R COURSE



Syllabus, installation and reading

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Syllabus

Basics of R

- 01 Introduction to R
- 02 Data wrangling
- 03 Data visualisation
- 04 Markdown and Quarto

Metabarcoding

• metaPR2

Installation

R and editors

- R
- R studio
- Quarto
- VSCode

Install tutorial files

- Download Data folder
- Unzip on your Desktop
- Open R studio
- Directories:
 - scripts
 - data
 - report-quarto : example of a report built with quarto

Installation

Install R packages

Copy the following lines in the Console (bottom left panel) and press RETURN

```
# Data manipulation
install.packages("readxl")
                           # Reading Excel files
install.packages("readr")
                           # Reading and writing Text files
                            # Import and export a range of files format
install.packages("rio")
install.packages("dplyr")
                           # Filter and reformat data frames
install.packages("tidyr")
                           # Make data "tidy"
install.packages("tibble") # Manipulate data frames
install.packages("stringr") # Manipulating strings
# Graphics
install.packages("ggplot2")
install.packages("patchwork")
# Markdown
install.packages("markdown")
install.packages("tinytex")
# Display tables
install.packages("DT")
```

Installation

MetaPR2 package

Install as an R package (You will be asked to install other packages that are required).

There are two options:

1. From Github

```
install.packages("devtools")

devtools::install_github("manutamminen/blaster")
devtools::install_github("pr2database/metapr2-shiny")
```

2. From R-universe

```
options(repos = c(
    pr2database = 'https://pr2database.r-universe.dev',
    CRAN = 'https://cloud.r-project.org'))
install.packages('metapr2')
```

Once the package is installed, you can run it under R or R studio

```
metapr2::run_app()
```

Note: You can also run metaPR2 from the web site https://app.metapr2.org but only use if you really cannot install the R package because too many users will make the website crash.

Reading material

Session 01-03 - Data analysis

Choose one of the two text below. Make sure you make the exercises.

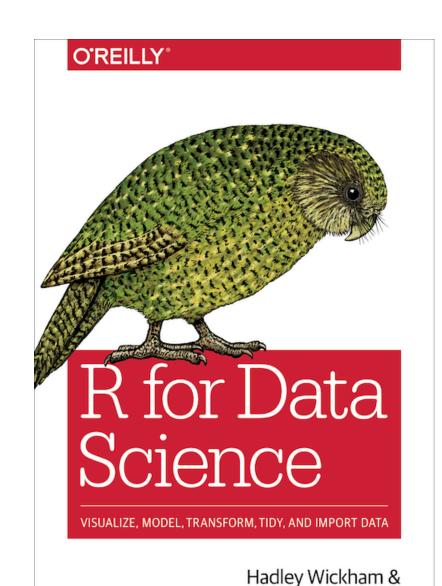
- Statistical Inference via Data Science
 - Chapters 1 to 3
- R for Data Science 2nd edition
 - Chapters 1 to 5
 - Solutions to exercises for 1st edition

Session 04 - Rmarkdown and Quarto

Intro to R markdown

Metabarcoding

metaPR2 paper



Garrett Grolemund