



EEID
20th

Scientific Program

Tuesday 23 May

8:30 - 8.45 *Morning Refreshments & Beverage Service*

8:45 - 9.00 *Welcome Remarks*

TRANSMISSION

9:00 - 9:30 **20 years of transmission: Not everyone, not everywhere and not all at once**

Michael Boots, Professor, University of California - Berkeley

9:30 - 9:45 **Inferring the disruption of rabies in its vampire bat reservoir using a self-disseminating vaccine**

Megan Griffiths, Post-doctoral scholar, University of Glasgow

9:45 - 10:00 **Feedback from transmission level to within-host dynamics? Implications of transmission bottlenecks for disease severity and the potential for viral adaptation**

Katia Koelle, Professor, Emory University

10:00 - 10:30 *Coffee Break*

10:30 - 11:00 **Outpacing outbreaks: multiscale computational models for Infectious Disease Transmission Forecasting and Scenario Evaluation**

Alessandro Vespignani, Professor, Northeastern University

11:00 - 11:15 **Synchrony of bird migration with avian influenza global spread; Implications on vulnerable bird orders**

Qiqi Yang, PhD Candidate, Princeton University

11:15 - 11:30 **Impact of human mobility on estimation of time varying reproduction number in England**

Rosario Evans Pena, Msc Candidate, Oxford University

11:30 - noon *Group Discussion*

noon - 1.00 *Lunch*

WITHIN-HOST DYNAMICS

1:00 - 1:30 **Balancing the host immune response during infection**

Avery August, Professor, Cornell University

1:30 - 1:45 **Does host-pathogen coevolution increase the risk of foreign pathogen invasion?**

Samuel Hulse, Postdoctoral Scholar, University of Maryland

1:45 - 2:00 **Evolutionary patterns, molecular mechanisms, and transmission consequences of tolerance**

James Adelman, Assistant Professor, University of Memphis

2:00 - 2:30 *Coffee Break*

- 2:30 - 3:00 **Microbiota control of host immunity and repair**
Yasmine Belkaid, Professor, National Institutes of Health
- 3:00 - 3:15 **Social organization in parasitic worms: a novel application of matrix population models to within- host dynamics reveals how trematodes build a defensive army**
Daniel Metz, Post-doctoral Scholar, University of Nebraska - Lincoln
- 3:15 - 3:30 **Pathogen colonization and expansion within polymicrobial communities are governed by antibiotic perturbation and resident microbiome structure**
Jennifer Farrell, PhD Candidate, Georgia Institute of Technology
- 3:30 - 4:00 *Group Discussion*
- 4:00 - 6:00 *Poster Session*

Wednesday 24 May

8:30 - 9:00 *Morning Refreshments & Beverage Service*

PERSISTENCE

- 9:00 - 9:30 **Resist and persist: Ecological and evolutionary perspectives on disease dynamics in natural plant populations**
Emily Bruns, Assistant Professor, University of Maryland
- 9:30 - 9:45 **The enduring impact of demographic stochasticity on epizootics is independent of population size**
William Koval, PhD Candidate, University of Chicago
- 9:45 - 10:00 **Using genomic data to track SARS-CoV-2 transmission in white-tailed deer**
Martha Nelson, Govt Scientist, NCBI/NIH
- 10:00 - 10:30 *Coffee Break*
- 10:30 - 11:00 **Predicting evolutionary genetics of virus-bacteria interactions in patients receiving phage therapy**
Paul Turner, Professor, Yale University
- 11:00 - 11:15 **Selection detection in a shrinking malaria parasite population with low recombination**
Angela Early, Post-doctoral Scholar, Broad Institute
- 11:15 - 11:30 **Selective pressures for insecticide resistance; may the selective force be with us**
Silvie Huijben, Assistant Professor, Arizona State University
- 11:30 - noon *Group Discussion*
- noon - 1.00 *Lunch*
- 1:00 - 3:00 *Hikes*
- 3:30 - 4:30 *On-campus activities*
- Teaching Diseases: active learning, creative syllabi, and sharing experiences in the classroom**
- CDC Center for Forecasting and Outbreak Analytics Info Session**

Thursday 25 May

8:30 - 9:00 *Morning Refreshments & Beverage Service*

DIVERSITY AND HETEROGENEITY

- 9:00 - 9:30 **Transmission heterogeneity, protected pockets of susceptibles, and the impact on pathogen persistence and virulence**
Colleen Webb, Professor, Colorado State University
- 9:30 - 9:45 **Trade-offs between host genotypes and their interaction with spatial structure**
Elisa Visher, Post-doctoral Scholar, Stanford University
- 9:45 - 10:00 **Evolution of parasite transmission dispersion**
Hannelore MacDonald, Post-doctoral Scholar, ETH Zurich
- 10:00 - 10:30 *Coffee Break*
- 10:30 - 11:00 **Lessons from emerging diseases in wolves and elk of the Greater Yellowstone Ecosystem**
Paul Cross, Professor, USGS
- 11:00 - 11:15 **Implications of individual variation in parasite-induced anorexia in herbivores for plant biomass**
Yen-Hua Huang, Post-doctoral Scholar, Yale University
- 11:15 - 11:30 **A planetary health solution for disease, sustainability, food, water, and poverty challenges in West Africa**
Jason Rohr, Professor, University of Notre Dame
- 11:30 - noon *Group Discussion*