

Methodological Skills

Causality in Practice

Dr. Markus Kalisch

Tutors:	Markus Kalisch is Senior Scientist at ETH Zürich. One of his main research interests is causal inference from observational data, in particular applied and computational aspects of it. He has published his work in leading journals in statistics. Moreover, he is the co-leader of the statistical consulting team of ETH Zürich.
Dates/Rooms:	Thursday, March 3, 9am to 5pm; room U1.308 Friday, March 4, 9am to 5pm; room 3.A05
Language	Course language will be English.
Contact:	markus.kalisch@stat.math.ethz.ch
Registration:	Deadline for registration: February 23, 2016 Maximum number of participants: 20 Please register by email to phd_healthsem@unilu.ch and state if you are a SSPH+ member. Thank you.
Contents:	<p>The aim of this course is to provide students with a broad overview of concepts and methods on causal inference. We will start with planned experiments, in which the environment is controlled stringently by the researcher (experimental design). We will then proceed to settings where the control over the environment is reduced step by step (instrumental variables) until we arrive at the situation where no control of the environment is possible and only observational data is available (graphical models, covariate adjustment). At each step of the experimentation we will use discussions and computer exercises to highlight the most important issues.</p> <p>The DAGitty software (www.dagitty.net) and the R package <code>pcalg</code> (http://www.jstatsoft.org/article/view/v047i11) will be used for computer exercises.</p>
Prerequisites	A good understanding of statistics (descriptive and inferential) and familiarity with R data analysis software is expected.
Materials	
Credits	2 ECTS: Students are required to complete an assignment for the course credits.
Registration Fee & Notes:	This course is for PhD and PostDocs, no registration fee is charged.