

## WORKSHOP SERIES

Tuesday,  
25<sup>th</sup> February  
2020

14:00 - 17:00

Campus Biotech  
Room H4.02  
9, chemin des Mines  
Geneva

WORKSHOPS SERIES ON ADVANCED DATA ANALYSIS METHODS

## Non-parametric Data Analysis

**Dr. Ben Meuleman**

(University of Geneva)

Conventional statistical tests and models (e.g., t-test, linear regression) depend on assumptions that are frequently violated in data. For some such violations, alternative methods have been developed which are called «non-parametric», and relax some of the distributional assumptions of conventional parametric tests. In this workshop, I give a practical introduction to non-parametric data analysis, focusing on (a) the relative importance of different statistical assumptions, (b) how to best check these assumptions, and (c) permutation testing as a general-purpose option for non-parametric data analysis. The workshop will also focus on dispelling common misconceptions about non-parametric methods, and include some interactive demonstrations of statistical concepts. Slides will contain R code which can be executed in parallel with the lecture, and for which you are invited to bring your laptop.

### CONTENTS

- Assumptions in parametric data analysis
- Checking assumptions and applying corrections
- Non-parametric data analysis
- Permutation testing
- Miscellaneous non-parametric methods

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