

Marta Morandini

PHD STUDENT IN MEUROSCIENCE - M.Sc. IN MATHEMATICS

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- **Experience in** topological data analysis, complex systems, fMRI data and information theory.
- **Good knowledge** of Python and Matlab.

Education

INT (Institut de Neurosciences 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

2016 - 2023

- 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.

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.

Conferences

NetSciX 2024

Venice, Italy

CONTRIBUTING AUTHOR

22-25 Jan 2024

- *Higher-order Laplacian Renormalization of Simplicial Complexes*

NetSci 2023

Vienna, Austria

SPEAKER

10-14 Jul 2023

- Network Neuroscience Satellite: *Higher-order brain time series improve subject and age fingerprinting*
- TopoNets23 Satellite: *Higher-order brain time series improve subject and age fingerprinting*

Scholarships

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

Writing

2024 **Higher-order Laplacian Renormalization**, M. Nurisso, M. Morandini, M. Lucas, F. Vaccarino, T. Gili, G. Petri

ArXiv

- **Higher-order brain time series improve subject and age fingerprinting**, M. Morandini, M. Saggari, G. Petri

In prep