



De: CRM CRM@CRM.UMontreal.CA
Objet: COLLOQUE DES SCIENCES MATHÉMATIQUES DU QUÉBEC (10/12/2015, Nicolai Meinshausen)
Date: 7 décembre 2015 10:55
À: activites@CRM.UMontreal.CA

COLLOQUE DES SCIENCES MATHÉMATIQUES DU QUÉBEC

DATE :
Le jeudi 10 décembre 2015 / Thursday, December 10, 2015

HEURE / TIME :
15 h 30 / 3:30 p.m.

CONFERENCIER(S) / SPEAKER(S) :
Nicolai Meinshausen (ETH Zürich)

TITRE / TITLE :
Causal discovery with confidence using invariance principles

LIEU / PLACE :
UdeM, Pav. Roger-Gaudry, salle S-116 (<http://goo.gl/pqXt2q>)

RESUME / ABSTRACT :
What is interesting about causal inference? One of the most compelling aspects is that any prediction under a causal model is valid in environments that are possibly very different to the environment used for inference. For example, variables can be actively changed and predictions will still be valid and useful. This invariance is very useful but still leaves open the difficult question of inference. We propose to turn this invariance principle around and exploit the invariance for inference. If we observe a system in different environments (or under different but possibly not well specified interventions) we can identify all models that are invariant. We know that any causal model has to be in this subset of invariant models. This allows causal inference with valid confidence intervals. We propose different estimators, depending on the nature of the interventions and depending on whether hidden variables and feedbacks are present. Some empirical examples demonstrate the power and possible pitfalls of this approach.

Responsable(s) :
Yvan Saint-Aubin (yvan.saint-aubin@umontreal.ca)
Iosif Polterovich (iosif.polterovich@umontreal.ca)
Henri Darmon (darmon@math.mcgill.ca)
David A. Stephens (dstephens@math.mcgill.ca)

La conférence sera diffusée par vidéoconférence à l'Université Laval, salle PLT 1138-H

<http://www.crm.umontreal.ca/Colloques/index.html>