

Course title: Introduction to modern R

Dates: 22-23-24 November 2016

Location: HCMUS (in the framework of the SEDES International Joint Laboratory)

Lecturers: François Guilhaumon and Fabien Leprieur (UMR MARBEC, Montpellier, France)

Number max of students: 30

Students' needs: laptop with an internet connexion.

Introduction to modern R

(3 days, Fabien Leprieur & François Guilhaumon)

This class will be a good fit for you if you already have a statistical background: descriptive statistics ; classical parametric tests, such as the t-test, and their non-parametric counterpart ; the Chi-square test ; and a basic understanding of the linear model. You will learn how to set up an R environment on your computer, load your data and carry on these analyses with R and RStudio.

Tuesday 22 November 2016: Setting up the scene

- 09:00 - 11:30 - R, RStudio and Rmarkdown (what are R, Rstudio, Rmarkdown ? Creating our first report)
- 13:00 - 16:00 - Working with data in R (the R syntax, loading data, types of data objects, types of variables, working with tables, plots in R)

Wednesday 23 November 2016: Descriptive statistics and classical tests

- 09:00 - 11:30 - Descriptive statistics (mean, variance, histograms, ...)
- 13:00 - 16:00 - Classical tests and correlations (t-test, Chi-squared, correlations, ...)

Thursday 24 November 2016: The linear model and GIS with R

- 09:00 - 11:30 - The linear model (ANOVA, simple linear regression, multiple regression)
- 13:00 - 16:00 - Presentations with R Markdown (during this last session you will learn how to make presentations with [1 hour], students will split in small groups and prepare 5 slides on the subject of their choice [to chose among the topics we learn] during one hour. The last hour of the session is devoted to students presentations and discussions with the teaching team)