Instructor

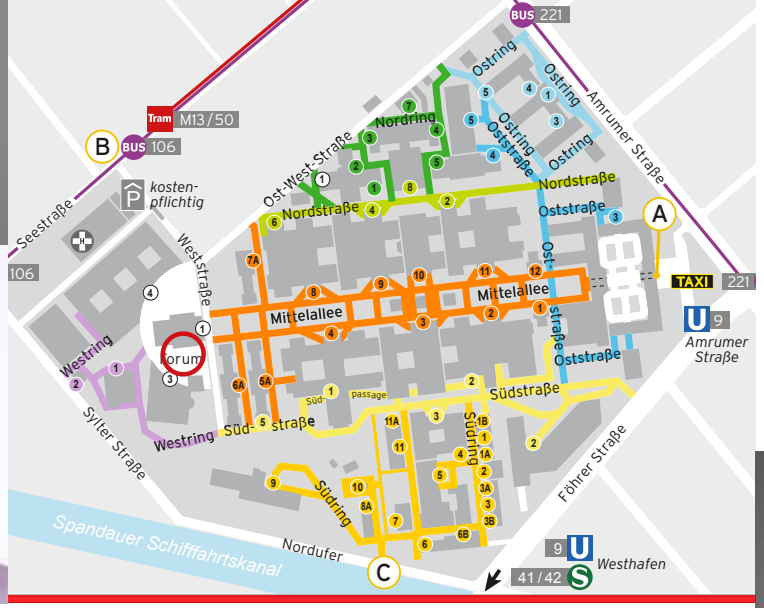
Matthew Fox, DSc, MPH,
is a Professor in the Departments of Global Health and Epidemiology at Boston University.

Prof. Fox joined Boston University in 2001. Before that time, he was a Peace Corps volunteer in the former Soviet Republic of Turkmenistan. His research interests include outcomes in HIV treatment programs, infectious disease epidemiology (with specific interests in HIV and pneumonia), and epidemiologic methods. Prof. Fox works on ways to improve retention in HIV-care programs in South Africa from the time of testing HIV-positive through long-term treatment.

As part of this work, he is involved in analyses of whether treating patients with higher CD4 counts leads to improved long-term retention and treatment outcomes. Prof. Fox also does research on quantitative sensitivity analysis and recently co-authored a book on these methods: Applying Quantitative Bias Analysis to Epidemiologic Data.

He currently teaches a third-level epidemiologic methods class, Advances Epidemiology as well as two other doctoral level epidemiologic courses.

Prof. Fox is a graduate of the Boston University School of Public Health with a master's degree in epidemiology and biostatistics and a doctorate in epidemiology.



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

Institute of Public Health

Prof. Tobias Kurth, MD ScD, Director

Venue

Charité – Universitätsmedizin Berlin
Campus Virchow-Klinikum
Forum 3

Course Information

Course language: English
ECTS points: 3
Course fees: 510 € for students
750 € for other participants

Registration Information

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BERLIN SCHOOL OF PUBLIC HEALTH

Intensive Short Course

Advanced Epidemiologic Methods

12-16 August 2019 | 9am – 5pm

Rethinking Basic Epidemiologic Concepts

ASH Berlin Alice Salomon Hochschule Berlin University of Applied Sciences
CHARITÉ UNIVERSITÄTSMEDIZIN BERLIN
Technische Universität Berlin

https://bsph.charite.de

Course Description and Learning Objectives

The intention of this intensive short course is to strengthen the methodological skills of the research community. At the end of the week, participants should be able to:

- Use the sufficient cause model, counterfactual susceptibility type model, and causal graphs to assist with the design and analysis of epidemiologic studies.
- Calculate adjusted measures of effect and select those that, when collapsible, correspond to the no-confounding condition. Use the adjusted measures of effect to estimate the direction and magnitude of confounding.
- Distinguish effect measure modification, interdependence, and statistical interaction from one another as separate - but related - concepts of interaction.
- Identify the likely magnitude and direction of bias due to misclassification of exposure, outcomes, confounders and modifiers. Weigh the advantages and disadvantages of significance testing.
- Compare the advantages and disadvantages of frequentist and Bayesian approaches to analysis of a single study, to evidence, and to changing your mind.

Audience

The course is designed for researchers, public health professionals, epidemiologists and clinicians familiar with advanced epidemiologic knowledge, algebra, and statistical computing.

Course Pre-requisites

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

Course materials

- Rothman KJ, Greenland S, Lash TL.: Modern Epidemiology. 3rd Edition. Lippincott-Raven, Philadelphia, 2008

Program

12–16 August 2019 | 9am – 5pm

Monday, 12 August

am Introduction to modern epidemiology:
Review of basic epidemiology and introduction to advanced epidemiologic concepts.

pm The sufficient cause model:
Introduction to causal models and the basis of causal thinking.

Tuesday, 13 August

am The potential outcomes model:
Confounded definitions of confounding.

pm Structural approaches to bias:
Directed Acyclic Graphs and the potential harms of statistical adjustment.

Wednesday, 14 August

am Novel approaches to dealing with confounding:
Propensity Scores and Marginal Structural Models.

pm Three concepts of interaction:
What do we really mean by ‘interaction’?

Thursday, 15 August

am Beyond „nondifferiential misclassification biases toward the null”:
Information bias.

pm The abused p-value:
Random Error I: What’s in a p-value?

Friday, 16 August (ends 13:00)

am A show of confidence:
Random Error II: P-values or confidence intervals? An introduction to Bayesian thinking.