

# Summer Institute in Statistics and Modeling in Infectious Diseases

All modules will be held online. 2022 module descriptions will be posted by February 1. See [Summer Institutes Archives](#) for last year's course descriptions (note module numbers may have changed).

## July 11 - July 13

### **Module 1: Probability and Statistical Inference\***

Instructors: Sarah Anoke, Zoe Moodie

### **Module 2: Mathematical Models of Infectious Diseases**

Instructors: Matt Ferrari; Micaela Martinez

### **Module 3: Introduction to R\***

Instructors: Ken Rice, Ting Ye

*\*These modules are offered through the Summer Institute in Statistical Genetics (SISG) but are cross-listed since they are of interest to SIS MID participants.*

## July 13 - July 15

### **Module 4: Pathogen Evolution, Selection, and Immunity**

Instructors: Trevor Bedford; Sarah Cobey

### **Module 5: Stochastic Epidemic Models with Inference**

Instructors: Tom Britton; Ira Longini, Jr

### **Module 6: Contact Network Epidemiology**

Instructors: Shweta Bansal, Tom Hladish, Joel Miller

## July 18 – July 20

### **Module 7: Causal Inference**

Instructors: Michael Hudgens, Thomas Richardson

### **Module 8: MCMC I for Infectious Diseases**

Instructors: Kari Auranen; M. Elizabeth Halloran; Vladimir Minin

### **Module 9: Spatial Statistics in Epidemiology and Public Health**

Instructors: Jonathan Wakefield; Lance Waller

### **Module 10: Reconstructing Transmission with Genomic Data**

Instructors: Caroline Colijn, Jessica Stockdale

## **July 20- July 22**

### **Module 11: MCMC II for Infectious Diseases**

Instructors: Theodore Kypraios; Philip O'Neill

### **Module 12: Infectious Diseases, Immunology and Within-Host Models**

Instructors: Andreas Handel; Paul Thomas

### **Module 13: Statistics and Modeling with Novel Data Streams**

Instructors: Mauricio Santillana; Alessandro Vespignani

## **July 25 – July 27**

### **Module 14: Simulation-Based Inference for Epidemiological Dynamics**

Instructors: Aaron King; Edward Ionides

### **Module 15: Microbiome Data Analysis**

Instructors: Alexander Alekseyenko; Paul McMurdie

### **Module 16: Evolutionary Dynamics and Molecular Epidemiology of Viruses**

Instructors: Julia Palacios; Nicola Mueller

## **Module Time Frames**

The live session time frame for SIS MID is outlined below. A few weeks prior to the start of a course, instructors will post a more precise schedule that outlines specific times for live lectures, group exercises, office hours, breaks, etc.).

- Mondays: 8 a.m. – 2:30 p.m. Pacific (11 a.m. – 5:30 p.m. Eastern)
- Tuesdays: 8 a.m. – 2:30 p.m. Pacific (11 a.m. – 5:30 p.m. Eastern)
- Wednesdays:
  - 8 a.m. – 11 a.m. Pacific for courses that end on Wednesday (11 a.m. – 2 p.m. Eastern)
  - 11:30 a.m.-2:30 p.m. Pacific for courses that start on Wednesday (2:30-5:30 p.m. Eastern)
- Thursdays, 8 a.m. – 2:30 p.m. Pacific (11 a.m. – 5:30 p.m. Eastern)
- Fridays, 8 a.m. – 2:30 p.m. Pacific (11 a.m. – 5:30 p.m. Eastern)

Registrants may not participate in concurrent modules for SISG, SISBID or SIS MID (i.e., participants may take only one course per session). However, participants are allowed to take SISCER courses concurrent with other modules.