

# INTRODUCTION TO R

**DATE:** November 12, 2015

**TIME:** 9:30am to 4:30pm

## GENERAL DESCRIPTION:

This workshop focuses on the R software environment and is designed for anyone wishing to learn about alternatives to statistical analysis softwares such as SPSS or SAS.

The first objective is to familiarize the participants with the analysis potential of R, as well as with its characteristics and its structure. The second objective is to help participants develop basic skills in data manipulation and data analysis in R.

The workshop focuses on the software environment itself and not on developing data analysis skills. Several lab exercises will allow participants to apply the information learned and practice the procedures presented during the workshop.

## TRAINER:

Marina Doucerain, postdoctoral fellow in social psychology at Université du Québec à Montréal, will lead this workshop. As an avid Linux user and supporter of the 'Open Source' movement, her first reflex when faced with a new computing task is to seek an appropriate open source software. That's how she started using R a few years ago. Today, she uses R for all her statistical analyses and she is convinced that R is a winning choice when conducting data analysis in social science.

Her address is: [marinadoucerain@gmail.com](mailto:marinadoucerain@gmail.com)

## DESCRIPTION OF ACTIVITIES:

General presentation

- R's potential and capabilities
- The R environment and its structure
- R objects
- Getting help

## Graphical interfaces

- Rstudio

## Manipulating data

- Importing and exporting data
- Types of variables
- Modifying data
- Selecting observations and variables

### *Lab exercise 1*

## Analyzing data

- Descriptive functions
- Correlations
- Group comparisons (T-test and ANOVA)
- Linear regression
- Regression diagnostics (if time permits)

## A point-and-click alternative

- Rcmdr

### *Lab exercise 2*

## Visualizing data

- Basic graphics (scatterplots, histograms, boxplots)

### *Lab exercise 3*

## **ADDITIONAL RESOURCES:**

A list of references and other educational resources will be provided.