

DEPARTMENT OF STATISTICS

**Jonas Peters**

Department of Mathematical Sciences
University of Copenhagen

Causality and Distribution Generalization**October 28th, 2020****11:30 AM EST****Zoom Meeting: Meeting ID: 967 3670 9125****Password: 005532*****Virtual Coffee session before the seminar at 11:30AM EST***

Abstract: Purely predictive methods do not perform well when the test distribution changes too much from the training distribution. Causal models are known to be stable with respect to distributional shifts such as arbitrarily strong interventions on the covariates, but may not perform well when the test distribution differs only mildly from the training distribution. As a result, methods have been proposed that provide a trade-off between causal and predictive models. In this talk, we show some practical and theoretical implications of this idea. We show how it can be used to learn metabolic networks but also discuss theoretical limitations of this idea.

Bio: Jonas is professor in statistics at the Department of Mathematical Sciences at the University of Copenhagen. Previously, he has been at the MPI for Intelligent Systems in Tuebingen and the Seminar for Statistics, ETH Zurich. He studied Mathematics at the University of Heidelberg and the University of Cambridge. In his research, Jonas is interested in inferring causal relationships from different types of data and in building statistical methods that are robust with respect to distributional shifts. He seeks to combine theory, methodology, and applications.

