I wish to participate in the 4-day course (please fill in legibly and send a photo or only an e-mail with the required information)

Registration Form
7th RUHR- School of Modern Epidemiology

First name

Last name

Title

Institution

Address

Invoice address

Email

Phone

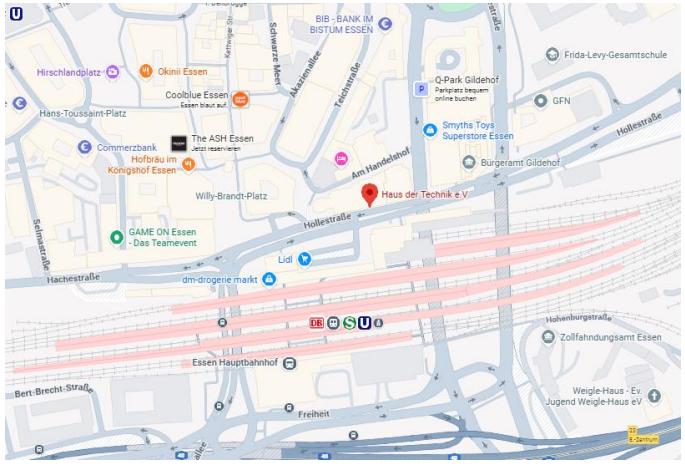
Please enclose proof of your student status.

Cancellation of registration:
Cancellations with full refund are only possible until June 1, 2026. From June, 7 2026 we retain 50% of the fee. From July 01, 2026 we will retain the complete fee.

Please send to
E-mail: IMIBE-summerschool@uk-essen.de

Venue

Haus der Technik e.V.
Hollestraße 1
45237 Essen



By public transport

Arriving at Essen central station, leave the building towards Innenstadt/Kettwiger Straße (through the main entrance). The 'Haus der Technik' is located opposite the central station on the right hand side.

7th RUHR-School of Modern Epidemiology

July 7, 2026 to July 10, 2026

Prof. Catherine Lesko

Applied Epidemiologic Analysis for Causal Inference

UNIVERSITÄT DUISBURG ESSEN
Open-Minded

epi&cr
PhD in Epidemiology and Clinical Research

University Medicine Essen
University Hospital Essen
Institute for Medical Informatics, Biometry and Epidemiology (IMIBE)

July 7, 2026 to July 10, 2026

Catherine (Katie) Lesko, PhD, MPH earned her PhD in Epidemiology from the University of North Carolina, USA. She is an Associate Professor at Johns Hopkins Bloomberg School of Public Health, where she is Associate Director of the Johns Hopkins HIV Clinical Cohort and Director of the Epidemiology and Biostatistics Core of the North American AIDS Cohort Collaboration on Research and Design (NA-ACCORD).

Her research focuses on describing the health and long-term engagement in care of people with HIV and investigating the effects of different health behaviors and exposure on those outcomes. She has expertise in the development and application of epidemiological methods for the estimation of unbiased population parameters from imperfect and incomplete observational data. Among other things, she has contributed a framework for conducting descriptive epidemiologic studies, methods for handling loss to follow-up, and for transporting results from a study sample to a target population of interest.

Course Outline

This course introduces concepts and applications of potential outcomes and structural causal models for the estimation of causal parameters in epidemiologic research. The course will familiarize participants with the assumptions underpinning modern causal inference methods and provide a conceptual understanding of standardization/g-computation and inverse probability weighting. Participants will apply each of these methods to estimating the effect of a time-fixed exposure in a simple setting. The course will also discuss the application of these methods in the literature.

Introduction: What is meant by "causal inference" and an overview of frameworks for framing a well-defined causal question; separating causal assumptions and study design from the statistical methods used to quantify the target quantity. Specifically, this course will cover potential outcomes, structural causal models (directed acyclic graphs or DAGs), the target trial framework, and the estimands framework—how they are useful and what we can learn from each.

The natural course: This course will cover the role of descriptive epidemiology and the natural course in defining causal questions and challenges with estimating it, including information and selection bias. We will cover the role of the target population and time in epidemiologic studies. Participants will discuss how the treatment of competing events can change epidemiologic inference.

An overview and application of g-methods: This course will define g-methods and highlight when they are necessary and how they can be useful. We will provide an intuition for understanding inverse probability weighting and g-computation with hand calculations and basic code, and practical skills and tips for applying these tools in real-world data. Students will work through examples in class and learn to apply principles of sound study design to their own work.

Unmeasured confounding: Most traditional epidemiologic methods rely on the assumption of no unmeasured confounding. This course will include an overview of methods that can be considered when this assumption is implausible.

Course fees:

Applicants not from Universities:	750 €
Applicants from Universities:	500 €
Students*:	300 €

* first-degree students in bachelor's or master's degree programs or in a state examination program

Application deadline:

	Tuesday June 2, 2026,	12:00 am
Registration:	Tuesday July 7, 2026,	08:30 am

Time Course:

Tuesday	July 7, 2026	9:00 am – 05:30 pm
Wednesday	July 8, 2026	9:00 am – 05:30 pm
Thursday	July 9, 2026	9:00 am – 05:30 pm
Friday	July 10, 2026	9:00 am – 05:30 pm

Program Director:

Univ.-Prof. Dr. med. Andreas Stang, MPH
Director of the Institute of Medical Informatics, Biometry and Epidemiology (IMIBE)
University Hospital Essen

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Course language: English