



ALMA MATER STUDIORUM  
UNIVERSITÀ DI BOLOGNA

DIPARTIMENTO  
DI PSICOLOGIA  
"RENZO CANESTRARI"

## PhD Program in Psychology

### Seminar "Neurostimulation and Electrophysiological techniques"

**Prof. Simone Battaglia**

Department of Psychology "Renzo Canestrari"

University of Bologna, Cesena Campus, Casena, Italy

18.03.2025 (14:00-18:00)

Centro di studi e ricerche in Neuroscienze Cognitive, Viale Rasi e Spinelli 176, Cesena

#### Abstract

This seminar aims to equip participants with the skills required to design robust experiments that involve non-invasive brain stimulation techniques and psychophysiological recordings. The workshop will cover best practices for experimental design, data collection, and preprocessing, with a focus on how to appropriately analyze and interpret electrophysiological recordings. Moreover, it will cover the theoretical considerations to be undertaken when implementing neurostimulation in experimental paradigms. After a theoretical introduction related to the main methodological issues that should be considered when designing psychophysiological experiments, students will be engaged in hands-on activities to collect and preprocess data from electrophysiological activity, as well as a primer on the main non-invasive brain stimulation protocols.

#### Suggested Readings:

- Biasiucci A, Franceschiello B, Murray MM. Electroencephalography. *Curr Biol*. 2019 Feb 4;29(3):R80-R85. doi: 10.1016/j.cub.2018.11.052. PMID: 30721678.
- Lefaucheur, J. P. (2019). Transcranial magnetic stimulation. *Handbook of clinical neurology*, 160, 559-580.