Hopkins Microbiology Course 2009

Morning Lecture Schedule
Hopkins Marine Station, Agassiz 10
Week of Monday, June 22, 2009

Monday, June 22
8:30 AM  
Course Overview: Microbe-Environment Interactions and 
Microbial Diversity, Introduction to Vibrio Population Genetics Experiment  
Alfred

10:30 AM  
Principles of Microbial Life  
Alfred

1:00 PM  
Safety Training (Boat works)  
Chris Patton, HMS

3:00 PM  
Field trip to Pt Lobos & Hopkins Marine Station sites  
All

evening  
5 min student chalk board talks

Tuesday, June 23
8:30 AM  
Introduction to the Elkhorn Slough & Field trip  
Chris, all

1:30 PM  
Microscopy  
Alfred, all

Wednesday, June 24
8:30 AM  
Isolation of Microorganisms (Growth, and Selection)  
Alfred

10:00 AM  
Physiology and Ecology of Microbes of the Sulfur Cycle  
Alfred

1:00 PM  
Microbial Life as a Phototroph  
Alfred

Thursday, June 25
8:30 AM  
Ecophysiology of Chemoautotrophic Sulfur Bacteria  
Alfred

10:00 AM  
Aerobic Nitrogen-Cycling  
Chris

Friday, June 26
8:30 AM  
Anaerobic Nitrogen-Cycling  
Chris

10:00 AM  
Changing Views on Marine Microbes  
Jed Fuhrman, USC

Saturday, June 27
Minisymposium
8:30 AM  
Genomics of Bacterial Endosymbionts  
Nancy Moran, University of Arizona

Explorations into Microbial Community Diversity  
Howard Ochman, University of Arizona

Tools for Understanding the Human Microbiome  
Rob Knight, University of Colorado, Boulder

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Week of Monday, June 29, 2009

**Monday, June 29**
8:30 AM  *The Biogeochemistry of the Monterey Bay*  
Ken Johnson, MBARI

10:30 AM  *Marine Crenarchaeota*  
Chris

**Tuesday, June 30**
8:30 AM  *Microbial Metal Cycling*  
Chris

10:30 AM  *Marine Cyanobacterial Mats and the Search for Life in Deep Time and Space*  
David DesMarais, NASA Ames

**Wednesday, July 1**
8:30 AM  *Anaerobic Food Chain, Fermenters and Syntrophs*  
Alfred

10:00 PM  *Methanogens and Anaerobic Methane Oxidation*  
Alfred

1:00 PM  *Molecular Probe Technology and Ocean Observatories: Engineering the Future*  
Chris Scholin, MBARI

7:30 PM  *Bioremediation and Dehalococcoides*  
Frank Löffler  
GeorgiaTech, Atlanta

**Thursday, July 2**
8:30 AM  *Cyanobacteria and Marine Photosynthesis*  
Arthur Grossman,  
Carnegie Institution Stanford

10:00 AM  *Genomic of Phototrophic Microbial Mats*  
Devaki Bhaya,  
Carnegie Institution Stanford

1:00 PM  *Isotope Imaging of Microbial Processes by NanoSIMS*  
Jennifer Pett-Ridge, LLNL

7:00 PM  *Primordial Metabolism and the Chemical Origin of Life*  
Alfred

**Friday, July 3**
8:30 AM  *Natural Selection in the Origins and Modern Microbiology- part 1*  
John Roth, UC Davis

10:00 AM  *Natural Selection in the Origins and Modern Microbiology- part 2*  
John Roth, UC Davis

**Sunday, July 5**
8:30 AM  *Microfluidics experiment and single cell genome amplification*  
Paul Blainey, Stanford  
*(Field trip to Stanford)*

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Week of Monday, July 6, 2009

Monday, July 6
8:30 AM  Introduction Evolution and Population Genetics  Paul
10:30 AM  Biological Diversity through the Eyes of an Ecologist  Tadashi Fukami

Stanford University

Tuesday, July 7
8:30 AM  Evolution (forces, operation in microbial populations)  Paul

Wednesday, July 8
8:30 AM  Origin and Maintenance of Diversity  Paul
1:30 PM  Behind the Scene, Tour through Monterey Bay Aquarium  Chris Harrold
Monterey Bay Aquarium

Thursday, July 9
8:30 AM  Diversity and the Microbial Species Concept  Jeff Lawrence,
University of Pittsburgh
10:30 AM  Population genetics  Paul

Friday, July 10
8:30 AM  Ecophysiology of Large Sulfur Bacteria  Bo Barker Joergensen,
Center for Geomicrobiology, University of Aarhus, Max Planck Institute, Bremen

Saturday, July 11
8:30 AM  The Deep Biosphere  Bo Barker Joergensen,
Center for Geomicrobiology, University of Aarhus, Max Planck Institute, Bremen

The Interplay between Physiology and Ecology: Insights from Multiple Genome Sequences
Caroline Harwood,
University of Washington, Seattle

Human Intestinal Microbiomics in Health and Disease - towards Metagenomic Markers of Dysbiosis
Joel Dore INRA, Jouy, France

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Week of Monday, July 13, 2009

Monday, July 13
8:30- Group presentations on project goals All
All day Data analysis All
5:00 PM General Group meeting All

Tuesday, July 14
9:00 AM Pico-eukaryotic Phytoplankton, followed by: MBARI tour Alex Worden, MBARI
Microbial Cell Shape

PM Data analysis All

Wednesday, July 15
All day Data analysis All
1 PM Clostridia, PNS bacteria, Absorption Spectra All
7:00 PM General Group meeting All

Thursday, July 16
All day Data analysis All
PM Packing the lab All
Evening Student presentations Enrichments All

Friday, July 17
8:30 AM Student project presentations: 20-25 min presentations, total 45 min per project Vibrio population genetics experiment
9:30 AM Vibrio experimental evolution amoA Diversity
11:00 AM
1PM Course evaluations, packing the truck
continuing into Graduation and Farewell Party

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