

Ocean Carbon & Biogeochemistry (OCB) Summer Workshop

June 25-28, 2018 (Woods Hole Oceanographic Institution)

WORKSHOP AGENDA

MONDAY, JUNE 25

7:00-8:30 Shuttle looping from Holiday Inn and Inn on the Square with stop at Quissett Campus parking lot (shuttle stop will be marked)

7:30-9:00 Breakfast

Welcome remarks

9:00-9:10 Mark Abbott (President & Director, WHOI)

9:10-9:20 Bethany Jenkins (Chair, OCB Scientific Steering Committee)

9:20-9:30 Heather Benway (Executive Officer, OCB Project Office)

PLENARY SESSION - Evolutionary insights on marine organism response to climate change: How past and contemporary evolution are shaping the future

9:30-9:55 Rapid evolutionary responses of phytoplankton in fluctuating environments: Slime flies when you are having fun (Elisa Schaum, Univ. Hamburg)

9:55-10:20 Competition, trade, and the economics of changing marine microbial ecosystems (Jeff Morris, Univ. Alabama)

10:20-10:45 What goes around comes around: Connectivity and microevolution in the plankton (Tatiana Rynearson, Univ. Rhode Island)

10:45-11:15 Break

11:15-11:40 Is it who you are or what you do? Evolution of metabolic function shapes ocean biogeochemistry in a gene-based model (Victoria Coles, UMCES)

11:40-12:00 Questions and discussion

12:00-1:30 Lunch

1:30-3:00 **Student/postdoc lightning session**

3:00-3:30 Break

3:30-4:30 **Agency updates and Q&A (NOAA, NASA, NSF)**

4:30 Workshop shuttles transport participants to Clark building, Quissett Campus

5:00-7:30 **Poster Session 1 and Welcome Reception** (Clark 507)

7:00-8:00 Shuttles transport participants back to their hotels (Inn on the Square, Holiday Inn, Sands of Time)

TUESDAY, JUNE 26

7:00-8:30 Shuttle looping from Holiday Inn and Inn on the Square with stop at Quissett Campus parking lot (shuttle stop will be marked)

7:30-9:00 Breakfast

Community updates

9:00-9:15 **2nd International Indian Ocean Expedition (IIOE2) and U.S. Indian Ocean Science Workshop** (Raleigh Hood, UMCES)

9:15-9:30 **Multiple Stressors Best Practices Guide** (Philip Boyd, Univ. Tasmania)

PLENARY SESSION – *Phytoplankton physiological engines of biogeochemical models*

9:30-9:55 Modeling acclimation and adaptation of photosynthesis in microalgae and cyanobacteria (Richard Geider, Univ. Essex)

9:55-10:20 Interactions matter: phytoplankton physiological responses to simultaneous (micro)nutrient limitations and multiple stressors (Erin Bertrand, Dalhousie)

10:20-10:45 Understanding and predicting the regulation of ocean C:N:P and export production (Adam Martiny, UC Irvine)

10:45-11:15 Break

11:15-11:40 Physiological diversity matters: A modeling perspective (Stephanie Dutkiewicz, MIT)

11:40-12:00 Questions and discussion

Community updates

12:00-12:15 **NASA PACE Mission** (Antonio Mannino, NASA GSFC)

12:15-12:30 **Biogeochemical-Argo** (Matthew Mazloff, SIO)

12:30-2:00 Lunch

PLENARY SESSION – *The world of microzooplankton: Ocean carbon movers and shakers*

2:00-2:25 PUAs: Impact on microzooplankton grazing, growth and mortality due to predation (Diane Stoecker, UMCES)

2:25-2:50 Preliminary tests of a saturation approach to determine grazing rates and why it might be useful (Steve Archer, Bigelow)

2:50-3:15 The ecological and biogeochemical implications of marine mixotrophy (Ben Ward, Univ. Southampton)

3:15-3:40 Emerging roles of protists in deep ocean and O₂-depleted marine habitats and Implications for carbon and other nutrient cycling (Virginia Edgcomb, WHOI)

3:40-4:00 Questions and discussion

4:00-5:30 **Coffee and OCB Networking Session** (Redfield tent)

4:45 Shuttles start returning participants to Clark parking lot (Quissett Campus), Holiday Inn, and Inn on the Square

