



MoIPAGE

Training WorkPackage

“Causal Inference: State-of-the-Art”

March 16-18, 2009

Cambridge (UK)

Organizers

Luisa Bernardinelli, Carlo Berzuini and Philip Dawid

OBJECTIVES:

This will be the final event of a series of training courses and methodological workshops organized in conjunction with an EC-funded project “**Molecular Phenotyping for Accelerating Genomic Epidemiology**” (MoIPAGE) (http://www-1.unipv.it/molpage_training/index.php). The overall aim was to bring to a statistical and biological audience a picture of the statistical methodology relevant to the project. Past courses have dealt with various specific research themes, such as methods for the analysis of data generated by advanced experimental platforms, in genomics, DNA methylation, transcriptomics, metabonomics and proteomics, and methods for causal inference from observational data.

The principal aim of this final workshop is to assess our current and future abilities to address cause-and-effect questions effectively, on the basis of the observational or quasi-experimental data likely to be available in the field of genetic and genomic epidemiology and medicine. However contributions need not necessarily be focused on the medical/genomic area.

Among various themes, this workshop will feature a critical evaluation and comparison of general approaches to causal inference, graphical models, potential outcomes, structural equations, longitudinal analysis, instrumental variable approaches, mendelian randomization, graphical model based approaches to causal inference, causal inference in dynamic systems, in the analysis of longitudinal survival data, in the analysis of clinical trial data and in genetic epidemiology.

REGISTRATIONS:

Deadline for registrations is February 2. For registrations and information :

www.unipv.it/molpage_training/training4

PROGRAMME:

Carlo Berzuini	Causal inference in genetic epidemiology
Sir David Cox	Causality: some introductory comments
Philip Dawid	Beware of the DAG!
Vanessa Didelez	IV methods, mendelian randomisation and interpretation of causal parameters
Graham Dunn	Evaluation of potential mediators and surrogate outcomes in randomised trials of complex interventions
Krista Fisher	Assessing the effect of blinding in a trial with open and blind arms
Constantine Frangakis	Addressing design effects in instrumental variables models using principal stratification
Els Goetghebeur	Causal effects of observed exposures on right censored failure times using instrumental variables
Sander Greenland	Is causal inference anything more than predictive inference for intervention alternatives?
Miguel Hernán	How to estimate the effects of hypothetical interventions, if we only had the data
Chris Holmes	TBA
Steffen Lauritzen	TBA
Juni Palmgren	Assessing direct effects in a chain of events using principal stratification - applications in cancer research
Andrew Pickles	Trajectories in human development and attribution of cause
Roland Ramsahai	Supplementary variables for causal estimation
Thomas Richardson	Analysis of partially-identified instrumental variable models
James Robins	Exposure measurement error and longitudinal causality
Paul Rosenbaum	Heterogeneity and causality
Don Rubin	The road to clear causal inference in practice: conceptualizing assignment mechanisms and predicting missing potential outcomes
Ilya Shpitser	Dormant independence for causal discovery
Peter Spirtes	Inference of dynamical equations from equilibrium states
Stijn Vansteelandt	A comparison of instrumental variable estimators for the causal effect of an exposure on a dichotomous outcome
Ian White	When is causal inference useful in clinical trials?
Nanny Wermuth	TBA