



31st Keck Annual Research Conference
Infectious Diseases:
Emerging Threats and Emerging Technologies

Chairs:
Theresa Koehler, PhD, Professor and Chair,
Microbiology and Molecular Genetics, McGovern Medical School, UTHealth
and
Sam Shelburne, MD, PhD, Professor,
Infectious Diseases, Infection Control, and Employee Health, M.D. Anderson Cancer Center

October 22, 2021
VIRTUAL CONFERENCE

- 8:45 Welcome: Keck Center and Conference Overview
Theresa Koehler, PhD, and **Sam Shelburne, MD, PhD**
- 9:00-10:00 **Peter Kasson, MD, PhD,** Associate Professor, Departments of Molecular Physiology and Biological Physics and of Biomedical Engineering, University of Virginia
 "Insight into emerging virus infection from single-virus microscopy"
- 10:00-10:15 **Eva Preisner, PhD,** Microbial Therapeutic Laboratory, Baylor College of Medicine; Training Program in Antimicrobial Resistance
 "Characterization of Simplified Microbial Communities that can Inhibit *Clostridioides difficile* Infection"
- 10:15-10:30 **Pavel Govyadinov, PhD,** Electrical and Computer Engineering/Scalable Tissue Imaging and Modeling Lab, University of Houston; NLM Training Program in Biomedical Informatics and Data Science
- 10:30-10:40 Break
- 10:40-11:40 **Jonathan Livny, PhD,** Senior Research Scientist, Infectious Disease and Microbiome Program, Broad Institute of MIT and Harvard
 "Developing and leveraging improved RNA-Seq methodologies to explore the cellular functions and interactions that drive infectious disease"
- 11:40-11:55 **Shelby Simar,** Epidemiology, Human Genetics and Environmental Sciences School of Public Health, UTHealth; Molecular Basis of Infectious Diseases
 "The Accessory Genome of Vancomycin-Resistant Enterococci and Its Role in Antimicrobial Resistance"
- 11:55-12:10 **Cuauhtemoc Ulises Gonzalez,** Biochemistry and Cell Biology, UTHealth; Training Interdisciplinary Pharmacology Scientists
 "Mimicking neuronal synapse cell-cell contacts in HEK cells leads to ligand-induce activity in orphan Delta receptors"

- 12:10-12:40 Lunch Break
- 12:40-1:40 **Deborah Hogan, PhD**, Professor of Microbiology and Immunology, Dartmouth Geisel School of Medicine
“Evolution in fungal infections-the only constant is change”
- 1:40-1:55 **Seth Scott**, Molecular Biophysics, UT Medical Branch at Galveston; Houston-Area Molecular Biophysics Program
“Hepatitis C Replication is Promoted by Competitive Binding between Host Factors miR-122 and PCBP2”
- 1:55-2:10 **Nhung Nguyen, PhD**, Center for Translational Cancer Research, Institute of Biosciences and Technology; Cancer Therapeutics Training Program
“Nano-optogenetic engineering of CAR T-cells for precision immunotherapy with enhanced safety”
- 2:10-2:20 Break
- 2:20-3:20 **Elissa Hallem, PhD**, Professor of Microbiology, Immunology, & Molecular Genetics, University of California, Los Angeles
"The neural basis of host seeking in skin-penetrating nematodes."
- 3:20-3:35 **Alyssa Alaniz Emig**, Cancer and Cell Biology, Baylor College of Medicine; Training in Precision Environmental Health Sciences
“The Role of Gene-Environment Interactions in Neural Tube Defect Risk”
- 3:35-3:50 **Hu Chen, PhD**, MD Anderson Cancer Center; Computational Cancer Biology Training Program
“DrBioRight, a natural language-oriented and artificial intelligence-driven analytics platform”
- 3:50-4:50 **Gerald Keusch, MD**; Professor of Medicine, Associate Director, National Emerging Infectious Diseases Laboratory, Boston University
“Vaccine Development at Warp Speed: R&D Preparedness Research, Clinical Trials and Regulatory Review, and Vaccine Equity for Potentially Pandemic Pathogens”
- 4:50-5:00 Closing