



JAMES ROBINS



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Mardi, 10 mai 2011, 9h00
Tuesday, May 10, 2011, 9:00 a.m.

Conférence dans le cadre de l'atelier «Inférence causale en recherche sur la santé»
Lecture at the Workshop on "Causal Inference in Health Research"

"A Comparison of Causal Models"

I will describe graphical and algebraic inference tools for the fully randomized causally interpreted structured tree graph model and the minimal causal model and compare these models with the non-parametric structural equation model and the agnostic causal model.

Joint work with Thomas S. Richardson.

Mercredi, 11 mai 2011, 15h00
Wednesday, May 11, 2011, 3:00 p.m.

Cette conférence s'adresse à un large auditoire -
Suitable for a general audience

"Modern Mathematical Methods for Drawing Causal Inferences from Observational Data"

The past 30 years has seen the evolution of a new, rigorous, formal mathematical language for causation. This modern synthesis has been adopted in sociology, psychology, statistics, econometrics, artificial intelligence, philosophy and other disciplines. This synthesis has led to new statistical methods, the so called g-methods, for drawing conclusions from observational longitudinal data. I will describe how these methods have been used to try to answer controversial substantively important public health questions such as: the optimal blood CD4 cell count (the immune cell destroyed by the HIV virus) at which to begin antiviral therapy in HIV infected individuals, the effect of occupational exposure to cutting oils on the mortality of machinists, the effect of post menopausal estrogens on heart disease, and the effect of the obesity epidemic on mortality.

Une réception suivra la conférence au Salon Maurice-L'Abbé, Pavillon André-Aisenstadt (Salle 6245).
A reception will follow at the Salon Maurice-L'Abbé, Pavillon André-Aisenstadt (Room 6245).

Lundi, 16 mai 2011, 16h00
Monday, May 16, 2011, 4:00 p.m.

Conférence dans le cadre de l'atelier «Inférence causale en recherche sur la santé»
Lecture at the Workshop on "Causal Inference in Health Research"

"Multiply Robust Higher order U -statistics Estimators for Continuous Time Dependent Censoring"

Under coarsening at random, doubly robust estimators exist for the unconditional survival distribution with continuous time right censoring in the presence of dependent censoring explainable by high dimensional time-dependent covariate processes.

In this talk, I describe multiply (ie triply, quadruple, etc) robust estimators based on higher order influence functions. These estimators are higher order U statistics. We posit a number of models for the joint distribution of the full data and for the censoring mechanism such that if any one of the many models is correct, we obtain a consistent asymptotically normal estimator of the survival distribution. The more models one uses the higher the required order of the U -statistic and the slower the rate of convergence which in general will be less than the parametric rate.

Joint work with Lingling Li, Eric Tchetgen, Aad van der Vaart.