Introduction to data analysis with R

The programming language R is a widespread and popular tool for scientists of all fields. It allows fast and reproducible research data analysis and offers specific functionality through its many extension packages. R is completely free and has a very active and supporting community which makes it accessible and fun to learn.

Workshop description

In 4 workshop days we will cover the following topics:

- Introduction to R and R Studio
- Basics of R Programming
- Data analysis using the tidyverse packages (preparing, filtering, grouping, re-organizing, plotting, ...)
- Some common statistical analyses with R (descriptive statistics, tests, linear models)

The main goal of this workshop is to give you the basic skills that you need to start analysing your own research data with R. You will learn a simple R workflow for data analysis, starting with reading, preparing and summarizing research data, performing simple statistical analyses and plotting the results. Starting from this knowledge basis, you can confidently expand your R skills in a direction that is most useful for your own research work.

Course outline and concept

To learn programming, it is essential to practice writing code yourself. Therefore, every input session will be followed by practical exercises. On the last day, you can bring your own research data (not mandatory) and apply the methods that you learned in the course to your own work. The course will be in English and will be in an online format.

For whom is this workshop?

This workshop is for beginners without prior experience in R or any other programming language. You can still participate if you already know other programming languages though.

Prerequisites

The workshop focusses on the application of statistical methods in R rather than the methods themselves. Therefore, you should have some prior knowledge about the statistical methods we will use. I will provide a short script on the methods before the workshop which you can use to learn or to refresh your memory.

Who is the instructor?

I am a scientific programmer at Freie Universität, working in theoretical ecology. R is an integral part of my everyday workflow since many years and I love passing on my knowledge and enthusiasm about this great tool. I have already taught courses on statistics with R for biology master students and PhD students.

If you have any questions regarding the course, please don't hesitate to contact me via selina.baldauf@fu-berlin.de.