
Schedule

****All talks will be in McCosh 50****

Monday 10 June

3:00-5:00 pm Registration & VirScan sampling at McCosh tent

5:00-7:00 Within-host competition in infectious disease dynamics
(Chair: Nicole Mideo; Sponsor: NSF RCN-IDEAS) See abstracts on pages 17-18

5:00 pm Introduction and welcome, from Princeton University Disease Group

5:05 pm Andrew Read: "The ecology of drug therapy"

5:35 pm Georgiana May: "A defensive symbiont of maize causes selection for greater virulence in a pathogen of Maize"

5:50 pm Katie Gostic: "B cell competition shapes the population-level impacts of broadly protective influenza Immunity"

6:05 pm Megan Greischar: "How ecology across scales influences the evolution of malaria parasites"

6:35 pm Anna Sjodin: "Do viruses interact? Exploring patterns of herpesvirus co-infection at multiple scales"

6:50 pm Hows and whys of VirScan, from Mike Mina

7:00-9:00 pm **Welcome reception with substantial appetizers**, McCosh tent

Tuesday 11 June

8:00-9:00 am **Breakfast**, McCosh tent

9:00 am-noon **Behavioral drivers of infectious disease dynamics** (Chair: Andy Dobson)
See abstracts on pages 19-21

9:00 am Lindy McBride: "Geographic, genetic, and neural origins of human biting in the mosquito vector *Aedes aegypti*"

9:30 am Jessica Hite: "Feeding colds and starving fevers? Evolutionary theory illustrates why appetite during illness matters"

9:45 am Douglas Kerlin: "Modelling the transmission of Devil facial tumour disease using contact networks"

10:00 am Emily Durkin: "The role of behaviour in parasite evolution"

- 10:15 am **Coffee break**, McCosh tent
- 10:45 am Sylvain Gandon: “Evolution and manipulation of vector behavior”
- 11:15 am Ayesha Mahmud: “When a megacity goes on holiday: the impact of population mobility on the spread of local epidemics”
- 11:30 am Janis Antonovics: “The perception kernel: vector behavior and disease transmission”
- 11:45 am Kristin Duffield: “When resistance is futile: age determines host reproductive effort under infection threat “
- 11:50 am John Giles: “Modeling seasonal commuting behavior for inferring infectious disease dispersal”
- 11:55 am *Announcements & hike planning info, from Princeton University Disease Group*
- 12:00-1:00pm **Lunch**, McCosh tent (**Teaching EEID session 1, McCosh 62**)
- 1:00-4:30 pm **Environmental drivers of infectious disease dynamics** (Chair: Jess Metcalf)
See abstracts on pages 22-24
- 1:00 pm Jeffrey Shaman: “Climate and influenza: Associations, processes and implications”
- 1:30 pm Nichar Gregory: “El Niño drought and tropical forest conversion synergistically determine mosquito vectorial capacity”
- 1:45 pm Ernest Asare: “The influence of birth rate and meteorological indices on the temporal patterns of rotavirus infection in Dhaka (Bangladesh)”
- 2:00 pm Devin Kirk: “Predicting warming-induced infectious disease epidemics with the metabolic theory of ecology”
- 2:15 pm **Coffee break**, McCosh tent
- 2:45 pm Elizabeth Borer: “Vectors as foraging animals: a frame-shift for disease ecology”
- 3:15 pm Matthieu Domenech de Celles: “Unraveling the seasonal epidemiology of pneumococcus”
- 3:30 pm David Allen: “Larval blacklegged tick phenology changes with elevation: implications for Lyme disease”
- 3:45 pm **Teasers for Poster session 1 (50 30-second teasers)**
- 4:30-7:00 pm **Poster Session 1, with beverages and hearty appetizers in Lewis Library**
(See abstracts pages 33-76)

