

WEST COAST BACTERIAL PHYSIOLOGISTS
ANNUAL ASILOMAR CONFERENCE

December 14 – 16

2018

Papers will be presented in

FRED FARR FORUM

Social hours will be in Fred Farr Forum

Saturday Afternoon ONLY 4:30 – 6:00

Friday and Saturday Evenings 9:45 – 11:45

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Dinner – 6:00 pm Friday and Saturday
Breakfast – 7:30 am Saturday and Sunday
Lunch – 12:00 pm Saturday and Sunday

Note: Box lunches can be picked up at the dining room at noon each day.

Wishing you an Enjoyable Conference,

Becky Parales, Co-Organizer
Ned Ruby, Co-Organizer
Hope Johnson, Treasurer

We gratefully acknowledge support from:

The Gordon & Betty Moore Foundation

Genentech, a member of the Roche Group

for sponsoring the annual *John Ingraham Lectures in Microbial Physiology*

Zymo Research

to help defray costs for students and postdoctoral scholars, and
for best talk award

Genencor Division of DuPont Industrial Biosciences

to help defray costs for students and postdoctoral scholars

SESSION I: FRIDAY EVENING

Convenor: Fitnat Yildiz, UCSC, Santa Cruz, CA

7:30 Dianne Newman, Caltech, Pasadena, CA
“Changing Color Matters: Roles for Redox Active Antibiotics in Microbial Survival and Development”

8:15 Justin Zik and Kathleen Ryan, UC Berkeley, Berkeley, CA
“Conditional Essentiality of Lipopolysaccharide in *Caulobacter crescentus*”

8:30 COFFEE BREAK (20 min)

8:50 Heidi Arjes, Lam Vo, Daniel Kearns and KC Huang, Stanford U, Palo Alto, CA
“Surfactin Mediates Cell Death upon Oxygen Depletion in *Bacillus subtilis*”

9:05 Alysha Lee, Jeremy Wei and Paula Welander, Stanford U, Palo Alto, CA
“Cholesterol Biosynthesis in a Myxobacterium”

9:20 Elise Tookmanian, Gargi Kulkarni and Dianne Newman, Caltech, Pasadena, CA
“Extended Hopanoids Protect Against Hypoosmotic Stress in *Bradyrhizobium diazoefficiens*”

9:35 Brittany Bennett and Edward Ruby, University of Hawaii-Manoa, HI
“The *Vibrio fischeri* genetic regulator TcpP affects phenotypes important for *Euprymna scolopes* colonization”

9:50 SOCIAL HOUR

Session II: SATURDAY MORNING

Convenor: Barry Bochner, Biolog, Inc., Hayward, CA

8:30 Joel Sachs, University of California Irvine, CA
“Harnessing Native Bacteria to Improve Plant Performance”

9:15 Pete Chandrangsu and John Helmann, Cornell U, NY & Claremont Colleges, CA
“The Zig and Zag of Zinc Homeostasis”

9:30 Barry Bochner and In Iok Kong, Biolog, Inc., Hayward, CA
“New Electron Flow-Based Assays of Cell Bioenergetics and Mitochondrial Function”

9:45 Nicholas Haas and Kathryn Fixen, U Minnesota, St. Paul, MN
“Regulation of Anaerobic Aromatic Compound Degradation by RegSR, a Redox Responsive Signal Transduction Pathway”

10:00 COFFEE BREAK (30 min)

10:30 Kristopher Kennedy and Michiko Taga, UC Berkeley, Berkeley, CA
“B12-riboswitches Differentially Respond to Naturally Occurring Chemical Analogs of Vitamin B12”

10:45 Mariah Rojas and Karin Kram, CSU Dominguez Hills, Carson, CA
“Characterizing the Role of Nucleoside Metabolism in *Escherichia coli* Survival in Long-term Stationary Phase”

11:00 Amrita Hazra, Yashwant Kumar, Ateek Shah and Reman Singh, IISER, Pune, INDIA
“The Molecular Basis of Nucleobase Selectivity in FAD Biosynthesis”

11:15 Dipti Nayak and William Metcalf, University of Illinois, Urban-Champaign, IL
“CRISPR-guided Insights into the Physiology and Evolution of Methanogenic Archaea”

11:30 Marina Kalyuzhnaya, San Diego State University, San Diego, CA
“Controlling the Power of Flame – Biological Way”

