"Make your paper figures professionally: Scientific data analysis and visualization with R"

09, 12, 20, 27 April 2021 virtually via Zoom

- Friday 09 April (9:00-16:00) Introduction + R basics
- Monday 12 April (9:00-16:00) Basic plotting + tidy data
- Tuesday 20 April (9:00-16:00) Advanced plotting + hackathon on own data
- Monday 27 April (9:00-16:00) Final presentations

Course language: English

Lecturers: Julien Gagneur, Evangelos Theodorakis, Fatemeh Behjati

Participants: max. 20, **participation is only possible for members of TRR 267.**

Registration: Apply by filling this Google Form: https://forms.gle/y2jzvJJARBB7ZJME7

Course objective:
The workshop provides basic skills for graphically presenting data in a scientific context (article or presentation). Participants join the course with draft figures for a paper in the making, and end up with improved figures and a computational workflow to generate them. You will learn R programming basics, importing, cleaning and organizing data (tidy data), as well as basic and more advanced plotting (grammar of graphics). You will apply your knowledge on your own data. At the beginning of the workshop, you present with a 2-minute introductory flash talk about your research project and your data. The workshop itself consists of short talks explaining data science concepts followed by hands-on exercises. Moreover, participants will work on their own figures during Hackathon sessions. The workshop ends with 10-minute presentations of your results on the last day.

Prerequisites:
Participants must join the lecture with their own laptop, with R studio installed: https://www.rstudio.com/products/rstudio

Participants should make themselves familiar with R studio. We encourage participants to complete the Datacamp course Introduction in R at https://www.datacamp.com/courses/free-introduction-to-r

The 2-minute flash presentations are given on the first day. It should answer why your project is important, what is the question, how do you address it, and what you want to show in your paper illustrated with one figure.

The lectures will be given via the Zoom platform. Zoom download: https://zoom.us/

Recommended reading and viewing:
R for Data science, by Garrett Grolemund and Hadley Wickham http://r4ds.had.co.nz/

Hadley Wickham's EMBL Keynote Lecture - Data visualization and data science https://www.youtube.com/watch?v=9YTNYT1maa4