

THE 20th INTERNATIONAL
MICROBIAL GENOMES CONFERENCE

SCIENTIFIC PROGRAM

September 14–18, 2014
UCLA Conference Center
Lake Arrowhead, California
909 / 337–2478

SUNDAY, SEPTEMBER 14

4:00 – 6:00 PM Arrival and Check-in at Lake Arrowhead Conference Center

6:15 – 7:45 PM Dinner (Dining Room)

Opening of Meeting (Pineview Room)

7:55 – 8:00 PM Ashlee Earl
The Broad Institute of MIT and Harvard, Cambridge, MA
“Welcome”

8:00 – 8:30 PM Jeffrey H. Miller
University of California, Los Angeles
“Introduction to Arrowhead and Legacies of the Meeting”

8:30 – 9:00 PM Jonathan Eisen
University of California, Davis, CA
“Arrowhead and Microbial Genomics as Seen Through a Special Lens”

9:00 PM Reception (Iris Room)

MONDAY, SEPTEMBER 15

7:45 – 8:30 AM Breakfast (Dining Room)

Opening Session (Pineview Room)

8:45 – 9:00 AM Introduction/Announcements

Session I **Microbial Communities I: Microbiomes; Biodiversity**

Session Chair Ashlee Earl, Broad Institute MIT and Harvard, Cambridge, MA

9:00 – 9:30 AM Andrew Goodman
Yale University, West Haven, CT
“Cooperation and Competition in the Human Gut Microbiota”

9:30 – 10:00 AM Noah Fierer
University of Colorado, Boulder, CO
“Microbial Diversity in the Atmosphere”

10:00 – 10:30 AM Sarkis K. Mazmanian
California Institute of Technology, Pasadena CA
“The Gut Microbiome and Neurodevelopmental Disorders”

10:30 – 10:50 AM Break

10:50 – 11:20 AM Cindy M. Liu
Johns Hopkins School of Medicine, Baltimore, MD
“The Nasal Passage Microbiome: Ecology of *Staphylococcus aureus* and Commensals in the Human Nose”

11:20 – 12:15 PM **KEYNOTE SPEAKER**
Julia A. Segre
National Human Genome Research Institute, NIH, Bethesda, MD
“Genomic Epidemiology: Full Genome Sequencing to Track Antibiotic Resistant Gram-Negative Bacteria Within and Between Hospitals”

12:30 PM Lunch (Dining Room)

4:00 – 6:00 PM Poster Session (Lakeview Room)

Social/Mixer (Lakeview Room)

6:15 – 7:45 PM Dinner (Dining Room)

MONDAY, SEPTEMBER 15 (con't)

Session II **Microbial Communities II: Metagenomics / Biodiversity / Natural Products**

- 7:45 – 8:15 PM Tanja Woyke
DOE Joint Genome Institute, Walnut Creek, CA
“Sequence-based Insights into the Uncultivated”
- 8:15 – 8:45 PM Nancy Moran
University of Texas, Austin, TX
“Genome Dynamics in the Gut Bacteria of Bees”
- 8:45 – 9:00 PM Break
- 9:00 – 9:30 PM Mohamed Donia
University of California, San Francisco, CA
**“Insights from a Global Analysis of Secondary Metabolism:
Small Molecules from the Human Microbiota”**
- 9:30 – 10:00 PM Susannah Green Tringe
DOE Joint Genome Institute, Walnut Creek, CA
“Microbial Communities and the Carbon Cycle”

TUESDAY, SEPTEMBER 16

- 7:45 – 8:30 AM Breakfast (Dining Room)

Session III **Metagenomics / Pathogens / Antibiotics / Evolution**

- 9:00 – 9:30 AM Rachel Adams
University of California, Berkeley, CA
“Fungi in the Built Environment”
- 9:30 – 10:00 AM Eric J. Alm
Massachusetts Institute of Technology, Cambridge, MA
“Evolution of Microorganisms”
- 10:00 – 10:30 AM Karyna Rosario Cora
University of South Florida, St. Petersburg, FL
“Exploring the Viral World Through Metagenomics”
- 10:30 – 10:50 AM Break
- 10:50 – 11:20 AM Nicole Perna
University of Wisconsin, Madison, WI
**“Evolution of the Response to Oxygen Availability in Enterobacteria:
A Complex Trait in a Model Family”**

TUESDAY, SEPTEMBER 16 (con't)

11:20 – 11:50 AM Katie Pollard
University of California at San Francisco, San Francisco, CA
“Statistical Challenges in Shotgun Metagenomics”

11:50 – 12:20 PM Jenna Morgan Lang
University of California, Davis, CA
“Citizen Microbiology”

12:30 PM Lunch (Dining Room)

