Introduction to R
for data analysis

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IRTG Course - June 2021

Content

Day 1 : the basics

1. first steps in R
2. reading data frames
3. cleanup
4. simple plots
5. statistical tests

Day 2 : simple scRNA-seq workflow

1. count matrices
2. Seurat objects
3. QC
4. Feature selection
5. Dimension reduction
6. UMAP plots

Welcome!

- What to **expect** from this course:
  - getting familiar with **R data types**, and basic manipulation
  - learning how to handle data tables
  - making **simple plots**
  - performing **simple statistical tests**
  - learning how to organize **reproducible analysis**
  - getting a glimpse into an analysis workflow for **single-cell RNA-seq**

= *talking without shame to your favorite bioinformatician!*

- What **not to expect** from this course:
  - being able to perform sophisticated analysis
  - being able to program in R
  - being able to perform a full analysis of single-cell RNA-seq

How the course is organized

- Focus on **hands-on experience**!!
- Typical sequence (for each chapter)
    1. some introductory slides on important concepts
    2. hands-on work on small exercises
    3. some more advanced exercises at the end of chapter
    4. Common debrief at the end of each chapter

- **2 groups** (see Google Sheet)
    - Group 1 → Carlos
    - Group 2 → Carl

Document your progress in the Google Sheet

Contact us through Discord in case of problems (text/audio channel, screen sharing)

Schedule

- Morning session: 10h → 12h30
- Afternoon session: 13h30 → 17h30
- Break from 15→ 15h30