



Dipartimento
di Statistica
"G. Parenti"

Il giorno martedì **5 giugno 2007** alle ore 11:30 presso la sede distaccata del Dipartimento di Statistica "G.Parenti" Viale GB Morgagni 65 - Aula Anfiteatro a Firenze il Prof. **Hal White** (University of California at San Diego) presenterà il lavoro

An Extended Class of Instrumental Variables for the Estimation of Causal Effects

joint with Karim Chalak



<http://local.disia.unifi.it/fedra>

Abstract

This paper builds on the structural equations, treatment effect, and machine learning literatures to provide a causal framework that permits the identification and estimation of causal effects from observational studies. We begin by providing a causal interpretation for standard exogenous regressors and standard "valid" and "relevant" instrumental variables. We then build on this interpretation to characterize extended instrumental variables (EIV) methods, that is methods that make use of variables that need not be valid instruments in the standard sense, but that are nevertheless instrumental in the recovery of causal effects of interest. After examining special cases of single and double EIV methods, we provide necessary and sufficient conditions for the identification of causal effects by means of EIV and provide consistent and asymptotically normal estimators for the effects of interest.