# A thesis project using R

A increasing group of the students working on their thesis at FEM will come into contact with the programming language R. With R you can do more advanced data processing, statistics and visualization than with, for example, SPSS and Excel. Also, it is free and open-source. Here, we provide some information on how to gain experience with R.

We encourage students who want to do their thesis at FEM to follow at least one of the below-mentioned WU courses. If this is not possible, then take the time the work through the R tutorial and/or the R online course before you start with your FEM thesis.

## **WU** courses

- FEM-31806 Models for Ecological Systems: using R to create and evaluate simulation models.
- REG-33806 Data Science for Ecology: using R for data science, machine learning and artificial intelligence.
- CSA-34306 Ecological Modelling and Data Analysis in R: using R to fit statistical models to your data and for visualization.
- MAT-50303 R for Statistics: using R for hypothesis and statistical significance testing.

#### R tutorial

- Learning the basics of R and RStudio step-by-step with this tutorial, including an interactive tutorial using R itself with the swirl-package: http://emethods.nl/rintro/
- Learning to use R for statistical test: http://emethods.nl/r/

### Online course

 A free online course in which you learn the basics and more advanced skills of working with R for data analysis: https://www.coursera.org/learn/r-programming

# Free books

- R for data science
- Fundamentals of data visualization