



# Certificate of Participation

This is to certify that

**Gianmarco Tiddia**

has participated in the

**EBRAINS Workshop**

**Brain Activity across Scales and Species: Analysis  
of Experiments and Simulations (BASSES)**

13–15 June 2022  
Rome, Italy

Giulia De Bonis  
Scientific Chair

Tina Kokan  
Leader HBP Education Programme

Anna Letizia Allegra Mascaro  
Scientific Chair

The HBP and EBRAINS has invited interested scientists to join the EBRAINS Workshop on Brain Activities across Scales and Species. The study of **brain rhythms** and of **spatio-temporal patterns** of brain activation is an important test-bench for understanding connectivity and the mechanisms that determine **cognitive systems** in mammals.

The large variety of available **experimental protocols** and measurement techniques enable researchers to investigate new scientific questions. In addition, the input from experimental observations is used to design **theoretical models** able to emulate brain dynamics and cognitive mechanisms in in-silico experiments.

The goal of the BASSES Workshop (Brain Activity across Scales and Species: analysis of Experiments and Simulations) was to provide an overview of the scientific topics of **brain states and complexity**, state transitions, and their **connection with cognitive functions**, and to demonstrate the achievements in this field obtained within the Human Brain Project thanks to the functionalities provided by the **EBRAINS research platforms**.

Lectures showcased the latest advancements in **analysis strategies** and whole-brain modelling tools. Hands-On Sessions allowed the participants to be actively engaged and test the **EBRAINS functionalities** for data storage, curation, analysis, and modelling.

BASSES allowed people with different expertise, from experimental and theoretical neuroscientists to computer scientists, to share results and ideas and connect into a wider community.

## Scientific programme:

Plenary Session I: Brain states and complexity

Chairs: A. Letizia Allegra Mascaro (CNR/LENS) & Giulia de Bonis

Plenary Session II: State transitions and their cognitive role

Chair: Giulia de Bonis (INFN)

Plenary Session III: Multi-scale approaches to investigate the brain complexity I (data analysis methods and results)

Chair: Mavi Sanchez-Vives (IDIBAPS)

Plenary Session IV: Introduction to EBRAINS resources

Chair: Pier Stanislao Paolucci (INFN)

Plenary Session V: Multi-scale approaches to investigate the brain complexity II. (data analysis methods and results)

Chairs: Arnau Manasanch Berengué (IDIBAPS)

Plenary Session VI: From Data to Models and Simulations: Mean Field Simulations

Chair: Alain Destexhe (CNRS)

Plenary Session VII: From Data to Models and Simulations: Spiking Simulations

Chair: Cristiano Capone (INFN)