



Instructor

Prof. Dr. Dr. Tobias Kurth

Biographical Sketch

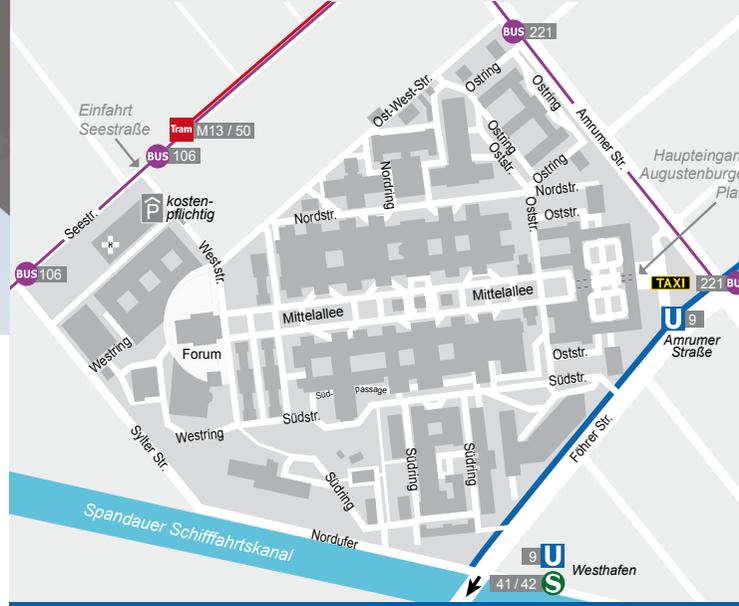
Tobias Kurth, MD, ScD, is Professor of Public Health and Epidemiology and Director of the Institute of Public Health at the Charité-Universitätsmedizin Berlin, Germany. He is Adjunct Professor of Epidemiology at the Harvard T.H. Chan School of Public Health where he has developed and co-directs a course on propensity score analyses since over 10 years.

Tobias Kurth received his M.D. from the University of Tübingen in Germany and a doctorate in epidemiology from the Harvard T.H. Chan School of Public Health. He served as a resident in the Department of Neurology at the University Hospital of Essen, Germany, which has a strong focus on migraine headache and stroke. Dr. Kurth has published >250 articles in indexed journals and is ranked among the top 1% of scientists by the ISI Web of Science in the field clinical medicine. He is Consulting Clinical Epidemiology Editor at the BMJ and teaches courses in clinical epidemiology, neuroepidemiology, medical editing, and epidemiologic methods with particular focus on the propensity score in Germany and internationally.

Scientific Summary

Tobias Kurth's principal areas of research are

- Neuroepidemiology/cardiovascular epidemiology with specific focus on the interrelationships between migraine, vascular risk factors, cardiovascular disease, and brain structure and function as well as the prevention and consequences of stroke and Parkinson's disease
- Pharmacoepidemiology, specifically the risks and benefits of analgesic use and psychotropic medications
- The application of tools to control for confounding in observational studies



Score-based Methods to Control for Confounding

Intensive Short Course | 15th - 17th June 2017

Institute of Public Health

Prof. Dr. Dr. Tobias Kurth, Director

Venue

Charité - Universitätsmedizin Berlin
Campus Virchow-Klinikum
13353 Berlin

Course Information

Language English
ECTS 1,25
Course fees 150,00 € for students
 187,50 € other participants

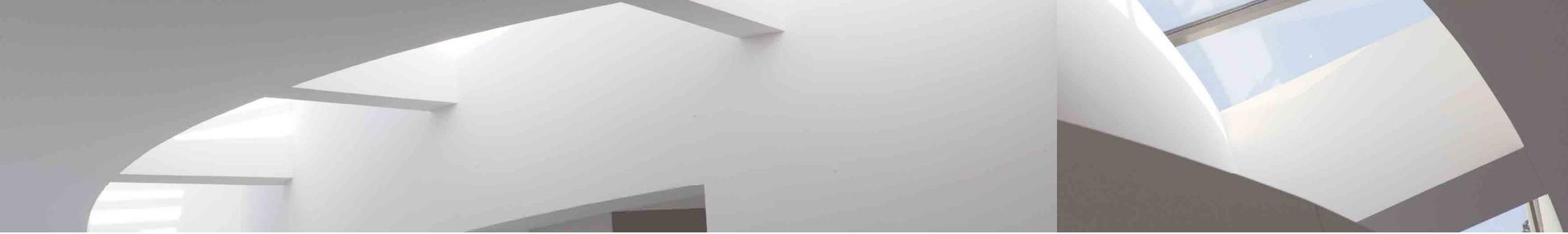
Registration Information

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 The number of participants is limited to 20.

Further information about IPH: <http://iph.charite.de>

Design: C. Voigts, Fotos: W. Peitz, Zentrale Medienleistungen, Charité- Universitätsmedizin Berlin





Course Description

The intent of this intensive short course is to strengthen the methodological skills of the population health research community.

The course lectures introduce and develop advanced theory on score-based methods to control for confounding, particularly propensity score analyses. Computer lab sessions provide participants with a data set for the application of propensity scores as a tool to control for confounding in observational research.

After the course students will have a solid understanding of score-based methods to control for confounding, particularly the propensity score and how to use these tools.

Audience

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

Course Pre-requisites

A course in introductory epidemiology and biostatistics. Courses in intermediate epidemiology and biostatistics are strongly recommended.

Course Materials

A book chapter on propensity score analyses and original papers on score-based methods to control for confounding will be provided. Pre-written SAS programs and a sample data set will be provided in the lab.

Course Outline

Score-based methods to control for confounding provide a useful way to analyze observational study data and are a necessary component of an epidemiologist's methodological toolbox. Prof. Tobias Kurth will introduce how propensity scores can be derived from logistic regression and review their many applications, such as matching, adjustment, and weighting. The discussion will include how propensity scores compare to other methods to control for confounding and scenarios in which propensity scores are particularly suitable (and others in which they lead us astray).

The computer labs will use existing data sets to explore the practical application of the theoretical concepts presented in the lectures. Participants are encouraged to bring their own questions and data for this interactive workshop.

Learning Objectives

At the end of the course participants should be able to:

- Identify the concepts of score-based methods to control for confounding
- Understand the rationale to build propensity score models
- Comprehend the rationale on how to use the propensity score
- Apply programming aspects in around propensity scores

Programme

Thursday, 15th June 2017

AFTERNOON | 2:30 pm - 6 pm

- Introduction and background
 - Course overview
 - The basic problem: confounding
 - Propensity score theory
 - How to build the propensity score
 - How to use the propensity score
 - Clinical examples

Friday, 16th June 2017

MORNING AND AFTERNOON | 9 am - 5 pm

- Computer lab
- Introduction to the data set
- Standard analyses
- Building a propensity score model
- Using the propensity score
 - Matching
 - Regression adjustment
 - Weighting

Saturday, 17th June 2017

MORNING | 9 am - 12:30 pm

- Interpretation
- Advanced concepts
- Take home message
- Assessment and wrap up