Ulm University, Germany

31st International Summer School of Epidemiology

Institute of Epidemiology & Medical Biometry
July 24 – 28, 2023
The program is geared to persons with interest in the fields of epidemiology and public health. Professionals, scientists and students working in clinical medicine, epidemiology, public health, social insurance, health policy or health administration are welcome. All courses will be held in English. Participants will receive a certificate after successful completion of a course (compulsory attendance every course day).

**Course Outline**

Morning session:

1. **Analytic methods for longitudinal data including time-varying covariates**

   **Steve Marshall**
   UNC Gillings School of Global Public Health at Chapel Hill, NC, USA

Afternoon session:

2. **Introduction to systematic review and meta-analysis of observational data**

   **Blanca Iciar Indave Ruiz**
   Formerly Systematic Reviewer at International Agency for Research on Cancer, WHO, Lyon, France. Now EMCDDA, Lisboa, Portugal
   **Dietrich Rothenbacher**
   Institute of Epidemiology + Medical Biometry at Ulm University, Germany

In cooperation with
the UNC Gillings School of Global Public Health
at Chapel Hill, North Carolina, USA
and
the International Graduate School in Molecular Medicine
at Ulm University, Germany.
1. Analytic methods for longitudinal data including time-varying covariates
Instructor: Steve Marshall

2. Introduction to systematic review and meta-analysis of observational data
Instructors: Blanca Iciar Indave Ruiz Dietrich Rothenbacher

Course Descriptions

Longitudinal Data Analysis is an important topic in epidemiology. We often seek to gain insight into causal relationships by prospectively following subjects over time. However, it is important to recognize that exposures and confounders are often changing over time. Thus, it is important to understand analytic methods for longitudinal data in order to isolate effects of specific exposures while controlling for time-dependent covariates. The longitudinal analysis methods taught in this course include generalized estimating equations, generalized linear mixed models with random intercepts and random slopes and survival methods for time-varying exposures. This course will also address pragmatic topics in contemporary epidemiology: Principles of causal inference, estimation versus hypothesis testing and assessing effect modification. This course is intended for those who are proficient with traditional epidemiologic methods and wish to learn advanced methods.

This course will provide an introduction to the conduct of systematic reviews and meta-analysis with a special focus on methods for observational data synthesis. We will introduce the concept of evidence-based medicine, evidence levels and the evolution of evidence synthesis in the last 30 years. The course will describe the different types of reviews and help to understand the systematic review process, as well as its possible variations. We will help to understand the steps involved in the performance of such a research work: formulation and framing of an adequate research question, definition of eligibility criteria, search and identification of relevant studies, data extraction and validity and risk of bias assessment of included studies, as well as synthesis and reporting of results. We will present tools to assist each of these stages, as well as recommendations on how to disseminate and update results of a systematic review based on the example of the Evidence-based Pathology project of IARC. Participants will further learn how to perform a quantitative analysis of results, how to present and interpret them. Choice of models (fixed-effect or random effects) and approaches to quantify heterogeneity will be discussed. The generation and interpretation of forest plots including methods to assess the potential of bias (e. g. by means of funnel plots) will also be considered. In addition, we will look at several tools and software that can help to critically evaluate and conduct a meta-analysis.
Dates: July 24 – 28, 2023
Monday – Thursday: 09.00 am – 12.15 pm
               01.15 pm – 04.30 pm
Friday: 09.00 am – 11.00 am
        11.15 am – 01.15 pm
Every day there are two coffee breaks, one in the morning and one in the afternoon (Friday: one break).

Location: Ulm University / Helmholtzstraße 22 / D – 89081 Ulm

Fees: € 600.00 per course (€ 1,200.00 for two courses)

€ 450.00 per course for members of the German Epidemiological Association (DGEP) (€ 900.00 for two courses)

€ 300.00 per course for employees of Ulm University and students (€ 600.00 for two courses)

€ 10.00 per course material as hardcopy (course materials in electronic form included in course fees)

Number of Participants: Limited to a maximum of 24 participants per course

Application: Please use the enclosed application form

Deadline: June 30, 2023

Program Director: Prof. Dr. med. Dietrich Rothenbacher, MPH

Coordinator at the School of Public Health, University of North Carolina at Chapel Hill: Prof. Wayne Rosamond, PhD

For further information please contact: Nicole Kroll / Ulm University
Institute of Epidemiology & Medical Biometry
Helmholtzstraße 22 / D – 89081 Ulm
Phone: +49 731 50 31076 / Fax: +49 731 50 31069
Email: nicole.kroll@uni-ulm.de
www.uni-ulm.de/med/epidemiologie-biometrie.html
Application form

International Summer School of Epidemiology at Ulm University
July 24 - 28, 2023

Male: ___ Female: ___ Nationality: _____________________________________________

Family name, degree: ______________________________________________________

First name: ________________________________________________________________

Present occupation: __________________________________________________________

Address, Phone: _____________________________________________________________

E-Mail: _________________________________________________________________

How did you learn about our courses? __________________________________________

Your course material: Electronically: _______ Hard copy (€ 10,00): ________

Status:

☐ Regular application

☐ Employee of Ulm University

☐ Member of the German Epidemiological Association (DGEpi)

☐ Student

I would like to register for the following course(s):

Morning, 9:00 am – 12:15 pm

☐ Course 1: Analytic methods for longitudinal data including time-varying covariates

Afternoon, 1:15 pm – 4:30 pm

☐ Course 2: Introduction to systematic review and meta-analysis of observational data

Place and Date

Signature

Deadline for application: June 30, 2023

Please return to: Nicole Kroll, nicole.kroll@uni-ulm.de
Institute of Epidemiology & Medical Biometry
Ulm University, Helmholtzstraße 22, D – 89081 Ulm