VU medisch centrum

Course: Statistics for Omics

Description

This course will focus on quantitative methods for sequencing data analysis. Note that "sequencing" is taken in general, so methods should be widely applicable to most types of sequencing. We assume that data has been aligned and corresponds to counts aggregated per feature (for example, a gene or an exon).

Goals & Topics

After the course you will be able to:

- understand what it is, and learn to, pre-process and 'normalize' sequencing data
- explore high-dimensional data to try to find new subsets of features and/or samples
- find features that behave differently (statistically speaking) between groups of samples
- build a classifier on the basis of high-dimensional profiles
- analyse a network made up of a given set of features

Topics covered will include:

- Hierarchical clustering
- Principal components
- Empirical-Bayes regression models to find differential behaviour in sequencing data
- Methods for classification and prediction
- Network analysis methods

Prerequisites

The course assumes basic R and statistical knowledge. People interested in this course are strongly suggested to follow the R course offered in January (16, 17, 18 and 20) as well, to make sure their R use is automatize. In our experience this allows students to focus fully on methods during this course. Participants must bring own laptops capable of running R and RStudio. Please install R (from the Comprehensive R Archive Network-CRAN, for example from this mirror) and download and install RStudio before the course. Optionally, you may additionally download and install a console version of R.

Course Lecturers

Prof. Mark van de Wiel (VUmc)
Wessel van Wieringen (VUmc)
Carel Peeters (VUmc)
Renee X. de Menezes (VUmc)

http://www.bigstatistics.nl/

Course costs

€ 150.00 (VUmc researchers)
€ 300.00 (others, exclusive 21% BTW)

Registration

Please send an email to Renee Menezes (r.menezes@vumc.nl) to register for the course. As the number of participants is limited, we suggest those interested to register as soon as possible to guarantee a place.

When: 6, 9, 10 February 2017
Course location: VUmc, room De Ijssel (located at the hospital)