

THE 22nd INTERNATIONAL
LAKE ARROWHEAD MICROBIAL GENOMICS CONFERENCE

SCIENTIFIC PROGRAM

September 16-20, 2018
UCLA Conference Center
Lake Arrowhead, California
909 / 337-2478

SUNDAY, SEPTEMBER 16

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)

8:00-8:10 pm Jeffrey H. Miller
University of California, Los Angeles
“Welcome: Introduction to Arrowhead”

8:10-8:30 pm Jonathan Eisen
University of California, Davis, CA
“Lake Arrowhead and Microbial Genomics”

8:30-9:00 pm Tanja Woyke
DOE Joint Genome Institute, Walnut Creek, CA
“From Single Cells to Giant Viruses”

9:00-9:30 pm Rachel Dutton
University of California San Diego, La Jolla, CA
“Long-read Metagenomics of Fermented Foods”

9:30 pm Reception (Iris Room)

MONDAY, SEPTEMBER 17

7:45-8:30 AM	Breakfast (Dining Room)
Opening Session	(Pineview Room)
8:45-9:00 am	Introduction/Announcements
Session I	Microbial Communities I: Microbial Interactions
Session Chair	Ashlee Earl, Broad Institute MIT and Harvard, Cambridge, MA
9:00-9:30 am	Martin Ackermann ETH Zurich, Switzerland “A Microscale Perspective on Microbial Interactions”
9:30-10:00 am	Lindsay Kalan University of Wisconsin-Madison, Madison, WI “Cutaneous Microbiome Interactions in Health and Disease”
10:00-10:30 am	Michelle E. Afkhami University of Miami, Miami, FL “Multispecies Mutualisms: Transcriptomic Approaches to Understanding Tripartite Interactions among Rhizobia, Mycorrhizal Fungi, and Plants”
10:30-10:50 am	Break
10:50-11:20 am	Megan T. Baldrige Washington University, St. Louis, MO “Regulation of Enteric Norovirus Infection by the Commensal Bacteria”
11:20-11:50 am	Otto X. Cordero Massachusetts Institute of Technology, Cambridge, MA “The Consequences of Spatial Behavior and Cell-Cell Interactions for Microbial Genome Evolution”
11:50-12:20 am	Andrew L. Kau Washington University, St. Louis, MO “Immunology-microbiota Interactions in the Pathogenesis of Allergic Diseases”
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 II**Microbial Communities II**

- 7:45-8:15 pm Ophelia Venturelli
University of Wisconsin-Madison, Madison, WI
“Understanding and Controlling Microbial Communities”
- 8:15-8:45 pm Carolina Tropini
Stanford University, Stanford, CA
“Connecting Gut Microbiota Biogeography to Function”
- 8:45-9:00 pm Break
- 9:00-9:30 pm Karen Guillemin
University of Oregon, Eugene, OR
“Teaming with Microbes: Lessons from the Zebrafish Intestine”
- 9:30 Reception (Iris Room)

TUESDAY, SEPTEMBER 18

- 7:45-8:30 am Breakfast (Dining Room)
- Session III** **Viruses and the Microbiome, Virus and Microbial Evolution**
- 9:00-9:30 am Andrew J. Hryckowian
Stanford University, Stanford, CA
“*Bacteriodes thetaiotaomicron* as a Chassis for Understanding Gut-Resident Bacteriophages”
- 9:30-10:00 am Robert A. Edwards
San Diego State University, San Diego, CA
“Global and Local Evolution of the Ubiquitous Human Gut Phage crAssphage”
- 10:00-10:30 am Shannon Bennett
California Academy of Sciences, San Francisco, CA
“Evolutionary and Ecological Drivers in the Transmission of Viral Diseases from Animals to Humans”
- 10:30-10:50 am Break
- 10:50-11:20 am David Pride
University of California, San Diego School of Medicine
San Diego, CA
“Role of Viruses in the Human Microbiome”
- 11:20-11:50 am Ashlee Earl
The Broad Institute of MIT and Harvard, Cambridge, MA
“Making of a Pathogen”

