

# Marta Morandini

AIX-MARSEILLE UNIVERSITÉ - INSTITUT DE NEUROSCIENCE DE LA TIMONE

Via Ivrea 5D, 13881, Cavaglià (BI), Italy

☎ (+39) 348 97 24 014 | ✉ [marta.morandini@univ-amu.fr](mailto:marta.morandini@univ-amu.fr) | [in](#) MartaMorandini | [t](#) @martasolves | [u](#) Marta Morandini

- **Experience in** topological data analysis, complex systems and higher-order networks, information theory
- **Good knowledge** of Python and Matlab

## Research

### WRITING

- 2024 **Higher-order Laplacian Renormalization**, M. Nurisso, M. Morandini, M. Lucas, F. Vaccarino, T. Gili, G. Petri *ArXiv*
- 2024 **Higher-order brain time series improve subject and age fingerprinting**, M. Morandini, M. Saggar, G. Petri *In prep*

### CONFERENCES

- 2023 **Higher-order brain time series improve subject and age fingerprinting**, speaker - Network Neuroscience and TopoNets23 Satellites - NetSci 2023 *Vienna, Austria*
- 2024 **Higher-order Laplacian Renormalization**, contributing author - NetSciX 2024 *Venice, Italy*

### SCHOLARSHIPS

- 2023 **Scholarships for Events on Complex Systems (SECS)**, yrCSS

### MEMBERSHIPS

- 2024 - **Network Science Society**, member
- 2023 - **Complex Systems Society**, member
- 2023 - **Comité de Diversité, d'Équité et de Lutte contre les Discriminations (DELD)**, member *INT, Marseille*

## Skills

- Programming** Python, Matlab, R, LaTeX
- Languages** Italian, English (fluent), Spanish (intermediate), French (beginner)

## Experience

### CENTAI Institute

*Turin, Italy*

#### INTERNSHIP

2022 - 2023

- Topological Data Analysis, Complex Systems, fMRI data in Giovanni Petri's team (NPL reasearch).

### UniTo

*Turin, Italy*

#### TUTOR

2018 - 2021

- *Scuola dei compiti*: maths and physics tutoring for high school students. (2018-2019)
- *Matematica e scienza: sostantivi femminili*: workshops about women in maths and economics for high school students. (2021)

### Cooperativa Animazione Valdocco

*Biella, Italy*

#### WOOD SCHOOL-COMMUNITY

2019 - 2021

- Workshops in STEM disciplines for summer school students: creativity and communication.

## Education

### INT (Institut de Neuroscience de la Timone) - AMU (Aix-Marseille Université)

*Marseille, France*

#### PHD IN COMPUTATIONAL NEUROSCIENCE

2023 - present

- Thesis: *Analysis and modelling of directional interactions in the human brain*. Supervisors: Andrea Brovelli, Matthieu Gilson.

### UniTo (University of Turin)

*Turin, Italy*

#### MASTER'S AND BACHELOR'S DEGREE IN MATHEMATICS

- Master's Thesis: *Topological fingerprints of brain individuality and age*. Supervisors: Federica Galluzzi, Giovanni Petri.
- Bachelor's Thesis: *Elliptic curves and cryptography*. Supervisor: Alberto Albano.