

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

Registration Form  
6<sup>th</sup> 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 23, 2024. From June 24, 2024 to June 28, 2024 we  
retain 50% of the fee.

From June 29, 2024 we will retain the complete fee.

Please fax to: +49-201-723-77-333 or send to  
E-mail: [IMIBE-summerschool@uk-essen.de](mailto:IMIBE-summerschool@uk-essen.de)

**Course fees:**

|  |       |
|--|-------|
| Applicants not from Universities:                                  | 700 € |
| Applicants from Universities (incl.<br>cancer registry employees): | 500 € |
| Students*:   | 300 € |

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

**Application deadline:**

Friday June 21, 2024

**Time Course:**

|           |              |                   |
|-----------|--------------|-------------------|
| Tuesday   | July 2, 2024 | 2:00 pm – 6:15 pm |
| Wednesday | July 3, 2024 | 2:00 pm – 6:15 pm |
| Thursday  | July 4, 2024 | 2:00 pm – 6:15 pm |
| Friday    | July 5, 2024 | 2:00 pm – 6:15 pm |

**The event will take place exclusively online. You will  
receive the ZOOM link after paying for the course.**

**Program Director:**

Prof. Dr. med. Andreas Stang, MPH  
Head of the Center of Clinical Epidemiology  
c/o IMIBE, University Hospital Essen

**Administrative staff & contact address:**

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Information online:

<https://imibe.uk-essen.de/lehre/ruhr-school/>

**Course language:** English

**Teaching material:** English

# INVITATION

## 6<sup>th</sup> RUHR-School of Modern Epidemiology July 2-5, 2024

Prof. Dr. med. Andreas Stang, MPH

### Introduction to Cancer Epidemiology



**LKR** LANDES  
KREBS  
REGISTER NRW

In cooperation with the  
NRW State Cancer Registry

UNIVERSITÄT  
DUISBURG  
ESSEN

*Open-Minded*

# Introduction to Cancer Epidemiology

July 2-5, 2024

## Introduction

Prof. Andreas Stang, MD, MPH studied medicine, spent 2.5 years in clinical practice, and completed a Master of Public Health degree with a focus on epidemiology and biostatistics at Boston University, USA. He is Director of the Institute of Medical Informatics, Biometry and Epidemiology, Faculty of Medicine, University of Duisburg-Essen



Furthermore, he is Medical Director of the North Rhine-Westphalia State Cancer Registry. He is also Adjunct Professor at the Department of Epidemiology, School of Public Health, Boston University

Prof. Stang has been active in cancer epidemiology since 1996 and is or has been member of some important committees in cancer medicine (e.g. head of the Advisory Board of the Center for Cancer Registry Data [Zentrum für Krebsregisterdaten am RKI] (2010-2018), member of the Advisory Board of the Cooperation Community Mammography Screening [Kooperationsgemeinschaft Mammographie-Screening] (since 2012-present).

## Course Outline

This comprehensive course provides a convenient introduction to the field of cancer epidemiology and highlights the unique features of this epidemiological subject. In terms of prior medical knowledge, basic knowledge of medical terminology is assumed.

### Fundamentals of cancer

Definition of patients and clients; cancer terminologies (neoplasm, cancer, carcinoma, tumor, malignancy etc.); cellular and histological features of neoplasms; hyperplasia, hypertrophy, atrophy, dysplasia and metaplasia; definition of major histological cancer groups (carcinoma, sarcoma, myeloma & leukemia, lymphoma, mixed neoplasms, gonadal neoplasms); benign/borderline/malignant neoplasms; in-situ versus invasive cancer; steps of metastasis; distinction between pathogenesis & etiology; induction and latency period; twin studies, migrant studies, principles of epigenetics; therapy-related concepts (neo-adjuvant, adjuvant, first- & second line, maintenance); therapy-related endpoints (progression, recurrence, distant metastasis etc.)

### Cancer classifications

Application of medical classifications; relevant cancer classifications (ICD-10, ICD-O, TNM); principles of cause of death statistics; Berg's classification of human cancer; principles of cancer staging; needs of pathologists from clinicians; elements of a pathology report; histopathological workflow and potential errors in pathology;

### Cancer occurrence

Crude rates; age-specific rates; age-truncated rates; direct age standardization; standard populations; variance measures of crude and standardized rates and ratios of rates; population at risk principle in cancer epidemiology; inverse variance pooling of rates; visual display of time trends of rates; triangulation of occurrence measures; interpretation of cancer incidence time trends; definition of rare cancers.

### Cancer registration

Tasks of cancer registries; history of cancer registration; completeness of cancer registration; death certificate only (DCO) cases; morphological verification of cancers; primary site unspecified cancers; reporting of cancer rates; relative survival probabilities; available public data sources of cancer occurrence data;

### Cancer screening

Comprehensive cancer control; curative versus palliative therapy; screening versus diagnostic work-up; Wilson & Jungner screening criteria (WHO 1968); adopted screening criteria (WHO 2008); acceptance factors for population-based screening; relation between pathogenesis and screenability of cancers; preclinical phase & sojourn time; screening, lead time, and lead time bias; screening and length time biased sampling; overdiagnosis; potential effects of screening at population level; measures of screening benefit and harm; number needed to screen;