R FOR BEGINNERS

From 22 to 23 March 2018

Place: Genève (Uni-mail)

Participants : max. 20

Organizers : Dr. Adrien Remund & Dr. Jonathan Zufferey

Abstract: Aims/contents:

This two-day seminar is intended for people who wish to learn the basics of the R programming language, either as a main statistical analytical tool or in parallel with other ones. This free and open source statistical software has gained great popularity in the scientific community over the last decade, notably because of its ability to tackle very diverse types of analyses. In this workshop, we will focus on quantitative analysis, and assume that participants have at least attended one basic statistics class. We will especially address the following aspects:

- Links between R and other data analysis software
- Data management, recoding and formatting
- Descriptive analyses
- Regression analyses
- Use of loops and of the apply-family functions
- Automatic report writing
- Data visualization

Each topic will be treated with short presentations, personal exercises and group corrections. Emphasis will be given to interactive learning and participants' involvement. The participants are expected to bring their own laptops, and install in advance R and Rstudio (free desktop version).

THURSDAY, MARCH 22 2018

9h00-10h30: General presentation of R, its main functions and links with other software

10h30-10h50 Coffee break

10h50-12h20: Data management, recoding and formatting

12h20-13h30. LUNCH

13h30-15h00: Descriptive analyses (frequencies, histogram, cross table, association, etc.)

15h00-15h20 Coffee break

15h20-16h50: Automatic report writing (R Markdown)

FRIDAY, MARCH 23 2018

9h00-10h30: Loops and apply-family functions

10h30-10h50 Coffee break

10h50-12h20: Data visualization (ggplot2)

12h20-13h30. LUNCH

13h30-15h00: Regression analyses (ols, logit, residual analysis, etc.)

15h00-15h20 Coffee break

15h20-16h50: Final "real-life" exercise and Q&A