PhD Course

Econometrics

Block course

Time: Jan 31st, Feb 1st, Feb 4th, 2019, Place: Moorweidenstr. 18, room 0029

Course instructor: Professor Martin Spindler (UHH)

Course value: 2 SWS or 4 LP

Course overview:
The main goal of this course is to give an introduction to causal inference, and if time allows to recent developments, in particular on the use of Machine Learning Methods for Causal Inference. Handouts of the slides will be provided during the course. The target audience are empirical researcher / PhD students who want to apply those methods for their research.

Topics:
1) Introduction to Causal Inference / Basic Framework
2) Methods for Causal Inference (Diff-in-Diff, IV, Propensity Score Matching, Randomized Control Trials, ...)
3) Recent Developments

Teaching language: English

Student evaluation: presentation of a recent paper in a blocked session (April 2019) or presentation / written summary of a research project / idea

Registration: not required
## Schedule (tentative)

<table>
<thead>
<tr>
<th>Date</th>
<th>Times</th>
<th>Location</th>
<th>Topics</th>
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<tbody>
<tr>
<td>Day 1 (Jan 31st)</td>
<td>8:30 - 10:00</td>
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<td>Introduction, Basics of Causal Inference, RCT, Diff-in-Diff, Instrumental Variables Estimation</td>
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<td>10:15 - 11:45</td>
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<td>13:00 - 14:30</td>
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<td>Day 2 (Feb 1st)</td>
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<td>Regression Discontinuity, Panel Data Methods, Propensity Score Matching</td>
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<td>12:45 -13:45</td>
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<td>Day 3 (Feb 4th)</td>
<td>8:30 - 10:00</td>
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<td>Current research papers and recent developments</td>
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<td>10:15 - 11:45</td>
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<td>13:00 - 14:30</td>
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References (advanced papers)


Athey and Imbens (2016). Recursive Partitioning for Heterogenous Causal Effects. PNAS.


