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# 2021 LEARNVUL Summer School Schedule

## Background information

Video-lectures concerning Basics of R will be prepared and made available online before the start of the summer school. These will include: *Using R-Studio, reading data, importing data, exporting data, examining data sets, transforming wide to long format or vice versa, examining variables, cleaning data, missing values, outliers, subsetting data, computing new variables (scales), labeling, reverse coding, collapsing variables in fewer categories, creating dummy variables, transforming variables, filter cases*. These will exemplify using some basic descriptive statistics and contain also exercises with solutions.

## Day 1 (Monday, September 20)

| *Time* | *Topic / Activity* |
|---|---|
| 09.00 - 10.30 | Introduction to data analysis and processing with R<br>Part 3 (Part 1 and 2 will be made available *via* video lectures) with Q&A, additional data processing examples, and it will include simple examples for basic analyses (e.g., Pearson r, chi square, t student, basic visualization) **(Giulio Costantini)** |
| 10.30 - 11.00 | Coffee Break |
| 11.00 - 12.30 | Bayesian statistics and hypothesis testing. Conceptual issues and basics in R **(Daniele Romano)** |
| 12.30 - 14.30 | Lunch Break |
| 14.30 - 16.00 | Bayesian statistics. Testing competing hypothesizes vs. null hypothesis. The level of support for the null hypothesis **(Daniele Romano)** |
| 16.00 - 16.30 | Coffee Break |
| 16.30 - 18.00 | GLM 1. Simple ANOVA designs (between, within, mixed design, completely randomized, block design, visualization, with Bayesian equivalent) **(Giulio Costantini and Daniele Romano)** |
| 19.00 | Dinner |

## Day 2 (Tuesday, September 21)

| *Time* | *Topic / Activity* |
|---|---|
| 09.00 - 10.30 | GLM 2. Generalizing ANOVA designs (ANCOVA, MANOVA, MANCOVA) **(Giulio Costantini)** |
| 10.30 - 11.00 | Coffee Break |
| 11.00 - 12.30 | Multilevel analysis for experimental data in R. Part 1 **(Marine Rougier and Jamie Cummins)** |
| 12.30 - 14.30 | Lunch Break |
| 14.30 - 16.00 | Multilevel analysis for experimental data in R. Part 2 **(Marine Rougier and Jamie Cummins)** |
| 16.00 - 16.30 | Coffee Break |
| 16.30 - 18.00 | Power analysis **(Marco Perugini and Giulio Costantini)** |
| 19.00 | Dinner |

## Day 3 (Wednesday, September 22 - Parallel sessions in the morning, outdoor activities in the afternoon)

| *Time* | *Topic / Activity* |
|---|---|
| 09.00 - 10.30 | Visualizing data with R **(Giulio Costantini)** |
| 10.30 - 11.00 | Coffee Break |
| 11.00 - 12.30 | Evaluative Conditioning and Evaluative Learning **(Jan De Houwer)** |
| 12.30 - 14.30 | Lunch Break |
| 14.30 - 16.00 | Neuroticism and Emotional Vulnerability **(Emanuele Preti and Rossella Di Pierro)** |
| 16.00 - 16.30 | Coffee Break |
| 16.30 - 17.45 | Relating personality and learning (with a focus on Neuroticism) **(Florin Sava, Marco Perugini and Jan De Houwer). It includes the round table** |
| 19.00 | Dinner at Recas. We leave at 18.00 sharp by bus from Casa del Sole. |

## Day 4 (Thursday, September 23)

| *Time* | *Topic / Activity* |
|---|---|
| 09.00 - 10.00 | Q & A regarding covered R topics. Exercises (Giulio, Marine, Daniele, Jamie, Marian). Upon request. |
| 10.30 - 11.00 | Coffee Break |
| 11.00 - 12.30 | Q & A regarding covered R topics. Exercises. Part 2. |
| 12.30 - 14.30 | Lunch Break |
| 14.30 - 18.00 | Outdoor activity |
| 19.00 | Dinner |

## Day 5 (Friday, September 24)

| *Time* | *Topic / Activity* |
|---|---|
| 09.00 - 10.30 | Data preprocessing from Inquisit and/or other data sources. From raw data to ready to analyze data (e.g., a standard evaluative conditioning study, linked with Inquisit) **(Jamie Cummins)** |
| 10.30 - 11.00 | Coffee Break |
| 11.00 - 12.30 | Best research practices in the Open Science and (post)reproducibility crisis era **(Marco Perugini)** |
| 12.30 - 14.00 | Lunch Break |
| 14.00 - 15.30 | **Putting it all together I. A research project from A to Z**<br>A basic outline of a research project from design, implementation, data collection, to manuscript submission. It covers: (i) standards for open science, reproducibility (preregistration of design, data availability and instruction, data management plan); (ii) other aspects than open science (working with supervisors, gathering data tools, presenting research announcements, informed consent form, dealing with GDPR, etc.). (30/35 minutes each team)<br>**(UNIMIB Team: Juliette Richetin and Cristina Zogmaister; Ghent Team: Jan De Houwer, Marine Rougier and Jamie Cummins)** |
| 15.30 - 16.00 | Coffee Break |
| 16.00 - 18.00 | **Putting it all together II. Practical aspects learned from the teams (exercises and feedback)**<br>Exercises and feedback on the preparation of an outline of all steps for a research project of one's choice, from A to Z **(UNIMIB Team: Juliette Richetin and Cristina Zogmaister; Ghent Team: Jan De Houwer, Marine Rougier and Jamie Cummins)** |
| 18.00 - 19.00 | **Final round-up**<br>Final round of questions about anything raised during the summer school, reflections about the summer school, implications for future studies, etc. |
| 19.00 | Dinner |