11:45 Joseph Groom, Stephanie Ford, Mitchell Pesesky and Mary Lidstrom, University of Washington, Seattle, WA
“A Mutagenesis and Selection System Identifies Components of the Lanthanide Metal Switch in a Type-I Methanotroph”

12:00 LUNCH

SESSION III: SATURDAY EVENING

Convenor: Karin Kram, CSU Dominguez Hills, CA

7:30 Steve Finkel, USC, Los Angeles, CA

“Mechanisms of Long-term Survival and Evolution”

8:15 Samantha Wellington and E. Peter Greenberg, U Washington, Seattle, WA

“Quorum Sensing Signal Specificity and the Potential for Interspecies Crosstalk”

8:30 COFFEE BREAK (20 min)

8:50 William MacCain, Matthew Jorgenson, Suresh Kannan and Kevin Young, University of Arkansas, Little Rock, AR

“Simultaneously Disrupting Undecaprenyl Pyrophosphate and Peptidoglycan Synthesis Promotes Lysis in *Escherichia coli*”

9:05 Thomas Harwood and Douglas Risser, University of the Pacific, Stockton, CA

“Characterization of HmpF, a Novel Component of the Hmp chemotaxis-like System that Controls Cyanobacterial Motility”

9:20 Ignacio Arvizu, Ram Wolman and Sean Murray, CSU Northridge & UCSF, San Francisco, CA

“Overexpression of a Bacterial Efflux Pump Causing Multidrug Resistance, Reduced Motility, and Ectopic Pole Formation in *Caulobacter crescentus*”

9:35 Brittany Baker, Rachna Pannu and Jose de la Torre, SFSU, San Francisco, CA

“Variability among Thermophilic Ammonia-Oxidizing Archaea”

9:50 SOCIAL HOUR

SESSION IV: SUNDAY MORNING

Convenor: Amrita Hazra, IISER, Pune, INDIA

8:30 Seemay Chou, UCSF, San Francisco, CA

“The bacterial cell wall: developing new tools to probe an ancient structure”

9:15 Marina Orman, Smaranda Bodea, Michael Funk, Ana Martinez-del Campo, Maud Bollenbach, Catherine Drennan and Emily Balskus, Harvard University & MIT, Cambridge, MA

“Identification of a Small Molecule that Inhibits Anaerobic Choline Metabolism by Human Gut Bacteria”

9:30 Drew Dunham and Kimberley Seed, UC Berkeley, Berkeley, CA

“A Single ORF in the Anti-phage Island of *Vibrio cholerae* is Sufficient to Block Infection by the Lytic Bacteriophage ICP1”

9:45 COFFEE BREAK (30 min)

10:15 David Balderas, Rajdeep Banerjee, Hanh Lam, Tomas Gverzdys, Adam Zoubeidi, Yahan Wei, Pablo Alvarez, Leah Schwiesow, Patricia Kiley and Victoria Auerbuch Stone, UCSC, Santa Cruz, CA & University of Wisconsin-Madison, WI

“Genome-scale Analysis of IscR Transcription-factor Binding in Pathogenic *Yersinia*”

10:30 Marcos Monteiro and Andrea Castillo, Eastern Washington University, Cheney
“Manuka Honey Chelates Iron to Impact Iron Regulation in *Pseudomonas aeruginosa*”

10:45 Tiffany Halvorsen, Zach Ruhe, Fernando Garza-Sanchez, Josephine Nguyen, David Low and Chris Hayes, UCSB, Santa Barbara, CA

“Post-translational Modification of CdiA Facilitates Interspecies Contact-dependent Growth Inhibition in *Escherichia coli*”

11:00 Michelle Lum, Brandy Kwak, Ashley Arnell and Hassan Abdulla, Loyola Marymount University, Los Angeles, CA

“Identification of *Paraburkholderia tuberum* Genes Involved in the Nodulation of Legumes”

11:15 Esther Chen, Nicole Ratib, Erich Sabio, Carolina Mendoza, Melanie Barnett, Sarah Clover, Francesca Dela Cruz, David Balderas, Holly White and Sharon Long, CSU Fullerton & Stanford University, CA

“Genes Directly Regulated by ExoS/ChvI and Discovery of a ChvI Box in the Symbiotic Bacterium *Sinorhizobium meliloti*”

12:00 LUNCH