missing any important screens?

Theme: Epidemiology, Facilitator: Lora Fleming

What is the ongoing and proposed epidemiologic research in HABs, Recreational Microbes and Natural Products Development at the Centers?

What are some of the key current epidemiologic issues and challenges in HABs, Recreational Microbe and Natural Products Development research that the Centers are addressing or missing?

What are possible resources for epidemiologic research which could be shared across the Centers and what additional resources are needed?

How can we work to integrate the scales and information of oceanographic data and modeling with epidemiologic research?

What are the epidemiologic database needs across the Centers?

How can we work collectively in epidemiologic research to impact public health, clinical care and environmental regulation for both HABs and Recreational Microbes?

Theme: Database and Information, Facilitator: Elaine M. Faustman & William Griffith

How should the Center facilitate data sharing, common data analysis?

Are there common projects that would benefit specifically from data sharing?

What questions would we answer better collectively by data sharing?

Are the Centers interested in defining common cross-disciplinary vocabulary to facilitate data sharing?

Can we use our website for facilitating our data sharing/analysis?

Given questions in variability, how do you optimize sampling in terms of study design, analysis and interpretation?

How do we handle issues of scale (e.g. time, space, etc) between the data of the different disciplines?

Is there a demonstration product that we can do across the Centers to illustrate these Database issues?

Theme: Future Directions, Facilitator: John Stegeman

How to accomplish Inter-Center Interactions?

What are most-needed future research directions in HAB or pathogen research?

Can we forecast changes in toxicity and pathogenicity?

How can emerging issues in HAB and pathogens be identified and incorporated into existing Centers?

Can we extrapolate data and models to other locations and environments?

Can information/tools be made available in circumstances involving severe disruption in coastal zones, worldwide?

Is technology transfer an important part of our remit?

How to accomplish Inter-Agency cooperation?

How to accomplish interactions with scientists in Europe?