

2022 CEZAP INFECTIOUS DISEASES SYMPOSIUM

7:30 – 8:30	Check In & Refreshments	Assembly Hall
Morning General Session		
Session Chairs:		
XJ Meng, University Distinguished Professor, Interim Director Fralin Life Science Institute		
Peter Vikesland, Nick Prillaman Professor, Civil and Environmental Engineering		
Jonathan Auguste, Assistant Professor, Entomology		
8:30 – 8:50	Welcome and Opening Remarks Kylene Kehn-Hall, Director of CeZAP Dan Sui, Senior Vice President and Chief Research and Innovation Officer Aimée Surprenant, Dean of the Graduate School	Assembly Hall
8:50 – 9:00	ID-IGEP Program Introduction Ann Stevens, ID-IGEP Co-Director Kevin Edgar, ID-IGEP Co-Director	Assembly Hall
9:00 – 9:30	Keynote <i>“CDC’s Division of High Consequence Pathogens and Pathology: Recent Outbreak, Future Horizons”</i> Jennifer McQuiston Deputy Director, Division of High Consequence Pathogens and Pathology, and Manager of the 2022 CDC Multi-National Monkeypox Response Centers for Disease Control and Prevention	Assembly Hall
9:30 – 10:00	Keynote <i>“A Drug’s Purpose: From Erectile Dysfunction, Allergy to Hepatitis C and Covid-19”</i> Jake Liang Chief of Liver Diseases Branch, NIH Distinguished Investigator, and Member of National Academy of Medicine National Institutes of Health	Assembly Hall
10:00 – 10:30	Keynote <i>“Endogenous-exogenous Viral Interactions during Feline Leukemia Virus Infection”</i> Sue VandeWoude University Distinguished Professor, and Member of National Academy of Sciences Director, One Health Institute Dean of College of Veterinary Medicine and Biomedical Sciences Colorado State University	Assembly Hall
10:30 – 10:50	Break	
10:50 – 11:10	<i>“Using Language Models to Predict Zoonotic Escape in Hepatitis-E Virus”</i> T.M. Murali, Professor, Computer Sciences	Assembly Hall
11:10 – 11:30	<i>“Making old drugs new: Development of thermorubin and other neglected antibiotics”</i>	Assembly Hall

Andrew Lowell, Assistant Professor, Chemistry

11:30 – 11:50	<i>“Global Monkeypox Spread Due to Increased Air Travel”</i> Luis Escobar, Assistant Professor, Fish and Wildlife Conservation	Assembly Hall
11:50 – 12:10	<i>“Genomic diversification of <i>Listeria monocytogenes</i> isolated from natural and food-associated environments”</i> Jingqiu Liao, Assistant Professor, Civil Environmental Engineering	Assembly Hall
12:10 – 12:30	<i>“Impact of Data Structure, Availability, and Noise Distribution on Practical and Structural Identifiability of an SEIR Model”</i> Omar Saucedo, Assistant Professor, Mathematics	Assembly Hall
12:30- 2:30	Lunch and Poster Session	Latham BCDEF
12:30 – 1:30	External and Internal Advisory Board Close Door Meeting	Drillfield Room
2:30 – 3:30	CeZAP Thematic Area Breakout Sessions	

Breakout Session #1: Antimicrobial Countermeasures (vaccine and drug) **Assembly Hall**
Session Chair: Zhaomin Yang, Professor, Biological Sciences

- 2:30** ***“Noble Metal Organometallic Complexes Display Antiviral Activity against SARS-CoV-2”***
Joseph Merola, Professor, Chemistry
- 2:45** ***“Discovery of two inhibitors of the type IV pilus assembly ATPase, PilB, as antivirulence compounds”***
Keane Dye, Postdoc
- 3:00** ***“Interactions between bacteriophage χ and the flagellum of pathogenic *Salmonella enterica*”***
Nathaniel Esteves, ID-IGEP
- 3:15** ***“Humoral and T-cell-mediated responses to a pre-clinical Zika vaccine candidate that utilizes a unique insect-specific flavivirus platform”***
Danielle Porier, ID-IGEP

Breakout Session #2: Computational Biology and Disease Modeling **Smithfield Room**
Session Chair: Omar Saucedo, Assistant Professor, Mathematics

