

SEMINAR SERIES IN BIOSTATISTICS



March 14, 2019

14:30 - 15:30

Seminar Room: Sala del Consiglio (4064)

Building U7 - 4th floor

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Counterfactuals, Causal Effects and the Evaluation of Surrogates

Valid surrogate endpoints can make clinical trials more efficient, allowing for more trials to be conducted and more rapid development of effective treatments. One framework for surrogate evaluation is principal stratification, wherein the target estimand of interest measures vaccine efficacy in subgroups defined by the joint potential outcomes of the biomarker endpoint under assignment to the vaccine and under assignment to placebo, the unobserved counterfactuals.

Unlike conditioning on the observed candidate surrogate, this does not induce confounding. However, it does cause a systematic missing data problem. Several estimation methods and augmented data collection methods have been suggested for allowing surrogate evaluation.

Once I have introduced the potential outcomes framework and the difficulties in evaluating candidate surrogates under it, I will present the proposed methods for evaluation including both a quick overview of the literature and a more detailed outline of my contributions.