

Giacomo Barzon

30-09-1996 | Padova, Italy

☎ (+39) 333-1672229 | ✉ giacomo.barzon.1@phd.unipd.it | 🏠 gbarzon.github.io

- MSc. in [Physics of Data](#) at the University of Padova, a Master Degree recently activated that combines advanced knowledge in the field of Physics with a high-level training in Data Science.
- Currently pursuing my PhD in Neuroscience at the [Padova Neuroscience Center](#) under the supervision of Prof. Samir Suweis from the [Laboratory of Interdisciplinary Physics](#) and Prof. Manlio De Domenico from the [Co-MuNe Lab](#).
- I am primarily interested in studying biological and complex systems, with a specific focus on the human brain, exploring this topic from both a theoretical and computational perspective.
- Throughout my academic and professional experiences, I have acquired a strong understanding of computational simulations, data analysis, and machine learning techniques. I possess an advanced level of knowledge in several programming languages.

Education

Ph.D. in Neuroscience

PADOVA NEUROSCIENCE CENTER, UNIVERSITY OF PADOVA

Padova, IT

Oct. 2021 - Today

- **Project:** "Controllability of brain networks"

M.S. in Physics of Data

UNIVERSITY OF PADOVA, FINAL GRADE: 110/110 WITH HONORS - GPA: 30/30

Padova, IT

Oct. 2018 - Apr. 2021

- **Final project:** "Structure-function relation in a stochastic whole-brain model at criticality"
— tag: Stochastic dynamics, Criticality, Master equation, Connectome, Brain networks
- **Core courses:** Statistical Mechanics, Complex Systems, Advanced Statistics, Lab. of Computational Physics, Machine Learning, Neural Network & Deep Learning, Biological Physics, Quantitative Life Science
- **Erasmus project,** University of Heidelberg, Germany - semester abroad fall 2019
— ECTS GPA: A/A
— Courses attended: Time Series Analysis & Recurrent Neural Networks, Computational Molecular Biophysics, Fundamentals of Simulation methods

B.S. in Physics

UNIVERSITY OF PADOVA, FINAL GRADE: 108/110 - GPA: 28.2/30

Padova, IT

Sep. 2015 - Sep. 2018

- **Final project:** "Advanced automatic analysis of Cloud Chamber images"
— tag: Cloud chamber, Machine learning, Convolutional neural network, Image segmentation

Publications

Unraveling the mesoscale organization induced by network-driven processes

GIACOMO BARZON, ORIOL ARTIME, SAMIR SUWEIS, AND MANLIO DE DOMENICO

Jan 2023

Preprint

Criticality and network structure drive emergent oscillations in a stochastic whole-brain model

GIACOMO BARZON, GIORGIO NICOLETTI, BENEDETTA MARIANI, MARCO FORMENTIN, AND SAMIR SUWEIS

Jun 2022

[J. Phys.: Complex. 3 025010](#)

Modelling the deceleration of COVID-19 spreading

GIACOMO BARZON, KARAN KABBUR HANUMANTHAPPA MANJUNATHA, WOLFGANG RUGEL, ENZO ORLANDINI, AND MARCO

Jan 2021

BAIESI

[J. Phys. A: Math. Theor. 54 044002](#)

Contributed talks & posters

Bernstein Conference

BERNSTEIN NETWORK COMPUTATIONAL NEUROSCIENCE

Berlin, GE

Sep. 2022

Padova-Monash Connect: Brain connectivity workshop

PADOVA NEUROSCIENCE CENTER

Online

Jul. 2022

LIPh Spring Workshop 2022

UNIVERSITY OF PADOVA

Asiago, IT

Apr. 2022

Attended schools & workshops

EITN Fall School in Computational Neuroscience

EUROPEAN INSTITUTE FOR THEORETICAL NEUROSCIENCE

Paris, FR

Sep. 2022

Cosyne Conference

Lisbon, PT

Mar. 2022

Workshop: Spatial Brain Dynamics

UNIVERSITY OF COPENHAGEN

Online

May 2021

Spring College on the Physics of Complex Systems

ICTP AND SISSA

Online

Mar. 2021

International Winter School 'MRInference: From data to knowledge'

UNIVERSITY OF PADOVA

Padova, IT

Feb. 2021

Projects

Portfolio

A collection of my academic and work projects can be found at <https://github.com/gbarzon>.

Skills

Languages Italian (native language) English (proficient)

Programming Python (advanced) Swift (advanced) Matlab (advanced) R (advanced) Java (basic) C++ (basic)