

COMPUTER AIDED-STATISTICAL ANALYSIS OF ENVIRONMENTAL DATA



27-28-29 May 2020 - 10:00 - 13:00

4-5 June 2020 - 10:00 - 13:00

Teacher:

Prof. Arianna Azzellino (Politecnico di Milano, Dpt. Civil and Environmental Engineering)

Associate professor at Politecnico di Milano. Her research interests are mostly dedicated to environmental resource management, focusing on the modelling of different environmental compartments, in the perspective of the scenario-based environmental impact assessment.

This course, offered as distance learning sessions, will cover the basics of statistics applied to environmental sciences from a very practical perspective, with real data sets and realistic case studies.

Hypothesis testing will be explained in light of data with non detects, outliers, and skewed distributions using a computer-aided analysis approach. Methods for estimation and prediction (e.g. regression methods) will be also illustrated along with their common pitfalls. After taking this course students will be able to prepare their own data set for the following analysis and to choose the most appropriate among the available statistical methods to evaluate background values, trends or statistical differences in their data. Participants will learn how to address questions such as defining the geographical distribution of environmental patterns, evaluating the interactions between biological communities and their physical environment or how to account for ecological change through time in response to sudden or gradual environmental change (pollution, climate), and patterns of diversity.

Topics: Descriptive Statistics and Exploratory data analysis, Hypothesis Testing, Parametric and Non Parametric procedures, ANOVA, Regression Analysis, Generalised Linear Models.