Organization

Venue
The courses may take place in parts or as a whole online (virtual conferences) if in-classroom teaching is not possible.

Registration
Deadline for registration is October 7, 2021.

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 till October 13; 75% refund for cancellations between October 14 and October 20; no refund for cancellations after October 21, 2021.

Attendee substitutes may be made at any time.

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.: 06221/56-4141, Fax: 06221/56-4195
datascience@imbi.uni-heidelberg.de

Organization
Simone Fomuki
fomuki@imbi.uni-heidelberg.de

Working with Data, Plotting, Reproducibility and Presentation

28. - 30. October 2021
Aims
Course participants will be able to:

- import data from a wide variety of sources in the R-environment
- manipulate data to obtain a dataset that can be used for machine learning tasks
- visualize data using a systematic, grammar-based approach
- generate offline reports
- version control of projects using Git
- generate interactive reports using Shiny

Reproducibility:
- Why reproducible research is essential to good scientific practice
- RMarkdown, knitr, and Sweave for automatic report generation
- Version control using Git

Presentation:
- Offline reports (‘knitr’, ‘rmarkdown’ package)
- Interactive web presentations using Shiny

Pre-requisites
- Basic R programming skills
- R Studio installed

Course content
The course will cover following topics:

Working with data:
- Importing data from various sources (SAS, SPSS, Excel) (‘haven’ package)
- Visualizing data using a ‘Grammar of Graphics’ (‘ggplot2’ package)
- Modern data transform (‘dplyr’ package)
- Basics of relational data and “tidy” data (‘tidyr’ package)

Schedule (subject to change)
Saturday (30th of October)
9:00 – 10:30 Interactive reports with Shiny I
11:00 – 12:30 Interactive reports with Shiny II

All parts include practical exercises. Please preinstall R Studio.

Number of Participants
The number of participants is limited to 25 per course.

Course lecturers
Johannes Vey M.Sc, IMBI Heidelberg

Further instructors
Lukas Baumann Mag., IMBI Heidelberg
Samuel Kilian M.Sc., IMBI Heidelberg
Jan Meis M.Sc., IMBI Heidelberg
Maximilian Pilz M.Sc., IMBI Heidelberg