Dinner on your own

WEDNESDAY, JUNE 27

- 7:00-8:30 Shuttle looping from Holiday Inn, Inn on the Square, and Sands of Time to bring participants to Clark building (Quissett Campus)
- 7:30-9:30 **Breakfast and Poster Session 2** (Clark 507)
- 9:00-9:45 **National Ocean Sciences Accelerator Mass Spectrometry Facility Tour** (Quissett Campus, limited to those who signed up)
- 9:00 Shuttle starts transporting participants from Clark building (Quissett Campus) to Redfield for plenary session (coffee available at Redfield)

PLENARY SESSION - A tale of two poles: Arctic and Antarctic responses to global change ***Chasing the new normal: Biogeochemical and ecosystem responses to Arctic change***

- 10:00-10:25 Increased fluxes of shelf-derived materials to the central Arctic Ocean (Lauren Kipp, WHOI)
- 10:25-10:50 Recent changes in phytoplankton productivity and phenology in the Arctic Ocean (Mathieu Ardyna, Stanford Univ.)
- 10:50-11:15 Use of profiling floats for real-time in-situ observations in the Arctic (Pelle Robbins, WHOI)
- 11:15-11:40 Subtropical symbiotic cyanobacteria fix N₂ in Arctic waters: What does it all mean? (Jon Zehr, Univ. California, Santa Cruz)
- 11:40-12:00 Questions and discussion
- 12:00-1:30 Lunch

Defining normal: Biogeochemical and ecosystem understanding of the Southern Ocean

- 1:30-1:55 Exchange, change, and rearrange: Dynamic ecosystem processes along the Western Antarctic Peninsula (Jeff Bowman, SIO)
- 1:55-2:20 Sub-seasonal variability in driving physical and biogeochemical dynamics in the Southern Ocean (Magdalena Carranza, SIO)
- 2:20-2:45 Estimating normal: Synthesizing the SOCCOM array with an ocean model (Matthew Mazloff, SIO)
- 2:45-3:10 BESO(ME): Biogeochemistry and Ecology of the Southern Ocean (and Mode water Export) (Barney Balch, Bigelow Laboratory)
- 3:10-3:30 Questions and discussion
- 3:30-4:00 Shuttle transport participants from Redfield to Quissett Campus and hotels
- 3:30-6:30 Free time until dinner (coffee will be available under the tent)
- 3:45-5:30 **Agency program manager panel with early career scientists** (Smith Conference Room, Woods Hole Village)
- 5:45 Shuttle starts looping from hotels with stop at Quissett parking lot to workshop dinner
- 6:30-9:00 **Workshop Dinner** (Redfield tent)
- 8:00-9:30 Shuttle transports participants back to Quissett parking lot and hotels

THURSDAY, JUNE 28

7:00-8:30 Shuttle looping from Holiday Inn and Inn on the Square with stop at Quissett Campus parking lot (shuttle stop will be marked)

7:30-8:45 Breakfast

PLENARY SESSION - *It's about time: Insights from long-term marine ecological monitoring programs*

8:45-9:10 Integrating biological and environmental time series to understand and manage changing marine ecosystems (Gabrielle Canonico, NOAA IOOS)

9:10-9:35 Linking pelagic community structure with ecosystem dynamics and production regimes on the changing Northeast US Shelf (Heidi Sosik, WHOI)

9:35-10:00 Two decades of monthly biophysical sampling of the coastal ocean off Newport, Oregon and how this informs fisheries (Jennifer Fisher, NOAA NWFSC)

10:00-10:25 Break

10:25-10:50 Climate and bottom up forcing of phytoplankton biomass and primary production in the southern California Current System (Ralf Goericke, SIO)

10:50-11:15 Biogeochemical variability linked to sea surface height and mesoscale dipoles in the North Pacific Subtropical Gyre (Benedetto Barone, Univ. Hawaii)

11:15-11:40 Climate variability and change: Time series observations from a coastal ocean (Francisco Chavez, MBARI)

11:40-12:05 From here to eternity: What's in store for time-series? (Laura Lorenzoni, NASA/Univ. South Florida)

12:05-12:30 Questions and discussion

12:30 **Closing remarks, adjourn meeting**

12:45 Lunch

1:00 Shuttles start transporting participants back to Quissett parking lot and hotels

1:30 **OCB Scientific Steering Committee Meeting** (SSC members and agency representatives only) in Watson 201 (Quissett Campus)