Seminar/Talk

Probabilistic models related to the SARS-CoV-2 pandemic

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Host:

In this talk, we will discuss a few projects initiated by the SMILE group (Collge de France/Sorbonne Universit) during the SARS-CoV-2 pandemic. I will present a general and tractable framework for modeling and "nowcasting the epidemic at a national scale. Our approach is based on a fairly general individual based model at the individual level capturing the main features of the epidemic (presence of asymptomatics, large heterogeneity in the population etc.). We show that despite the underlying complexity of our microscopic model, the global scale of the epidemic (i.e., when the number of infected gets large) is well captured by a deterministic McKendrickVan Foerster 1-d PDE, and that such an approximation allows us to make robust predictions on the fate of the epidemic. I will also show how this approach allows to make some theoretical predictions on contact-tracing data. Finally, and if time permits, I will discuss some spatial aspects of the epidemics.

Monday, May 31, 2021 01:30pm - 02:30pm

Online Event ()

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