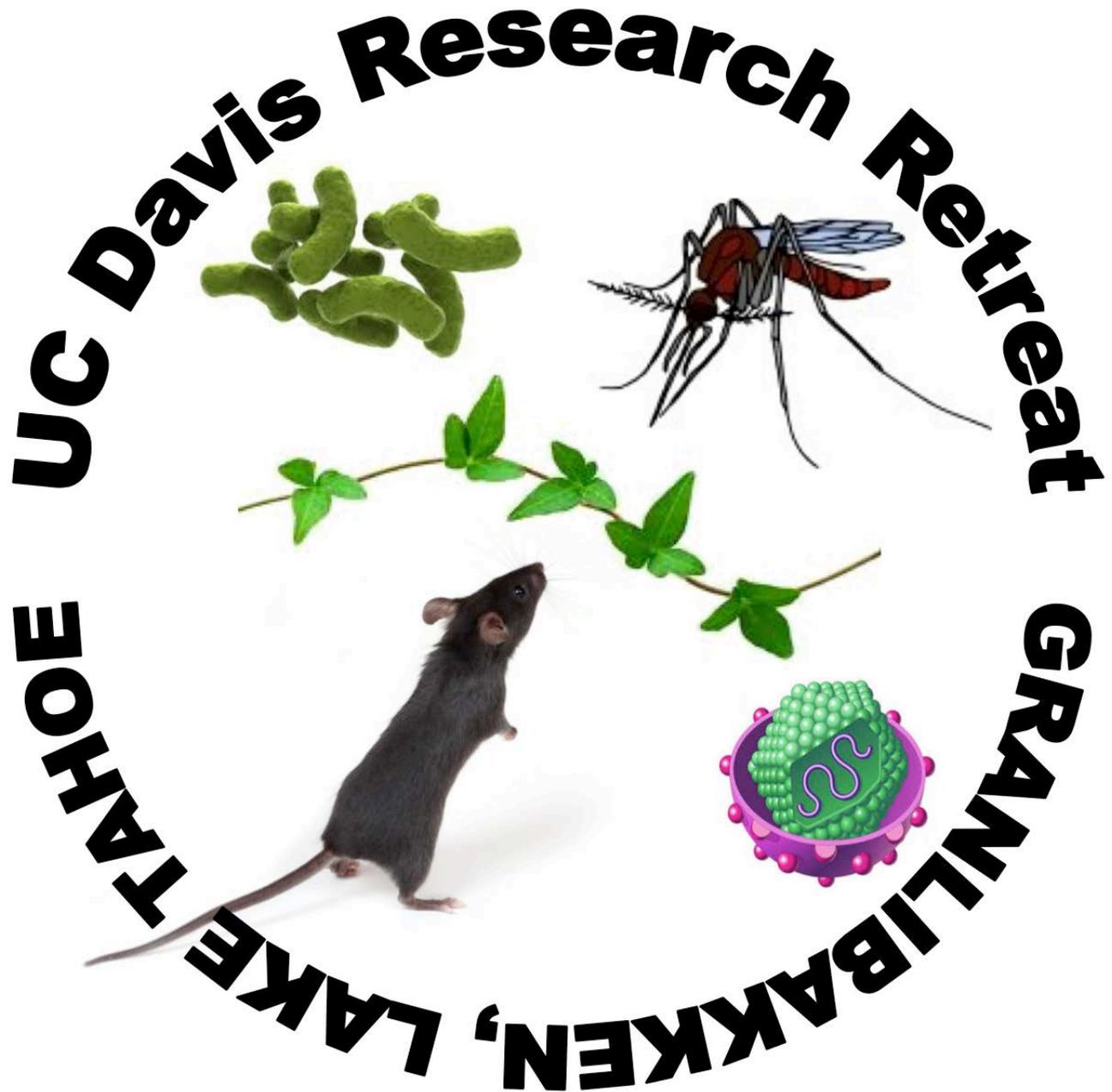


# PROGRAM



October 27<sup>th</sup> to 28<sup>th</sup>, 2016



***10<sup>th</sup> Annual UC Davis Research  
Retreat on Host Microbe Interaction  
(HMI)***

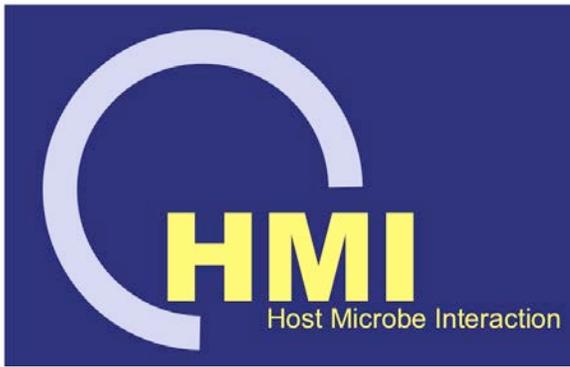
***Granlibakken, October 27<sup>th</sup>-28<sup>th</sup>, 2016***

