



Fast and Efficient R code made easy - HEAVYR

From June 14th to June 15th 2021 (12 hours)

Modalities: On-site only

Individual participation: €300

Institutional participation : €600

Instructors:

Boris HEJBLUM (Responsible), Researcher and teacher, Biostatistics, Isped, Bordeaux

Objectives

The objective of this course is to present and practice state-of-the-art tools for the development of fast and efficient R code. This course will be targeted for an audience of scientists and researchers who are not professional software developers, but want to produce performing code. Learning Objectives:

- › Be able to identify computational bottlenecks in one's code.
- › Be able to optimize a function using C++ integration through Rcpp.
- › Be able to harvest multicore's speed by easy parallelization of code.
- › Be able to evaluate and compare speed-up gains of competing implementations.

Requirements

A good working knowledge of R will be necessary. Participants are expected to be proficient with functional programming and be familiar with the concept of R package.

WARNING: this course is not suitable for R beginners.

Module Program

- › Brief recap on writing R packages as a useful tool for code development.
- › How to measure computation time and profile code to identify bottlenecks and compare different implementations.
- › Use Rcpp to optimize the code portion that should be.
- › Easily parallelize one's code.
- › Use GitHub to collaboratively develop open-source R code.