**SISMID Module 6 Schedule: Stochastic Epidemic Models with Inference**

Instructors: Prof’s Ira Longini (IL), Tom Britton (TB) and Yang Yang (YY)

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

**July 15**:

1. Introduction to stochastic epidemic models; notation, properties, examples, IL, TB

2. Important properties of epidemics and endemic situations, TB

**July 16:**

3. Inference on stochastic epidemic models, TB

4. Modeling using networks and other heterogeneities, TB

5. Different models for vaccine mechanisms, IL

6. Stochastic models for small groups such as households, IL

**July 17**

7. Stochastic inference for COVID-19 transmission, introduction to TRANSTAT software,

YY

8. More on inference from big outbreaks + COVID-19 analysis, TB

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):

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| Date | Time (PDT) | Topic | Instructor |
| Wednesday, July15 | 11:30–11:45 | Introduction | IL, TB |
|  | 11:45 – 12:30 | Lecture 1 + exercises | TB |
|  | 12: 45 – 13:30 | Lecture 2 + exercises | TB |
|  |  |  |  |
| Thursday, July 16 | 8:00 – 8:45 | Lecture 3 + exercises | TB |
|  | 9:00 – 9:45 | Lecture 4 + exercises | TB |
| Thursday, July 16 | 10:00 – 10:45 | Lecture 5 | IL |
|  | 11:00 – 11:45 | Lecture 6 | IL |
|  |  |  |  |
| Friday, July 17 | 8:00 – 8:45 | Lecture 7 + TRANSTAT Program | YY |
|  | 9:00 – 9:45 | Lecture 8 + exercises | TB |
| Friday, July 17 | 10:00 – 10:45 | Lecture 9 | IL |
|  | 11:00 – 11:45 | Lecture 10 | IL |