

Agenda

The Molecular Biology of Biogeochemistry Workshop: Using molecular methods to link ocean chemistry with biological activity

Wilshire Grand Hotel, Los Angeles, CA

November 8-10, 2010

Monday, November 8

730 Breakfast

845 Introduction Jim Moffett

915 Mak Saito - CoFeMug an integrated Biogeochemical Section

945 Bob Morris - CoFEMug proteomics

1015 Break

1030 Adam Martiny - Relating genotypic diversity to specific chemical and physical parameters

1100 Eric Webb - Functional genomics: Controls on *Trichodesmium* N fixation

1130 Jed Fuhrman - Whole microbial community structure, from viruses to protists, and their interactions

1200 Lunch

1300 Ginger Armbrust - Functional Genomics II Probing controls on C fixation by eukaryotes

1330 Bethany Jenkins - Eukaryotes and Fe

1400 Karla Heidelberg - Eukaryote genomics and metagenomics

1430 Bess Ward - Molecular and geochemical tools combined to study the N cycle in OMZs

1500 Break

1545 Steve Giovanonni – Sar11 genomics and proteomics - focus on the processes and genes

1615 Dave Hutchins - Role of molecular biology in assessing the effects of climate change on marine ecosystems

1645 Plenary Discussion Breakout Section for Tues AM. *Discussion Leader: Jim Moffett*

Breakout Theme I: Identifying and prioritizing what properties of microbial assemblages we need to characterize to compliment chemical measurements within the framework of a sectional survey program.

1. Nutrient/micronutrient limitation of large phytoplankton that are important in C export (Arrigo, Armbrust)
2. Physical and chemical controls on the N cycle, including chemoautotrophy (Ward, Ingalls)

3. Evolution of functional groups across physical and chemical gradients (Martiny, Webb)
4. Physical and chemical determinants of overall change in microbial community structure (Fuhrman, Giovanonni).

1800 Meeting Adjourns

Tuesday, November 9

0730 Breakfast

0830 Breakout Groups Meet

1000 Break

1030 Plenary session Reports from Prioritization of Parameters Groups

1100 Plenary Discussion Assembling an array of parameters to measure on a section
Discussion Leader: Bob Anderson

1200 Lunch

1300 Plenary Session Organize Breakout Groups *Discussion Leader: Eric Webb*

Theme II Critical Evaluation of Tools

1. Metagenomics (Heidelberg)
2. Gene expression (Webb, Allen)
3. Proteomics (Saito, Morris)
4. Phylogenetics (Fuhrman)

1330 Breakout Groups Meet

1500 Break

1530 Breakout Groups Report

1600 Plenary Discussion (continued) Assembling an array of specific tools to measure on a section

Discussion Leader: Bess Ward

1730 Organize Wed AM Breakout Groups Planning and Logistics of a Field Campaign

Theme III Implementation of a field program

Integration with GEOTRACES and other programs (Priorities) (Anderson, Van Mooy)

Integration with GEOTRACES and other programs (Logistics) (Moffett, Morris)

Data Synthesis and Interpretation (Martiny, Pearson)

Validation of molecular tools – Priorities and Timeline (Fuhrman, Ward)

1800 Meeting Adjourns

1900 Group Dinner

Wednesday, November 10

0730 Breakfast

0830 Breakout Groups Meet

1015 Break

1045 Plenary Group Reports and draft sampling plan for an actual section

Discussion Leader: Jim Moffett

1215 Lunch

1300 Plenary Discussion What major science issues need to be addressed to fund a stand-alone program? Trophic issues? Genomic data for more prevailing species?

Discussion Leader: Kevin Arrigo

1500 Workshop Ends

1530 Steering Committee Meets