



## Benedetta Mariani

📍 Department of Physics, University of Padua (Via Marzolo 8 Padua), Padova Neuroscience Center (Via Orus 2 Padua)

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Born: on 21 December 1995 | Nationality: Italian

### RESEARCH EXPERIENCES

October 2020 - present day

#### PhD student in Neuroscience

Laboratory of Interdisciplinary Physics, Padova <https://www.liphlab.com/>  
Padova Neuroscience Center

- Supervisor: Prof Samir Suweis
- Main research interests: combining the tools of physics of complex systems and data analysis to study collective behavior in Neuroscience and Systems biology (e.g. how information processing in neural systems is enhanced by phase transitions and synchronization phenomena)

December 2019 – September 2020

#### Ten months scholarship

Laboratory of interdisciplinary Physics, University of Padua

- Project title: "Criticality in rat somatosensory barrel cortex"
- Supervisors: Prof Samir Suweis and Prof. Stefano Vassanelli.

### EDUCATION

December 2017 – October 2019

#### Master degree in Physics of Complex Systems

University of Turin, Italy

- Final grade: 110/110 cum laude
- Final project: "Signatures of criticality in rat brain: beyond avalanches statistics" performed at Liph Lab (Physics and Astronomy Dept, Padua) and at NeuroChip Lab (Dept. of Biomedical Sciences, Padua).

September 2015 – December 2017

#### Bachelor degree in Physics

University of Padua, Italy

- Final grade: 100/110
- Final project: "Phase separation for intrinsically disordered proteins"

October 2014 – September 2015

#### Student of Biomedical Engineering

Polytechnic University of Milan

### PUBLICATIONS

September 2020

#### Brain criticality beyond resting state neuronal avalanches

- Bernstein Conference 2020
- [Benedetta Mariani](#), Giorgio Nicoletti, Marta Bisio, Stefano Vassanelli, Samir Suweis,
- <https://abstracts.g-node.org/abstracts/b9ec73de-f9db-4df2-9ab1-c08c2c532e65>

### PREPRINTS

2021

#### On the critical signatures of neural activity

arXiv:2105.05070v1

[Benedetta Mariani](#), Giorgio Nicoletti, Marta Bisio, Marta Maschietto, Stefano Vassanelli, Samir Suweis

2021

#### Beyond resting state neuronal avalanches in the somatosensory barrel cortex

bioRxiv, <https://doi.org/10.1101/2021.05.13.444047>

[Benedetta Mariani](#), Giorgio Nicoletti, Marta Bisio, Marta Maschietto, Samir Suweis, Stefano Vassanelli

## TALKS, PRESENTATIONS AND POSTERS

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31st May- 12nd June 2021

### The Beg Rohu Summer School, St. Pierre Quiberon, France

- Poster presentation "On the critical signatures of neural activity"

6th October - 9th October 2020

### Contributed talk at Brain Criticality Virtual Meeting

- "Brain criticality beyond resting state neuronal avalanches"
- <https://braincriticality.org/2020/10/11/benedetta-mariani-brain-criticality-beyond-resting-state-neuronal-avalanches-spotlight-talk/>

29th September - 1st October  
2020

### Poster at Bernstein Conference 2020

- "Brain criticality beyond resting state neuronal avalanches"
- <https://abstracts.g-node.org/abstracts/b9ec73de-f9db-4df2-9ab1-c08c2c532e65>

16th - 18th January 2020

### Liph Lab winter Workshop

Folgaria (TN)

- I attended it and presented my research outputs.

## ATTENDED CONFERENCES

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31st May - 12nd June 2021

### The Beg Rohu Summer School, St. Pierre Quiberon, France

23rd February - 26th February  
2021

### Computational and Systems Neuroscience (Cosyne) 2021

18th and 19th November 2020

### Physics of Brains

6th October - 9th October 2020

### Brain Criticality Virtual Meeting

29th September - 1st October  
2020

### Bernstein Conference 2020

18th - 23th July 2020

### 29th Annual Computational Neuroscience Meeting, Organization for Computational Neuroscience

29th June - 3rd July 2020

### Youth in High-dimensions: Machine Learning, High-dimensional Statistics and Inference for the New Generation, ICTP, Trieste

9th - 14th September 2019

### Summer School in Computational and Theoretical Models in Neuroscience, European centre for living technology, Venice

## COMPUTER SKILLS

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### Programming Languages

- Python: advanced level
- C++, Mathematica, R: intermediate level
- matlab: basic level

### Operating systems

- Windows: advanced level
- Unix: advanced level

## PERSONAL SKILLS

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### Languages known

- Mother tongue: Italian
- English: level B2 (First Certificate of English)
- German: level A2 (certificate from the Goethe Institute of Bremen)