

## SISMID Module 5 Schedule: Stochastic Epidemic Models with Inference

Instructors: Prof's Ira Longini (IL), Tom Britton (TB) and TA Fanny Bergström (FB)

Each topic will have a full set of pdf's.

### Wednesday July 12:

1. Introduction to stochastic epidemic models; notation, properties, examples, IL, TB
2. Important properties of epidemics and endemic situations, TB

### Thursday July 13:

3. Inference on stochastic epidemic models, TB
4. Modeling using networks and other heterogeneities, Computer simulations, TB + FB
5. Different models for vaccine mechanisms, IL
6. Stochastic models for small groups such as households, IL

### Friday July 14:

7. Continuation, Heterogeneities, inference from big outbreaks, TB
8. COVID-19 analysis, TB + FB
9. Study designs for evaluating vaccine efficacy, IL
10. Design and analysis of randomized vaccine trials for emerging infectious disease epidemics: From Cholera to Ebola to COVID 19, IL

Schedule for lectures (times are in the Pacific Daylight Time (PDT) Zone):

Date	Time (PDT)	Topic	Instructor
<b>Wednesday, July 12</b>	1:30 – 1:35	Introduction	IL, TB
	1:35 – 3:00	Lecture 1 + exercises	TB
	3:30 – 5:00	Lecture 2 + exercises	TB
<b>Thursday, July 13</b>	8:30 – 10:00	Lecture 3 + exercises	TB
	10:30– 12:00	Lecture 4 + exercises + computer simulations	TB, FB
	1:30 – 3:00	Lecture 5	IL
	3:30 – 5:00	Lecture 6	IL
<b>Friday, July 14</b>	8:30 – 10:00	Lecture 7	TB
	10:30– 12:00	Lecture 8 + exercises +computer inference	TB, FB
	1:30 – 3:00	Lecture 9	IL
	3:30 – 5:00	Lecture 10	IL