SISMID Module 6 Schedule: Stochastic Epidemic Models with Inference

Instructors: Prof's Ira Longini (IL), Tom Britton (TB) and TA Dongni Zhang (DZ)

Each topic will have a full set of pdf's and video lectures to be viewed ahead of ZOOM lectures.

Monday **July 12**:

1. Introduction to stochastic epidemic models; notation, properties, examples, IL, TB
2. Important properties of epidemics and endemic situations, TB
3. Inference on stochastic epidemic models, TB
4. Modeling using networks and other heterogeneities, Computer simulations, TB + DZ

Tuesday **July 13:**

5. Different models for vaccine mechanisms, IL
6. Stochastic models for small groups such as households, IL
7. Continuation, Heterogeneities, inference from big outbreaks,

    TB
8. COVID-19 analysis, TB + DZ

Wednesday July 14

9. Study designs for evaluating vaccine efficacy, IL
10. Design and analysis of randomized vaccine trials for emerging infectious

    disease epidemics: The case of Ebola and COVID-19, IL

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

Date	Time (PDT)	Topic	Instructor
Monday, July 12	8:30 – 8:45	Introduction	IL, TB
	9:00 – 9:45	Lecture 1 + exercises	TB
	10:00 – 10:45	Lecture 2 + exercises	TB
	11:00 – 11:45	Lecture 3 + exercises	TB
	12:00 – 12:45	Lecture 4 + exercises + computer simulations	TB, DZ
Tuesday, July 13	9:00 – 9:45	Lecture 5	IL
	10:00 – 10:45	Lecture 6	IL
	11:00 – 11:45	Lecture 7	TB
	12:00 – 12:45	Lecture 8 + exercises +computer inference	TB, DZ
Wednesday, July 14	9:00 – 9:45	Lecture 9	IL
	10:00 – 10:45	Lecture 10	IL