11:50-12:20 pm Samuel Diaz-Munoz
University of California, Davis, CA
“Uncovering How Virus-Virus Interactions Shape Viral Genomes”

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 Microbial Evolution

7:45-8:15 pm Michael Baym
Harvard University, Cambridge, MA
“Antibiotic Resistance: Experimental Evolution to Diagnostics”

8:15-8:45 pm Stephanie Porter
Washington State University, Vancouver, WA
“Mosaics of Environmental Adaptation in Coevolving Symbionts and Their Hosts”

8:45-9:00 pm Break

9:00-9:20 pm Ivan Liachko
Phase Genomics, Seattle, WA
“From Contigs to Chromosomes: Culture-Free Metagenome Deconvolution using Hi-C”

9:20 pm Reception (Iris Room)

WEDNESDAY, SEPTEMBER 19

7:45-8:30 am Breakfast (Dining Room)

Session V Molecular Interactions

9:00 - 9:30 am Mohamed S. Donia
Princeton University, Princeton, NJ
“Small-Molecule-Mediated Interactions in the Human Microbiome”

9:30-10:00 am Michi Taga
University of California, Berkeley, CA
“Decoding Nutritional Interactions in Microbial Communities”

- 10:00-10:30 am Marc Strous
University of Calgary, AB, Canada
“An Omics Journey Through Microbial Ecophysiology”
- 10:30-10:50 am Break
- 10:50-11:20 am Jesse Shapiro
University of Montreal, Quebec, CAN
“Origins of Pandemic Cholera from Environmental Gene Pools, and Its Fate Within Patients”
- 11:20-11:50 am Allison Hansen
University of California, Riverside, CA
“Small RNAs Regulate Gene Expression in a Reduced Symbiont Genome”
- 11:50-12:20 am Anna Edlund
J. Craig Venter Institute, La Jolla, CA
“The Multi-Omics Promise of the Human Oral Microbiome”
- 12:30 pm Lunch (Dining Room)
- Session VI Genomics, Metagenomics**
- 4:30-5:00 pm Neslihan Tas
Lawrence Berkeley National Laboratory, Berkeley, CA
“Deep Look Into Deep Permafrost: Multi-omics Insights into Carbon Cycling upon Thaw”
- 5:00-5:30 pm Christopher T. Brown
University of California, Berkeley, CA
“Analysis of Genome Diversity Across the Bacterial Domain”
- 5:30-6:00 pm Rojelio Mejia
Baylor University, Waco, TX
“Impact of Intestinal Parasites on the Microbiome/Metagenomics of Childhood Nutrition and Growth Delays”
- 6:15-7:45 pm Dinner (Dining Room)
- Session VII**
- 7:45-8:10 pm **Awards Presentations**

- 8:10 -8:30 pm Terence Crofts
Washington University St. Louis, St. Louis, MO
"Mechanisms of antimicrobial bioconversion by environmental and host-associated bacteria"
- 8:30-9:00 pm Irene G. Newton
Indiana University, Bloomington, IN
"The Royal Treatment: How Honey Bee Microbes Contribute to Queen Physiology"
- 9:00-9:20 pm Janina Krumbeck
Zymo Research Corporation, Irvine, CA
"Resolving Challenges of Microbiome Analyses"
- 9:20 pm Reception/Party (Iris Room)

THURSDAY, SEPTEMBER 20

7:30-8:30 am Breakfast (Dining Room)

Session VIII

- 9:00-9:20 am Nandita Garud
University of California, San Francisco, CA
"Adaptation of Commensal Gut Bacteria in the Human Microbiome"
- 9:20-9:50 am Pamela Yeh
University of California, Los Angeles, CA
"Higher-order interactions and emergent properties in drug combinations"
- 9:50-10:10 am **TBA**
- 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**