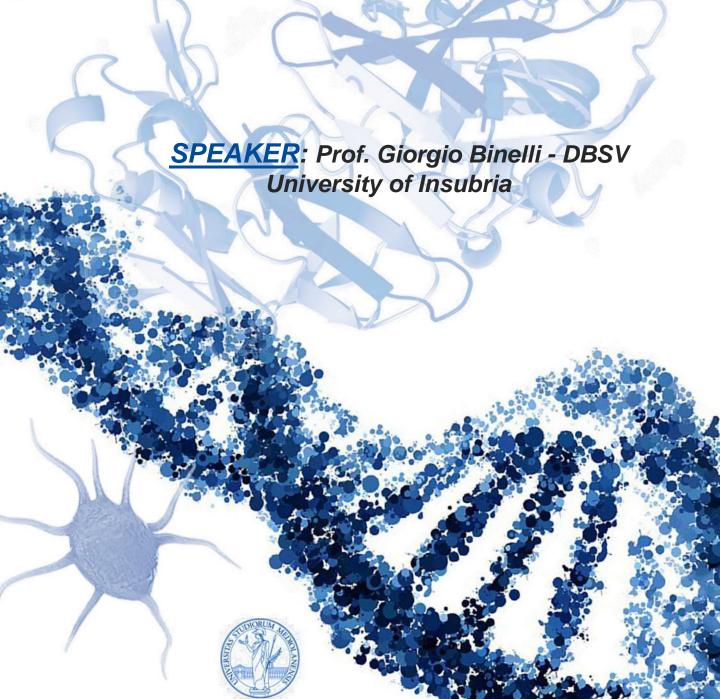


### Monday 13<sup>th</sup> January 2025 <u>through</u>



Wednesday 3th February 2025

# Biostatistics for Molecular and Cellular Biology





## Biostatistics for Molecular and Cellular Biology



### **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 χ2 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

(h. 9:00 - 13:00)	<b>Room 110</b>
(h. 9:00 - 13:00)	<b>Room 201</b>
/ (h. 9:00 - 13:00)	Room G09
(h. 9:00 - 13:00)	<b>Room BM</b>
(h. 9:00 - 13:00)	<b>Room BM</b>
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The participants to the course are invited to bring a pocket calculator for some (simple) hands-on analyses