PhD studentship in Statistics: Dealing with effect decomposition and intermediate confounding in causal mediation analysis

Responsable: Stijn Vansteelandt, Department of Applied Mathematics and Computer Science, Ghent University, Belgium
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The candidate will take part in a multidisciplinary research project on dealing with effect decomposition and intermediate confounding in causal mediation analysis. This project is funded by the Fund for Scientific Research (Flanders) and will be conducted in collaboration with statisticians from the School of Science and the School of Psychology and Educational Sciences at Ghent University, as well as international experts. Its objective is to completely revise the prevailing popular approaches on mediation analysis or pathway analysis in the light of revolutionary developments and novel insights that have recently been made within the causal inference literature. This project will thereby drastically widen the scope and enhance the accessibility of methods for mediation analysis, and will in particular investigate how to deal with exposure-induced confounding of the mediator-outcome relationship, latent variables, repeated measures data, survival data and outcome-dependent sampling. Motivating problems will originate primarily from psychology, epidemiology and genetics.

Candidate

The successful candidate will hold a Master's degree in Mathematics (or related discipline) and/or Statistical Data Analysis. Students who do not meet this requirement, but are expected to graduate in 2012 with a Master's degree in one of these disciplines, are also welcome to apply for this position. The candidate should be highly motivated, have strong statistical and mathematical skills, as well as a strong interest in applied research.

The successful candidate will be hosted within a dynamic group of researchers, who are internationally recognized for outstanding research in causal inference. She/he will be offered excellent training and development opportunities, and will be involved in both cutting-edge methodological development on mediation analysis, and applications in an interdisciplinary environment.

Duration: 48 months

Date of start: as soon as possible

References

Goetgeluk, S., Vansteelandt, S. and Goetghebeur, E. (2008). Estimation of controlled direct effects. Journal of the Royal Statistical Society – Series B, 70, 1049-1066.

VanderWeele, T.J. and Vansteelandt, S. (2009). Conceptual issues concerning mediation, interventions and composition. Statistics and its Interface, 2, 457-468.

VanderWeele, T.J. and Vansteelandt, S. (2010). Odds ratios for mediation analysis for a dichotomous outcome - with discussion. American Journal of Epidemiology, 172, 1339-1348.

Please send your application (including a motivating letter, current CV, references and copies of diplomas and certificates) to Stijn Vansteelandt. We encourage candidates to apply early. Applications received before **February 15, 2012** will be given full consideration. Applications received after February 15 will be considered as they arrive, until the position is filled.

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