17th Annual
Microbiology Student Symposium

May 6, 2016 – David Brower Center
Berkeley, CA

Chairs
Carly Grant
Gabriel Rosenfield

Domain Level Sponsor

Phylum Level Sponsors

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Microbiology Student Symposium  May 6, 2016  David Brower Center
Pre-registration required at nature.berkeley.edu/calmicro

8:30 AM  Check-in & Breakfast
9:00 AM  Carly Grant, Symposium Chair
         Welcome
9:05 AM  Christopher Hann-Soden (John Taylor), UC Berkeley
         Sympatric speciation by an evolutionary ratchet
9:25 AM  Stephanie DeMarco (Kent Hill), UCLA
         Molecular and systems analysis of cell-cell communications and social behavior in Trypanosoma brucei
9:45 AM  James Anderson-Ferguson (Patricia Zambrayski), UC Berkeley
         Loss of PodJ in Agrobacterium tumefaciens leads to ectopic polar growth, branching, and reduced cell division
10:05 AM  Melania Abrahamian (Howard Judelson), UC Riverside
         Role of nitrate assimilation genes in pathogenicity of Phytophthora infestans
10:25 AM  Coffee Break
10:40 AM  Yi-Pei Chen (Patricia Johnson), UCLA
         Characterization of Trichomonas vaginalis homologue of macrophage migration inhibitory factor in inducing the parasite survival during serum starvation
11:00 AM  Xiaoxue (Snow) Zhou, (Julie Theriot), Stanford
         Fast mechanically driven daughter cell separation is widespread in Actinobacteria
11:20 AM  Victoria Orphan, Caltech
         How syntrophic archaea and bacteria oxidize methane in the deep sea
12:20 AM  Lunch & Poster/Art Presentations (page 3)
1:45 PM  Allison Weis (Bart Weimer), UC Davis
         Genomic comparisons and zoonotic potential of Campylobacter isolates around Davis, California
2:05 PM  Katherine Scheibel (Shauna Somerville), UC Berkeley
         Host-induced gene silencing in an obligate biotrophic plant pathogen
2:25 PM  Leigh Harris (Julie Theriot), Stanford
         Relative rates of surface and volume synthesis set bacterial cell size
2:45 PM  Margaret Nakamoto (John Boothroyd), Stanford
         How do RNA modifications enable development of a chronic infection?
3:05 PM  Jasmine Nirody (George Oster), UC Berkeley
         The limiting speed of the bacterial flagellar motor
3:25 PM  Break
3:40 PM  Michael Laub, MIT
         Probing the specificity and evolution of protein-protein interactions in bacteria
4:40 PM  Closing Remarks
5:00 PM  Reception at University of California, Valley Life Sciences Building Lawn (page 4)

Event is ADA accessible. For disability accommodation requests and information, please contact Disability Access Services by phone at 510.643.6456 (voice) or 510.642.6376 (TTY) or by email at accessibility@berkeley.edu.
The poster session and art show will take place from 12:45 PM to 1:45 PM in The Gallery.

**Poster Presentations:**

A Borges & **Joseph Bondy-Denomy***, UCSF. *The anti-CRISPR advantage: How CRISPR increases prophage copy number*

**Bailey Bonet*** & M Traxler. UC Berkeley. *Dissecting actinomycete interactions using transposon mutagenesis and a genetic screen*

**Yirang Cho**, A Banta, J Wei, P Welander. Stanford University. *Identification of the novel mechanism of sterol C4-demethylation in Methylococcus capsulatus*

**Sergio Covarrubias***, R Song, K Viswanathan, S Katzman, E Wakeland, M McManus, S Carpenter. UCSC. *Identification and Characterization of Long non-coding RNAs involved in Monocyte to Macrophage Differentiation*

**Dana De Vries**, H Ganz, J Eisen. UC Davis. *Culturing and Characterization of the Microbes in Feline Anal Glands*

**Jesus Gonzalez***, E Singer, T Woyke, C Lauzon, T Juenger. Joint Genome Institute and CSU, East Bay. *Towards characterizing endophytes in switchgrass roots and leaves*

**Rachel Hood***, S Higgins, A Flamholz, R Nichols, D Savage. UC Berkeley. *Making light of a stressful situation: how the stringent response helps a cyanobacterium adapt to darkness*

