UNIVERSITÀ DEGLI STUDI DI MILANO
DIPARTIMENTO DI ECONOMIA, MANAGEMENT E METODI QUANTITATIVI

DEMM

Centre of Excellence in Economics and Data Science CEEDS

DIPARTIMENTO DI ECCELLENZA
2018-2022

2021

Online Summer School in Modern Difference in Differences Design

UNIVERSITY OF MILAN

DEPARTMENT OF ECONOMICS, MANAGEMENT AND QUANTITATIVE METHODS (DEMM)

CENTER OF EXCELLENCE IN ECONOMICS AND DATA SCIENCE(CEEDS)

12TH - 23RD OF APRIL 2021

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Instructor:

John Poe (University of Michigan)

Teaching Assistant:

Silvia Vannutelli (Boston University)

Scientific Committee:

Andrea Ariu (Chair)
Giovanna D'Adda (Chair)
Tommaso Frattini
Veronica Grembi
Agata Maida
Giancarlo Manzi

Organizing Committee:

Anna Basoni (CEEDS)
Stefania Scuderi (DEMM)
Veronica Rattini (DEMM)
Luca Driusso (DEMM)

Course Outline:

This course provides a comprehensive overview of modern Diff-in-Diff designs. The sessions will proceed step by step starting by the basic set-up and build up to the state-of-the-art applications. The course is structured to provide:

- a broad overview of a problem and the associated methods and literature;
- an in-depth look at a particularly important paper;
- how to implement the methods in software.

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Learning outcomes:

The course will provide a complete overview of the difference-in-differences technique to achieve causal inference. During the course students will:

- Build the theoretical and practical knowledge on the use of different Diff-in-Diff techniques
- Become familiar with the most advanced techniques of Diff-in-Diff such as matching, synthetic control, asymmetric/staggered treatments, dynamic treatments, interference, and heterogeneous treatment effects
- Become acquainted with the most important applications of each tool covered
- Gain a deep understanding of the practical use of each econometric strategy
- Receive feedback on individua research projects

Schedule:
(All class sessions will be conducted over Zoom from 2.00 p.m. to 7.00 p.m.)

- Mon.   April 12th: Basic Diff-in-Diff
- Tue.   April 13th: Parallel Trends Assumptions
- Wed. April 14th   Treatment Structure and Effect Heterogeneity
- Thur. April 15th: Interference, Spillovers and non-Compliance
- Fri.   April 16th: Discussion of Students' Research Projects
- Mon. April 19th: Propensity Score Theory and Applications
- Tue.   April 20th: Differential Timing
- Wed. April 21st: Generalized Counterfactual Estimators
- Thur. April 22nd: Unobserved Heterogeneity and Endogeneity
- Fri.   April 23rd: Review Session

Software:

Applications will be made available in Stata and R. However, not all of the tools covered are available in both software packages.

Prerequisites:

The course is appropriate for anyone considering using observational causal inference tools and makes no assumption of pre-existing training beyond basic regression.

Degree requirements:

The course is open to anyone (scholars or professionals) with an interest in Difference-in Differences econometric techniques. Applicants are required to hold at least a bachelor's degree and be on track to completing/have completed a postgraduate degree. The course is most suited to: Ph.D. students, young scholars and early career researchers.

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Course fees:

The course is fully funded by the Department of Economics, Management and Quantitative Methods (DEMM) at the University of Milan. This was made possible thanks to an award to DEMM as Department of Excellence by the Italian Ministry of Education, University and Research (MIUR), which resulted in establishing the Centre of Excellence in Economics and Data Science (CEEDS).

Credit:

The course is equivalent to 3 ECTS in the European system. Students who wish to receive credit for their Summer School course will need to contact their Study Abroad Office or the office in their university that deals with external credit. We strongly advise you to verify your university credit-granting process before you apply.

Certification:

Upon successful completion of the course, students will be able to request a certificate of participation.

Number of places available: 25

Note that availability is limited to 25 participants. Interested candidates are strongly encouraged to apply as early as possible.

How to apply:

All applicants are requested to fill the following online application form with your personal information together with an updated CV, and, for PhD students only, a motivation letter of no more than 150 words: https://forms.gle/U6gYmLZb12JNyUmv5

Deadline:
February 28th, 2021 at 23:59:59 CET.

Candidates will be informed of the outcome of their application by March 12th, 2021. Successful applicants will be requested to confirm their presence by March 19th, 2021.

Further information can be obtained by visiting or send us an e-mail at:
CEEDS.schools@unimi.it