Dinner independently, in town

Wednesday 12 June

- 5:30-8:00 am Birding hike
- 8:00-9:00 am **Breakfast**, McCosh tent
- 9:00am-noon Further hikes & rows

12:00–1:00pm **Lunch**, McCosh tent (**Teaching EEID session 2, McCosh 62**)

1:00-4:00 pm **Genetics of infectious disease dynamics across scales** (Chair: Bryan Grenfell)

See abstracts on pages 24-26

1:00 pm Christine Carrington: “The West Indies: a popular destination for emerging viruses”

1:30 pm Shai Pilosof: “The dynamic and non-neutral genetic strain structure of *Plasmodium falciparum* with implications for malaria epidemiology”

1:45 pm Christopher Kozakiewicz: “Phylogeography reveals reduced transmission of feline immunodeficiency virus among bobcats in an urban landscape”

2:00 pm Amanda Gibson: “Does genetic diversity reduce disease risk?”

2:15 pm **Coffee break**, McCosh tent

2:45 pm David Kennedy: “Multiscale Genetic Drift Shapes Pathogen Variation within Hosts”

3:15 pm Pamela Martinez-Vargas: “Prediction of post-vaccine *Streptococcus pneumoniae* lineage frequencies based on potential accessory genes under selection”

3:30 pm **Teasers for poster session 2 (50 30-second teasers)**

4:00-6:00 pm **Poster Session 2, with beverages and light appetizers** in Lewis Library

(See abstracts pages 77-120)

6:00-8:00 pm **Banquet**, Frick Hall

8:00-11:00pm **Dance party**, Poe Field

Thursday 13 June

8:00-9:00 am **Breakfast**, McCosh tent

9:00am-noon **From wondrous complexity to one health** (Chair: Andrea Graham)

See abstracts on pages 27-32

9:00 am Laura Bergner: “A hyperparasite with a missing viral helper: the ecology and evolutionary history of a novel satellite virus in vampire bats”

9:15 am Steve Ellner: “Individual specialization and disease spread in multi-host communities: Plant-pollinator networks”

9:30 am Jacobus de Roode: “Secondary plant chemicals alter virulence and transmission of herbivore parasites through a combination of toxicity and modulation of immunity and the microbiome”

9:45 am Catherine Herzog: “Management practices and age cohorts that contribute to increased Peste des petits ruminants seroprevalence in sheep goats and cattle in northern Tanzania”

9:50 am Amrita Bhattacharya: “Selection for increased virulence leads to decreased bacteriocin production in insect-pathogenic *Xenorhabdus nematophila*”

9:55 am Nicholas Skaff: “Thresholds in coastal climate and transcritical variation induce geographic heterogeneity in West Nile virus transmission across Los Angeles”

- 10:00 am Baptiste Elie: "The role of viral fitness variation in understanding the geographic origins of seasonal influenza"
- 10:05 am Changes to NSF-EEID, from Sam Scheiner & Katharina Dittmar
- 10:15 am **Coffee break**, McCosh tent
- 10:45 am Oliver Brady: "Predicting the spread of *Aedes aegypti* & *Ae. albopictus* at local & global scales"
- 10:50 am Jan Gogarten: "Tropical rainforest flies carrying pathogens form long-term associations with wild non-human primate social groups"
- 10:55 am Jessica Stephenson: "Dirty lying cheats: male guppies may use behaviour to avoid infection, conceal disease and boost parasite transmission"
- 11:10 am Allison Shaw: "Parasite richness intensity and prevalence shape the evolution of host seasonal migration"
- 11:25 am Ariane D  x: "A 1912 measles genome from Berlin gives new insights into the virus' evolutionary history"
- 11:40 am Skylar Hopkins: "Thermal refugia and ecological traps mediate bat survival after infection with the white-nose syndrome fungus"
- 11:55 am Poster prize announcements & closing remarks
- 12:00-1:00 pm **Lunch & Farewell**, McCosh tent, **with thanks from Princeton University Disease Group!**