

## **Statistical Techniques & Tools in MS Research**

### **MONDAY, 8 JUNE 2026**

- 08.45**                      **Welcome & Introduction**  
*Maria Pia Sormani (Genoa, IT), Marcello Moccia (Naples, IT),  
Jaume Sastre - Garriga (Barcelona, ES)*
- 09.00 - 10.30**            **Session 1: Basic concepts - Statistics**  
Chairs: Maria Pia Sormani (Genoa, IT), Bruno Stankoff (Paris, FR)
- 09.00                      The hypothesis test: The meaning of p value, sample size and  
power. How to interpret statistical results of a study.  
*Maria Pia Sormani (Genoa, IT)*
- 09.30                      Statistical tests: non-parametric vs. parametric approaches,  
univariate and multivariate methods  
*Marta Ponzano (Genoa, IT)*
- 10.00                      Discussion
- 10.30 - 11.00**            **Coffee Break**
- 11.00 - 12.30**            **Session 1 (continued): Basic concepts - Study design**  
Chairs: Matilde Inglese (Genoa, IT), Carmen Tur (Barcelona, ES)
- 11.00                      Epidemiological studies  
*Raffaele Palladino (Naples, IT)*
- 11.30                      Clinical trials: From animal models to phase 3.  
The standard designs in MS  
*Brian Healy (Boston, US)*
- 12.00                      Discussion
- 12.30 - 14.00**            **Lunch Break**

- 14.00 - 15.30**      **Session 2: Observational studies: Study design and methods**  
Chairs: Mar Tintoré (Barcelona, ES), Marcello Moccia (Naples, IT)
- 14.00              Propensity scores and methods for adjusting baseline confounders  
*Tomas Kalincik (Melbourne, AUS)*
- 14.30              Impact of missing data and methods for missing data imputation  
*Lisa Hofer (Basel, CH)*
- 15.00              Discussion
- 15.30 - 16.00**      **Coffee Break**
- 16.00 - 17.00**      **Practical Session 1**
- 16.00              Practical Session 1 - Data collection with RedCap  
*Irene Schiavetti (Genoa, IT)*
- 17.00**              **End of Day 1**
- 19.00**              **Dinner**

## **TUESDAY, 9 JUNE 2026**

- 09.00 - 10.30**      **Session 3: Beyond conventional trial designs**  
Chairs: Frauke Zipp (Mainz, DE),  
Jaume Sastre - Garriga (Barcelona, ES)
- 09.00                  Adaptive designs  
*Jeremy Chataway (London, UK)*
- 09.30                  Meta - analyses and network meta - analyses  
*Konstantina Chalkou (Bern, CH)*
- 10.00                  Discussion
- 10.30 - 11.00**      **Coffee Break**
- 11.00 - 12.30**      **Session 4: Beyond conventional trial designs**  
Chairs: Cristina Granziera (Basel, CH), Gabriel Bsteh (Vienna, AT)
- 11.00                  Pragmatic trials  
*Lars Hemkens (Basel, CH)*
- 11.30                  Artificial intelligence methodology  
*Arman Eshaghi (London, UK)*
- 12.00                  Discussion
- 12.30 - 14.00**      **Lunch Break**

- 14.00 - 15.30**      **Session 5: Beyond clinical trials**  
Chairs: Jaume Sastre - Garriga (Barcelona, ES),  
Marcello Moccia (Naples, IT)
- 14.00                Synthetic data and federated learning  
*Alessio Signori (Genoa, IT)*
- 14.30                Handling safety data in clinical trial  
*Elena Hernandez Martínez de Lapiscina (Amsterdam, NL)*
- 15.00                Discussion
- 15.30 - 16.00**      **Coffee Break**
- 16.00 - 18.00**      **Practical Sessions 2 & 3**
- 16.00                Practical Session 2 - Statistics with R and ChatGPT  
*Marta Ponzano (Genoa, IT), Alessio Signori (Genoa, IT)*
- 17.00                Practical Session 3 - Imputing missing data  
*Brian Healy (Boston, US), Francesca Bovis (Genoa, IT)*
- 18.00**                **End of Day 2**
- 19.00**                **Summer School Dinner**

