

## Course and Open Seminar on

# Compositional Data Analysis

A short course on compositional data analysis will be imparted at the premises of the University of Girona (UdG).

**Objective:** To provide an introduction to the theoretical and practical aspects of statistical analysis of compositional data, as well as an informal discussion forum on more advanced modelling topics.

**Contents:** Compositional data are vectors which components show the relative importance of some parts of a whole. Typical examples are data presented in percentages, ppm, ppb, or the like. Aitchison introduced the log-ratio approach to analyse CoDa back in the eighties. Since then, progress has been done in understanding the geometry peculiar to their sample space, the D-part simplex. This course will present the current state of the art in this field of active research and will cover the following topics:

1. Hypothesis underlying statistical data analysis (sample space, scale).
2. The Aitchison geometry of the simplex.
3. Coordinate representation; distributions on the simplex.
4. Exploratory analysis (centering, variation array, biplot, balances-dendrogram).
5. Linear processes in the simplex; regression.
6. Introduction to multivariate analysis: cluster and discriminant

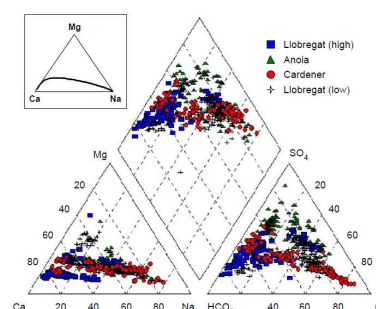
The above topics will be completed with an introduction to available software and an open discussion session. Bring your own data!

### Recommended background:

First semester courses in statistics, algebra and calculus; basic knowledge in multivariate statistics.

**How to apply:** Visit the website: [www.compositionaldata.com](http://www.compositionaldata.com), and fill in the form there.

Class size is limited! Special prices for students.



Visit the web:

[www.compositionaldata.com](http://www.compositionaldata.com)

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