

## Organization

### Venue

The course will take place in Heidelberg at the University Campus 'Im Neuenheimer Feld'.

### Registration

Deadline for registration is April 28, 2016.

### Course fee

The fee for the course is € 645; discounted rate for affiliated with a university € 430.

### Cancellation

The cancellation policy is as follows: 100% refund for cancellations before May 05, 75% refund for cancellations before May 12, no refund for cancellations after May 12, 2016.

Attendee substitutes may be made at any time.

### Public Transport

Costs and schedule: [www.vrn.de](http://www.vrn.de)



## Information

[www.biometrie.uni-heidelberg.de/master](http://www.biometrie.uni-heidelberg.de/master)

## Concept and Contents

University of Heidelberg  
Institute of Medical Biometry and Informatics  
Department of Medical Biometry  
Im Neuenheimer Feld 130.3  
69120 Heidelberg

## Contact

Dr. Katharina Hees / Dr. Marietta Kirchner  
Tel.: 06221/56-7784, Fax: 06221/56-4195  
[master@imbi.uni-heidelberg.de](mailto:master@imbi.uni-heidelberg.de)

## Organization

Andrea Wendel  
Tel.: 06221/56-4141, Fax: 06221/56-4195  
[wendel@imbi.uni-heidelberg.de](mailto:wendel@imbi.uni-heidelberg.de)

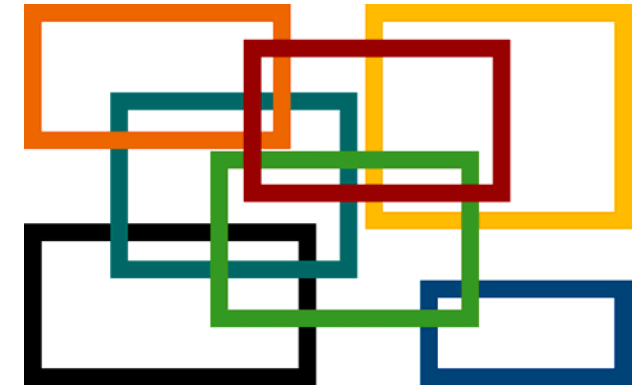


Medizinische Fakultät Heidelberg

## Master

# Medical Biometry/Biostatistics

## Genetic Epidemiology



**May 19 – 21, 2016**

## Aims

Module participants will be able to:

- Understand the principles of genetic association and genetic linkage analysis
- Apply basic techniques to analyse genetic case control data, and family data
- Recognize population genetics as background for genetic mapping studies
- Apply methods of risk calculation in families

## Course content

The course will cover following topics:

- Monogenic and complex diseases, the concept of genetic modelling
- Design of studies in Genetic epidemiology
- Next generation sequencing for fine mapping
- Power considerations and multiple testing
- Confounding in genetic association studies
- Use of genotypes from public databases
- The recent history of familiar breast cancer: linkage, association, genetic risk models and application in medical genetics

The module is designed as a mixture of short lectures and practical exercises. Real data will be analysed to illustrate theoretical concepts.

## Pre-requisites

Basic knowledge of statistics at similar level of the module 'Biometrie I'.

## Course readings

Human Molecular Genetics. Strachan T. and Read A., 2010, BIAS Scientific Publishers Ltd.

Einführung in die Genetische Epidemiologie, Bickeböller H. und Fischer C., 2007, Springer.

Lancet Series <http://www.thelancet.com/series/genetic-epidemiology>

## Schedule

### Thursday

- 9:00-10:30  
Human Genetics and Molecular Genetics
- 11:00-12:30  
Monogenic an complex diseases
- 13:30-15:00  
Population Genetics
- 15:30-17:00  
Practical I

### Friday

- 9:00-10:30  
Linkage Analysis
- 11:00-12:30  
Practical II
- 13:30-15:00  
Association analysis
- 15:30-17:00  
Practical III

### Saturday

- 9:00-10:30  
Risk calculations in families
- 10:45-12:15  
Prediction models for breast cancer
- 12:45-13:45  
Practical IV (literature study)
- 13:45-14:15  
Wrap up

## Number of Participants

The number of participants is limited to 30 per course.

## Course instructors

- Dr. Christine Fischer, Germany (Coordination), PD. Dr. Beate Niesler Institute of Human Genetics, University of Heidelberg,
- Prof. Dr. Justo Lorenzo Bermejo, Rosa González Silos, Statistical Genetics Group, Institute of Medical Biometry and Informatics, University of Heidelberg, Germany

## Further information

- Teaching language is English.
- It is strongly recommended to bring your own laptop for practical exercises.
- The programme is subject to change.