**Vikrum Jain**, A Fuller, T Ruscetti, C Sabatier, A Mohan. Santa Clara University. *Study of arylopeptoids as a novel antimicrobial scaffold*

**Christopher Jakobson***, M Slininger, E Kim, J Glasgow, M Asensio, Y Chen, M B Francis, D T Ercek. UC Berkeley. *Towards Kitchen-Scale Biosynthesis: Designing Custom Subcellular Organelles in Bacteria*

**Janpa Kalra**, C Huang, K Ryan. UC Berkeley. *Characterizing HipA Toxicity in Caulobacter Crescentus*

M Velasco, R Wong, C Zuñiga, V Sakata, T Snyder, L Sakata, A Sze, P Guzman, **Irina Krylova**, CCSF. *Comparing E.coli loads in different San Francisco surface water reservoirs*

**Linta Reji**, B Tolar, J Smith, Francisco Chavez, Christopher A Francis. Stanford. *Examining Thaumarchaeal Population Dynamics in the Costal Monterey Bay by Using Nitrite Reductase (nirK) as a Molecular Marker*

**Gabriel Rosenfield***, J Heller, N L Glass. UC Berkeley. *doc-1 and doc-2 Mediate Non-Self Recognition Before Cell Contac*

**Andrew Sczesnak***, R J Waters, A P Arkin, UC Berkeley. *A high-throughput droplet microfluidics screen for genes mediating microbial interactions*


**Adarsh Tantry**, T Ruscetti, C Sabatier, Santa Clara Unviersity. *Effect of Iron starvation on growth of Escherichia Coli and Implications for Caenorhabditis elegans*

E Starr, **Jessica Trinh***, M K Firestone. UC Berkeley. *Lytic and lysogenic phage populations in soil and the rhizosphere*


**Art Presentations:**

**Melania Abrahamian**, UC Riverside, *Mitochondria in Phytophthora infestans*

**Samantha Fernandez***, UC Berkeley, *Mould Life*

**Carly Grant***, UC Berkeley, *CERAMICrebeS*

**Janpa Kalra***, UC Berkeley, *Frida Kahlobacater*

**Irina Krylova***, CCSF, *A new species of urban dwellers*

**Kristen LeGault***, UC Berkeley, *Microbes in Glass*

**Kate Scheibel***, UC Berkeley, *Crocheted Glassware*

**Harriet Wilson***, Sierra College, *Human Microbiome Chalk Art*
Getting Here:
The David Brower Center is located at 2150 Allston Way, Berkeley CA, 94704. A reception will follow on the lawn in front of the Valley Life Sciences Building at University of California, Berkeley.

Public Transportation:
The David Brower Center is two blocks from the Downtown Berkeley BART station and multiple bus lines. BART: www.bart.gov
- From SF, you will take the Pittsburgh-Bay Point train, transfer at 19th street station in Oakland to the Richmond train (this should be waiting for you immediately across the platform), and then get off at Downtown Berkeley Station.
- From the East Bay, you will take the Richmond train if you are south of Berkeley, or the Fremont train if you are north of Berkeley, and get off at Downtown Berkeley Station.
- From the Peninsula (e.g. Stanford), your best bet would be to drive or take CalTrain to Millbrae station (parking is $2), and then follow the SF directions above.

Bus: www.actransit.org

Parking:
Garage parking is available on an hourly and daily basis at:
- Oxford Garage – 2161 Kittredge St. (one block south of the Brower Center)
- Allston Way Garage – 2061 Allston Way (two blocks west of the Brower Center)
For more information, please visit the City of Berkeley’s off-street parking information http://www.cityofberkeley.info/Public_Works/Transportation/Off_Street_Parking_(Garages_and_Lots).aspx

Street Parking: street parking is available on all streets surrounding the Brower Center. Streets are metered until 6 p.m. daily.
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Free registration & abstract submission at nature.berkeley.edu/calmicro

Keynote Speakers
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Caltech
How syntrophic archaea and bacteria oxidize methane in the deep sea

Michael Laub
MIT
Probing the specificity and evolution of protein-protein interactions in bacteria

Student Presentations

Art Show/Reception
prizes to be awarded!

Sponsors

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Poster Design by Thai (Dat) Dao