

Monday 8th January 2024

through

Wednesday 31st January 2024

Biostatistics for Molecular and Cellular Biology (cfu 5)

**SPEAKER: Prof. Giorgio Binelli - DBSV
University of Insubria**



PROGRAM

The goal of this course is to present and/or remind the basics of statistical analysis, with special emphasis on the planning of the experiments and the analysis of experimental data in the field of Life Sciences.

- o Why use Statistics. Populations and samples. Basics of probability. Random variables.
- o Frequency distributions; what is a statistical test: power and protection of a test, Type I and Type II errors.
- o The χ^2 test. Goodness-of-fit test and comparisons between proportions.
- o The General Linear Model (GLM) and the model of Analysis of Variance (ANOVA).
- o One-Way ANOVA: the completely randomised and the randomised block designs.
- o Two-Ways ANOVA: the factorial design.
- o Linear regression models, parameters estimate in linear, multiple and curvilinear regression.
- o Some basics of multivariate analysis.
- o Use of statistical software. Examples in R.

Classes will be held

Monday 8	(h. 9:00 - 13:00)	Room 200 (via Celoria 20)
Tuesday 9	(h. 9:00 - 13:00)	Room 200 (via Celoria 20)
Monday 15	(h. 9:00 - 13:00)	Room MG (via Mangiagalli 32)
Tuesday 16	(h. 9:00 - 13:00)	Room MG (via Mangiagalli 32)
Monday 22	(h. 9:00 - 13:00)	Room B2 (via Celoria 26)
Monday 29	(h. 9:00 - 13:00)	Room B2 (via Celoria 26)
Wednesday 31	(h. 9:00 - 13:00)	Room B2 (via Celoria 26)

The participants to the course are invited to bring a pocket calculator for some (simple) hands-on analyses

