



UNIVERSITÀ  
DEGLI STUDI  
DI PADOVA



PHD COURSE  
IN STATISTICS

# Specialist Course | Cycle XXXVI

June, 2021 | Campus S. Caterina

## *Meta Analysis*

**Annamaria Guolo**  
*University of Padova*

<b>Monday</b>	<b>June 14</b>	<b>09.30 – 11.30</b>	<b>Room Cucconi</b>
		<b>13.30 – 15.30</b>	<b>Room Cucconi</b>
<b>Tuesday</b>	<b>June 15</b>	<b>13.00 – 15.00</b>	<b>Room Cucconi</b>
<b>Wednesday</b>	<b>June 16</b>	<b>09.30 – 11.30</b>	<b>Room Cucconi</b>
		<b>13.30 – 15.30</b>	<b>Room Cucconi</b>

### **Abstract**

<https://www.stat.unipd.it/fare-ricerca/courses-202021-xxxvi-cycle>

# META-ANALYSIS

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## Course Description

Meta-analysis is a long-established and widespread process to aggregate, compare and synthesize information from different independent studies about the same issue of interest. It has become the method of choice for summarizing the results available from the growing amount of studies in many areas of research, including medicine, epidemiology, ecology, psychology, education, economics. This short course will focus on meta-analysis models and methods, ranging from classical techniques to recent approaches. Issues related to sources of bias, publication bias included, will be illustrated. Open questions and current challenges will be discussed. Exemplifications will be given using R functionalities. References will be provided during the course.

1. Introduction to systematic reviews and meta-analysis
2. Outcome and effect measures for meta-analysis
3. The meta-analytical fixed- and random-effects models
4. Quantifying and examining heterogeneity
5. Publication bias and other biases in meta-analysis
6. Multivariate meta-analysis
7. Some notes on different types of meta-analysis, caveats, open questions