***ORGANIZING COMMITTEE***

***Co-Chairs:***

*Andreas Bäumlér, Ph.D., Professor and Vice Chair of Research, Medical Microbiology and Immunology*

*Satya Dandekar, Ph.D., Professor and Chair, Medical Microbiology and Immunology*



## PROGRAM 2016 UC DAVIS HMI RETREAT

### October 27

**12:00pm**      **Opening Reception and Lunch (Granhall)**

**1:00-3:15pm**      **Scientific Session 1 (Mountain Ballroom/Conference Room)**

Moderator: **Renée Tsois**, Department of Medical Microbiology and Immunology

1:00              **Opening Address**

1:15-1:40        ***Stefan Rothenburg***

**Department of Medical Microbiology and Immunology**

School of Medicine

Title: Everything you always wanted to know about species-specific host-pathogen interactions\* (\*but were afraid to ask)"

1:40-2:05        ***Stephen McSorley***

**Department of Anatomy, Physiology and Cell Biology** (Center for Comparative Medicine)

School of Veterinary Medicine

Title: Investigating the secret immunological army

2:05-2:30        ***Bennett Penn***

**University of California San Francisco**

Title: Discovery of Novel *M. tuberculosis*-Host Interactions Using Proteomics

2:30-2:45        ***Phylicia Robins*** (Gelli lab)

**Department of Pharmacology**

School of Medicine

Title: An EPH-Tyrosine Kinase Receptor-Activated Pathway Mediates Transmigration of *C. neoformans* Across the Blood-Brain Barrier

2:45-3:00

**Mariana Byndloss** (Bäumler lab)

**Department of Medical Microbiology and Immunology**

School of Medicine

Title: Epithelial PPAR- $\gamma$  signaling mediates colonization resistance against *Enterobacteriaceae*

3:00-3:15

**Emma Skoog** (Solnick lab)

**Department of Medicine** (Center for Comparative Medicine)

School of Medicine

Title: Functional plasticity in the *Helicobacter pylori* type IV secretion system is mediated by alterations in integrin binding

**3:15-3:45pm**

**Break**

**3:45-5:45pm**

**Scientific Session 2 (Mountain Conference Room)**

Moderator: **Stephen McSorley**, Department of Anatomy, Physiology and Cell Biology (Center for Comparative Medicine)

3:45-4:10

**Renée Tsois**

**Department of Medical Microbiology and Immunology**

School of Medicine

Title: The role of malnutrition in susceptibility to disseminated Salmonella infection

4:10-4:35

**Sungjin Kim**

**Department of Medical Microbiology and Immunology** (Center for Comparative Medicine)

School of Medicine

Title: A novel natural killer cell subset with potent anti-viral activity.

4:35-5:00

**Rachel Vannette**

**Department of Entomology and Nematology**

College of Agricultural and Environmental Sciences

Title: Linking community assembly and function using nectar-inhabiting microbial communities

5:00-5:15 **Thomas Liebrand** (Coaker lab)  
**Department of Plant Pathology**  
College of Agricultural and Environmental Sciences  
Title: Phosphoproteomic profiling reveals regulatory mechanisms of membrane-associated proteins during plant NLR-mediated immunity

5:15-5:30 **Debanjan Mukhopadhyay** (Saeij lab)  
**Department of Pathology Microbiology and Immunology**  
School of Veterinary Medicine  
Title: Modulation of the host immune response by *Toxoplasma* secreted dense granule proteins

**5:30-5:45pm Break**

**5:45-6:45pm AMID T32-sponsored Keynote Lecture**

Moderator: **Andreas Bäumler**, Department of Medical Microbiology and Immunology

5:45-6:45 **Daniel Portnoy**  
**University of California Berkeley**  
Title: Listeriolysin O: A phagosome-specific lysin

**7:00-8:00pm Dinner (Granhall)**

**8:00-10:30pm Poster Session (Bay Room)**

**10:30pm- Social (Ski Hut)**

**1:00am**

## **October 28**

**7:30-9:00am Breakfast (Granhall)**

**9:00-10:50am Scientific Session 3 (Mountain Ballroom/Conference Room)**

Moderator: **Stefan Rothenburg**, Department of Medical Microbiology and Immunology

