



Working Group on Statistical Learning Seminar

Title: Policymaking and Statistical Estimates: A Bayesian Decision-Analytic Model for Social Science

Speaker: Akisato Suzuki (University College Dublin)

Date: Mon 16th September 2019 at 12:00PM

Location: Seminar Room SCN 1.25

Abstract: How should we assess the policy implications of quantitative social science research? Such implications are typically discussed based on the statistical and substantive significance of statistical estimates; however, there are two limitations. First, relying on statistical significance misses the fact that uncertainty is a continuous scale. Second, the criterion of substantive significance is rarely explained and formally justified. To improve these conventional practices, I propose an original Bayesian decision-analytic model, applied to a binary outcome variable. I incorporate the posterior distribution of a causal effect to reduce the chance of an undesirable event (such as a recession, political deadlock, or war), into a loss function over the cost of realizing the effect through a policy and the cost of the undesirable event. The model implies the optimal decision depends on the size of the causal effect, its associated probability, and the difference between the two costs. I exemplify my model through a replication study on civil war recurrence. I also discuss potential extension to other types of outcome variables.