Instructors

Miguel Hernán conducts research to learn what works to improve human health. Together with his collaborators, he designs analyses of healthcare databases, epidemiologic studies, and randomized trials. Miguel teaches clinical data science at the Harvard Medical School, clinical epidemiology at the Harvard–MIT Division of Health Sciences and Technology, and causal inference methodology at the Harvard T.H. Chan School of Public Health, where he is the Kotelkotrones Professor of Biostatistics and Epidemiology. His edX course Causal Diagrams and his book Causal Inference, co-authored with James Robins, are freely available online and widely used for the training of researchers. Miguel is an elected Fellow of the American Association for the Advancement of Science and of the American Statistical Association, an Editor of Epidemiology, and past Associate Editor of Biometrics, American Journal of Epidemiology, and the Journal of the American Statistical Association.

Katalin Gémes is a postdoctoral researcher at the Institute of Environmental Medicine, Karolinska Institutet, Stockholm, Sweden. She defended her PhD work in the field of Public Health Epidemiology. She currently works with combining data from observational studies and routinely collected administrative information to compare the effectiveness of different hypothetical interventions on diet and alcohol consumption on the risk of cardiovascular diseases.

Berliner Schule für Gesundheitswissenschaften (BSPH)
Intensive Short Course
Causal Inference – Learning what works

19 - 20 February 2020 | 9am - 5pm

The intensive short courses at BSPATH are organized by the Institute of Public Health.

Institute of Public Health
Prof. Tobias Kurth, MD ScD, Director

Venue
Charité – Universitätsmedizin Berlin
Campus Charité Mitte, Philippstraße 11
Hertwig–Hörsaal, Oskar Hertwig–Haus

Course Information
Course language: English
ECTS points: 1,25
Course fees: 212,50 € for enrolled students (proof required)
312,50 € for other participants

Registration Information
Please use our online registration form on our website: https://bsph.charite.de/en/academic_programs/intensive_short_courses/
Or contact Tanja Te Gude:
Tel.: +49 30 450 570 812
Tanja.te-gude@charite.de

https://iph.charite.de
https://bsph.charite.de
**Course description**

The course introduces students to a general framework for the assessment of comparative effectiveness and safety, with an emphasis on the use of routinely collected data in healthcare settings. The framework relies on the specification and emulation of a hypothetical randomized trial: the target trial. The course explores key challenges for causal inference and critically reviews methods proposed to overcome those challenges. The methods are presented in the context of several case studies for cancer, cardiovascular, and renal diseases.

**Course objectives**

To learn how to determine "what works" using data from observational and randomized studies.

**Audience**

The course is designed for students and researchers, public health professionals, epidemiologists, and clinicians with a solid knowledge of epidemiologic principles and a familiarity with multivariable modeling.

**Course prerequisites**

Basic knowledge of epidemiology

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**Learning objectives**

After successful completion of this course, students will be able to:

- Formulate sufficiently well-defined causal questions for comparative effectiveness research
- Specify the protocol of the target trial
- Design analyses of observational data that emulate the protocol of the target trial
- Identify key assumptions for a correct emulation of the target trial

**Pre-course reading**


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**Program**

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**Wednesday, 19 February**

9:00  Introduction: Asking causal questions
10:30 Break
11:00 Emulating the target trial
12:30 Break
13:30 Choosing time zero
15:00 Break
15:30 Individual and group exercises
17:00 End

**Thursday, 20 February**

9:00  Confounding adjustment: emulating randomization
10:30 Break
11:00 Treatment strategies
12:30 Break
13:30 Individual and group exercises
15:00 Break
15:30 Individual and group exercises
17:00 End