9:00-9:25

**Roger Sciammas**

**Department of Anatomy, Physiology and Cell Biology**

School of Veterinary Medicine

Title: Deconstructing the antibody response

9:25-9:50

**Maria Marco**

**Department of Food Science and Technology**

College of Agricultural and Environmental Sciences

Title: Intestinal and systemic responses to dietary *Lactobacillus*

9:50-10:05

**Paolo Zaini** (A. Dandekar lab)

**Department of Plant Biology and Plant Sciences**

College of Biological Sciences

Title: Exploring OMICs and microfluidic technologies to study plant-bacteria interactions

10:05-10:20

**Hannah Savage** (Baumgarth lab)

**Department of Pathology Microbiology and Immunology** (Center for Comparative Medicine)

School of Veterinary Medicine

Title: Uncovering the true phenotype of pathogen-reactive innate-like B cells

10:20-10:35

**Chris Nosala** (Dawson lab)

**Department of Microbiology and Molecular Genetics**

College of Biological Sciences

Title: Giardia sucks: form and function of a parasite attachment organelle

**10:35-10:50am Coffee Break**

**10:50 am-12:00pm Scientific Session 4 (Mountain Ballroom/Conference Room)**

Moderator: **Satya Dandekar**, Department of Medical Microbiology and Immunology

10:50-11:15

**Qizhi Gong**

**Department of Cell Biology and Human Anatomy**

School of Medicine

Title: Preventing viral invasion into the brain via olfactory nerve

11:15-11:30

**Katti Horng** (S. Dandekar lab)

**Department of Medical Microbiology and Immunology**

School of Medicine

Title: HIV and microbiota: awakening the Force within

11:30-11:45

**Neeraj Lal** (Dinesh-Kumar lab)

**Department of Plant Biology and Plant Sciences**

College of Biological Sciences

Title: RLCK in the cross fire: the dichotomy of growth and defense

11:45-12:00

**Maria Maldonado-Gomez** (Mills lab)

**Department of Food Science and Technology**

College of Agricultural and Environmental Sciences

Title: Stable engraftment of *Bifidobacterium longum* AH1206 in the human gut depends on individualized features of the resident microbiome

**12:00-1:30pm Lunch (Granhall)**

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## POSTER SESSION (Bay Room - 8:00-10:30pm)

### Poster Judges:

**Bennett Penn**, University of California San Francisco

**Sungjin Kim**, Medical Microbiology and Immunology, CCM

**Roger Sciammas**, Anatomy, Physiology and Cell Biology, CCM

**Yael Litvak**, Medical Microbiology and Immunology

**Maria Marco**, Department of Food Science and Technology

### SIZE OF POSTER BOARDS: 4'x8'; POSTER SIZE: 4'x4'

1. Making a Fit, Resistant Mosquito by Inhibiting JNK Activation, **Heather Baker**
2. Antibiotic Treatment Adversely Affects Tissue-Resident Memory Cell Development and Protective Immunity to Salmonella Infection, **Joseph Benoun**
3. *Salmonella* anaerobic  $\beta$ -oxidation operon (*ydiQRSTD*) confers a fitness advantage in vivo, **Denise Bronner**
4. Western Diet induced gut oxygenation drives dysbiosis, **Austin Byndloss**
5. Development of Monoclonal Antibody For Canine PD-1/PD-L1 Blockade Therapy, **Jin Wook Choi**
6. The role of IRF4 in Affinity Maturation, **Sarah Cook**
7. A Novel Strategy to Eliminate Latent HIV Reservoir, **Maher Elsheikh**
8. Aerobic and anaerobic respiration synergize to promote intestinal growth of *Salmonella*, **Franziska Faber**
9. Loss of Monoclonal CD4 T cells During Infection with Salmonella, **Zachary Fogassy**
10. Functional Responses between Conventional NK Cells and FcR $\gamma$ -Deficient NK Cells in Humans and Rhesus Macaques, **Suyeon Hong**
11. Differences in the pre-weaning gut microbiomes of dairy and beef calves, **Daisy Johnson**
12. Molecular mechanisms of human milk oligosaccharide utilization by *Bifidobacterium longum* subsp. *longum* SC596 and *Bifidobacterium breve* SC95, **Nina Kirmiz**
13. Integrative analysis of gut microbiota and barrier function to unravel the beneficial effects of milk oligosaccharides on the diet-induced obesity (DIO) phenotype, **Trina Knotts**
14. Transcriptional regulation of T helper cell fates by dynamical control of IRF4, **Veena Krishnamoorthy**
15. Genetic and environmental strategies for refining mouse models of human *Chlamydia* infection, **Jasmine Labuda**
16. Malaria parasite infection dampens the immune response to *Salmonella* Typhimurium: a role for macrophage polarization, **Annica Stull-Lane**
17. Discovery of altered peptide ligands of a natural *Salmonella* MHC Class II epitope, **Bokyung Lee**