- 2:30** ***“Investigating climatic influences on dengue transmission in emerging and endemic regions through mathematical modeling”***
Michael Robert, Assistant Professor, Mathematics
- 2:45** ***“GenomeRxiv: A genome similarity-based approach for precise and accurate pathogen identification”***
Reza Mazloom, ID-IGEP

3:00 *“Modeling Vibrio cholera transmission risk in aquatic ecosystems using a density-based clustering algorithm”*
Mariana Castaneda Guzman, ID-IGEP

3:15 *“Defining “Spillover Transmission” and Future Avenues of Research”*
Paige Van de Vuurst, ID-IGEP

Breakout Session #3: Ecology, Epidemiology, and Environmental Microbiology

Duck Pond Room

Session Chair: Cassidy Rist, Assistant Professor, Population Health Sciences

2:30 *“Initial Findings from Two Prospective Cohort Studies in Rural Southwest Virginia: Microbiological and Chemical Contaminants in Drinking Water and Associated Health Outcomes”*
Alasdair Cohen, Population Health Sciences

2:45 *“Genome size distributions in bacteria and archaea are strongly linked to evolutionary history at broad phylogenetic scales”*
Carolina Alejandra Martinez Gutierrez, ID-IGEP

3:00 *“Loop-mediated isothermal amplification (LAMP) and nanopore sequencing for SARS-CoV-2 wastewater surveillance”*
Seju Kang, ID-IGEP

3:15 *“Using metagenomics sequencing to investigate Xylella fastidiosa population and phylogeny within Virginia”*
Sahar Abdelrazek, ID-IGEP

3:30 –3:45 **Break**

3:45 – 4:45 **CeZAP Thematic Area Breakout Sessions**

Breakout Session #4: Human Dimension of Infectious Diseases, Public Health and Clinical Microbiology

Assembly Hall

Session Chair: Andrea Bertke, Associate Professor, Population Health Sciences

3:45 *“Research equity in climate change and disease research”*
Paige Van de Vuurst, ID-IGEP

4:00 *“Histotripsy Treatment of Microbial Biofilms in Clinical Urinary Catheters”*
Elizabeth Nowak, Faculty

4:15 *“The Role of Sympathetic Neuronal Pathways in Regulating HSV1 and HSV2 Genital Infection”*
Greyson Moore, ID-IGEP

4:30 *“The Attenuation Mechanism of Interferon Gamma on Chikungunya Virus.”*
Christina Chuong, ID-IGEP

Breakout Session #5: Immunology and Host Pathogen Interactions

Smithfield Room

Session Chair: Stephen Mellville, Associate Professor, Biological Sciences

- 3:45** *“Phages as commensal entities in the mammalian gut”*
Bryan Hsu, Assistant Professor, Biological Sciences
- 4:00** *“Identification of LC3-interacting region (LIR) motifs within the NSs protein of Rift Valley fever virus as a method to discover host protein-viral protein interaction for therapeutic targeting”*
Kaylee Petraccione, ID-IGEP
- 4:15** *“Host interactors of the E1 glycoprotein of Venezuelan equine encephalitis virus as targets for antiviral Drugs”*
Lauren Panny, ID-IGEP
- 4:30** *“Development of animal models for the study of Cache Valley Virus”*
Krisangel López, ID-IGEP

Breakout Session #6: Vector Biology, Vector-borne Diseases, and Zoonotic Diseases

Duck Pond Room

Session Chair: John Maurer, Professor, Animal and Poultry Sciences

- 3:45** *“Sex and habitat drive hantavirus prevalence in marsh rice rat populations impacted by the Deepwater Horizon oil spill”*
Anna Perez-Umphrey, ID-IGEP
- 3:57** *“Enzymes responsible for the hydrolysis of fatty acids from exogenous lysophosphatidylcholine by asexual Plasmodium falciparum”*
Jiapeng Liu, ID-IGEP
- 4:09** *“Multi-threaded approach to understanding links between mosquito ecology and hostseeking Behavior”*
Karthikeyan Chandrasegaran, Postdoc
- 4:21** *“Seasonality of three human-biting ixodid ticks in western Virginia”*
Alexandra Cumbie, Postdoc
- 4:33** *“Modeling the effects of environmental temperature on vectors of African trypanosomiasis”*
Paul Huxley, Postdoc

4:45 – 5:00 Break**5:00 – 5:30** Award Reception and Closing Remarks

Assembly Hall