

Introduction to R

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Chapter 1

Before we start

Dates, time & location

Dates:

- Module 1: Monday 18th & Tuesday 19th February, 2019
- Module 2: Monday 25th & Tuesday 26th February, 2019
- Module 3: Monday 4th & Tuesday 5th March, 2019
- Module 4: Monday 11th & Tuesday 12th March, 2019

Time:

- 10:00-13:30

Location:

- CRG Training center

Instructors

Julia Ponomarenko (Module 4) Sarah Bonnin (Module 1, 2, 3) from the CRG
Bioinformatics core facility (office 460, 4th floor hotel side)

Learning objectives

Chapter 2

What is R ?

- Programming language and environment for **data manipulation**, **statistical computing**, and **graphical display**.
- Implementation of the S programming language
- Created at the University of Auckland, New Zealand:
 - Initial version released in 1995
 - Stable version released in 2000
- **Free and open source !**
 - <https://www.r-project.org/>
- Interactive, flexible
- Very active community of developers and users!
 - Many resources and forums available
- Access through a command-line interpreter:

Chapter 3

R Studio

- Free and open source IDE (Integrated Development Environment) for R
- Available for Windows, Mac OS and LINUX

RStudio access

- RStudio Desktop installation
- RStudio access from the CRG server
 - Access with CRG credentials
 - For those who don't have access to the CRG server, use the guest accounts.

RStudio interface

- 4 panels:
 - top-left: scripts and files
 - bottom-left: R terminal
 - top-right: objects, history and environment
 - bottom-right: tree of folders, graph window, packages, help window, viewer

Setting up the folder structure for the course

Rcourse |-Module1 |-Module2 |-Module3 |-Module4

Chapter 4

Paths and directories

Chapter 5

R basics

Chapter 6

Functions basics

Chapter 7

R scripts

Chapter 8

Exercise 1

Chapter 9

Data types