



Organization

Venue

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

Registration

Deadline for registration is November 14, 2019.

Course fee

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

Cancellation

The cancellation policy is as follows: 75% refund for cancellations after November 21, no refund for cancellations after November 28, 2019.

Attendee substitutes may be made at any time.

Public Transport

Costs and schedule: www.vrn.de

Information

<http://www.biometrie.uni-heidelberg.de/datascience>

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. Marietta Kirchner
Tel.: 06221/56-7784, Fax: 06221/56-4195
datascience@imbi.uni-heidelberg.de

Organization

Meyrem Yildiz
Tel.: 06221/56-4142, Fax: 06221/56-4195
yildiz@imbi.uni-heidelberg.de



MEDIZINISCHE
FAKULTÄT
HEIDELBERG

Generalized Additive Models

05.12. - 07.12.19



Aims

Course participants will be able to:

- Understand the basic ideas behind generalized additive models and related approaches
- Perform their own analyses using the statistical language R
- Visualize and interpret the results

Course content

The course discusses modelling approaches that go beyond the well-known (generalized) linear model, e.g., because crucial assumptions such as linearity in the covariates are violated. In particular, the following topics will be covered:

- Polynomial functions of covariates
- Modeling using splines
- Smoothing and penalties
- Semi- and non-parametric modeling of covariates
- Statistical inference
- Implementation in R
- Generalized additive models in practice

Pre-requisites

The participants must have

- Basic knowledge of statistics and probability theory, including the classical linear model
- Basic knowledge in R

Schedule

Thursday

9:00 – 10:30 Introduction
11:00- 12:30 Exercises
13:30-15:00 Smoothing and Penalties
15:30-17:00 Exercises

Friday

9:00 – 10:30 Generalized Additive Models
11:00- 12:30 Exercises
13:30-15:00 Statistical Inference in GAMs
15:30-17:00 Exercises

Saturday

9:00 – 10:30 Alternatives to GAMs
11:00- 12:30 Exercises

Number of Participants

The number of participants is limited to 20 per course.

Course instructors

Prof. Dr. Jan Gertheiss,

Helmut Schmidt Universität/Universität der Bundeswehr Hamburg