4:00 – 6:00 PM Poster Session (Lakeview Room)
Social/Mixer (Lakeview Room)

6:15 – 7:45 PM Dinner (Dining Room)

**Session IV Antibiotic Resistance
 “Workshop”**

7:45 – 8:15 PM Gautam Dantas
Washington University School of Medicine, St. Louis, MO
**“Networks of Exchanging Antibiotic Resistomes in Human and
Environmental Microbiota”**

8:15 – 8:45 PM Lance B. Price
George Washington University, Washington, D.C.
“Food-Borne Urinary Tract Infection Studies”

8:45 – 9:15 PM Timothy D. Read
Emory University School of Medicine, Atlanta, GA
“S. aureus Antibiotic Resistance Genomics”

9:15 – 9:25 PM Break

9:25 – 9:55 PM Timothy Johnson
University of Minnesota. Saint Paul, MN
**“Virulence Genotyping of *Escherichia coli* from Birds, Poultry, Meat, and
Human Extraintestinal Infection”**

9:55 – 10:25 PM William Klimke
NIH/NLM/NCBI, Bethesda, MD
**“The NCBI Pathogen Analysis Pipeline to Support Real Time Sequencing of
Foodborne Pathogens”**

WEDNESDAY, SEPTEMBER 17

7:45 – 8:30 AM Breakfast (Dining Room)

Session V Pathogens; Systems Biology, Synthetic Biology I

9:00 – 9:30 AM Jeffrey T. Foster
Northern Arizona University, Flagstaff, AZ
“Worldwide Spread of *Brucella*: A Tale from Two Species”

9:30 – 10:00 AM Evgeni Sokurenko
University of Washington, Seattle, WA
“Pathoadaptive Mutations in Microbial Genomics”

10:00 – 10:30 AM Jennifer Gardy
University of British Columbia, British Columbia, Canada
“Genomics and Epidemiology”

10:30 – 10:50 AM Break

10:50 – 11:20 AM Fiona Brinkman
Simon Fraser University, Greater Vancouver, British Columbia, Canada
“Using Genomes and Network Analysis to Characterize Disease Outbreaks”

11:20 – 11:50 AM James P. O’Dwyer
University of Illinois, Champagne-Urbana, IL
“Exploring Universal Patterns in Microbiome Data”

11:50 – 12:20 PM Trevor D. Lawley
Wellcome Trust Sanger Institute, Cambridge, UK
“Genomics of Pathogens”

12:30 PM Lunch (Dining Room)

Session VI Pathogens, Systems Biology, Synthetic Biology II

4:30 – 5:00 PM Fuzhong Zhang
Washington University, St. Louis, MO
“Producing Biofuels and Pharmaceuticals with Synthetic Biology”

5:00 – 5:30 PM Michelle C. Chang
University of California, Berkeley, CA
“Expanding Fluorine Chemistry of Living Systems by Genetic Engineering”

5:30 – 6:00 PM Ashlee Earl
The Broad Institute of MIT and Harvard, Cambridge, MA
“Pathogen and Comparative Genomics”

6:15 – 7:45 PM Dinner (Dining Room)

WEDNESDAY, SEPTEMBER 17 (con't)

Session VII **New Model Systems; Poster Talks**

7:45 – 8:00 PM **Awards Presentations**

8:00 – 8:30 PM Rachel J. Dutton
Harvard University, Cambridge, MA
“Deconstructing and Reconstructing Microbial Communities Using Cheese”

8:30 – 9:00 PM Karsten Zengler
University of California, San Diego, CA
“Systems Approaches to Unravel Interspecies Interactions in Microbial Communities”

9:00 – 9:30 PM Lawrence David
Duke University, Durham, NC
“Response of Human Microbiota to Perturbation”

9:30 PM Reception/Party (Iris Room)

THURSDAY, SEPTEMBER 18

7:30 – 8:30 AM Breakfast (Dining Room)

Session VIII **SPECIAL LECTURE**

8:50 – 9:30 AM Sri Kosuri
University of California, Los Angeles, CA
“Understanding Cis-Regulation Through Reverse Microbial Genomics”

9:30 – 9:50 AM Brian Coullahan
Thermo Fisher Scientific, Life Sciences Group, Carlsbad, CA
“Utilization of a Unique Multi-Amplicon Approach and Curated 16S Sequence Database to Enable Comprehensive Bacterial Community Classification”

9:50 – 10:10 AM François Lebreton
The Broad Institute of MIT and Harvard, Cambridge, MA
“Evolution and Diversity of the Broad *Enterococcus* Genus”

10:15 – 10:25 AM **Closing Remarks**

10:25 – 10:50 AM Checkout

11:00 AM **Departure of Bus for LAX**

12:00 NOON Lunch

1:00 PM **Departure of Bus for LAX**