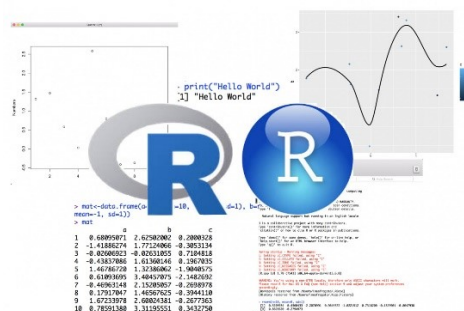# cE3c Advanced Courses 2020/2021

Introduction to R programming & biological data analysis

Taught by: Inês Fragata and Vítor Sousa | **May 5-7, 2021 @ FCUL**

Note: This course will be given remotely

General Plan

1) **Introduction to R and R studio:** students will become familiar with the R and R studio environments and will learn how to setup and manage a project using R studio.
2) **R Basic syntax:** students will learn how to assign variables, create scripts and print to the console.
3) **Introduction to variable types and functions:** the students will learn the different type of variables and learn how to distinguish functions from variables. The students will become familiarized with function syntax and outputs.
4) **Manipulate vectors, matrices and data frames:** the students will learn how to create vectors, matrices and data frames and what are their different uses. They will also learn how to access the different data types, and extract information.
5) **Read and load data into R:** the students will learn how to import data into R and how to quickly visualize it.
6) **Make graphics in R:** the students will learn how to create graphics using basic R plot and how to configure several options. We will also do a quick overview of the ggplot2 package.

Deadline for applications: April 2, 2021

The course is free for a maximum of 8 1st year PhD students in Doctoral programmes at FCUL (e.g. in Biology), Biodiversity, Genetics and Evolution (BIODIV UL, UP) and Biology and Ecology of Global Changes (BEAG UL, UA). For information of fees for other participants see the programme details.

See the PROGRAMME, how to apply and fees at:

https://ce3c.ciencias.ulisboa.pt/training/ver.php?id=137