18. Identification of Antibody-dependent Memory-like NK cells in Non-human Primates, **Jaewon Lee**
19. Sustained calcium influx is associated with enhanced functional activity of human memory-like NK cells, **Tae Hyung Lee**
20. Vitamin A deficiency promotes systemic non-typhoidal *Salmonella* infection by modulating neutrophil function, **Kristen Lokken**
21. Targeting CCR5+ cells for HIV reservoir elimination, **David Merriam**
22. *Salmonella* Typhimurium consumes GABA in the inflamed mouse gut, **Brittany Miller**
23. Identifying the contribution of amoebic trophocytosis to pathogenesis and immune modulation, **Hannah Miller**
24. An Engineered gut system to investigate the effect of changes in dietary composition in the gut microbiome and its function, **Jessica Mizzi**
25. Mechanism of *Salmonella enterica* serovar Typhimurium 14028S invasion and persistence in lettuce, **Jeanine Montano**
26. Exploring the host targets of Mpr1, a fungal metalloprotease that facilitates the transmigration of *Cryptococcus neoformans* across the blood-brain barrier, **Sarisa Na Pomberja**
27. Characterizing RhCMV-based SIV vaccine response in terms of intestinal gene expression in rhesus macaques, **Nicole Narayan**
28. Investigations of human intelectin-1 and intelectin-2 during inflammatory bowel disease. **Eric Nonnecke**
29. Species-specific Inhibition of the Antiviral Protein Kinase PKR by Capripoxviruses, **Chorong Park**
30. Non-cognate stimulation of CD4 T cells by IL-18 and TL1a contributes to the resolution of intracellular bacterial infections, **Oanh Pham**
31. Preventing post-antibiotic expansion and transmission of carbapenemase-producing *Enterobacteriaceae*, **Erin Olsan**
32. Characterization of Horizontal Gene Transfer events between Hosts and Poxviruses, **M. Julhasur Rahman**
33. Uncovering the true phenotype of pathogen-reactive innate-like B cells, **Hannah Savage**
34. Modulation of dendritic cell development and function by human milk oligosaccharides, **Michiko Shimoda**
35. The Transmissions of Milk-oriented Microbes Via the Built Environment: Infants and Mothers as Sources, **Melanie Shojinaga**
36. Role of B cell-expressed IRF4 in shaping T helper cell fate decisions, **Evelyn Sievert**
37. Bioluminescent Imaging of Host-Parasite Infection Dynamics in the Murine Model of Giardiasis Reveals New Insights into Pathogenesis, **Hannah Starcevich**
38. The fatty acid composition of human milk is associated with infant microbial community profile, **Diana Hazard Taft**

39. Whole genome analysis of *Clavibacter michiganensis* subsp. *michiganensis* strains provides insights into genetic diversity and virulence, **Shree Prasad Thapa**
40. Antibiotic treatment reduces PPAR $\gamma$  signaling and regulatory T cell numbers to drive post-antibiotic pathogen expansion, **Connor Tiffany**
41. Mutually Assured Transmission: Dynamics of Co-infection with HIV and Malaria, **Brandi Torrevillas**
42. Purinergic signaling and class switching during *Borrelia burgdorferi* infection, **Karen Tracy**
43. Induction of the unfolded protein response by *Brucella abortus* VceC, **Jun Yuh (April) Tsai**
44. Characterization of the Resistance of Syrian Hamster PKR to Viral dsRNA-binding PKR inhibitors, **Sameera Vipat**
45. Molecular mechanism of flucytosine resistance in two isolates of *C. neoformans gattii*, **Kiem Vu**
46. Malaria reduces colonization resistance to non-typhoidal *Salmonella* through alterations to the intestinal microbiota, **Gregory Walker**
47. Different Mechanisms of Complement Evasion by the Typhoidal serovars of *Salmonella*, **Tamding Wangdi**  
**(do not include in poster award competition)**
48. Subclinical viral infections accentuate changes in microbiome and immune response in outdoor but not in the built indoor environment, **Mariana Guedes Weber**
49. Differential PKR Inhibition by Poxvirus Proteins Modifies NF-kB and ATF4 Signaling, **Huibin Yu**
50. Modification of LPS by EptB Inhibits Intelectin Binding and Increases Systemic Inflammation During *Salmonella* Infection, **Lillian Zhang**