

# Simone Caletti

PHD STUDENT@PHYSICS DEPARTMENT · UNIVERSITÀ DEGLI STUDI DI GENOVA

## Education

### Dipartimento di Fisica - Università degli Studi di Genova

PHD IN THEORETICAL HIGH ENERGY PHYSICS

- Supervisor: Simone Marzani ( [REDACTED] )

Genoa, Italy

Nov. 2019 - currently

### Dipartimento di Fisica - Università degli Studi di Genova

MASTER'S DEGREE IN THEORETICAL PHYSICS (CUM LAUDE)

- Master Thesis title: The Energy of a Hadronic Jet after Soft Drop
- Advisors: Simone Marzani, Giovanni Ridolfi

Genoa, Italy

Ott. 2017 - Sept. 2019

### Dipartimento di Fisica - Università degli Studi di Genova

BACHELOR'S DEGREE IN PHYSICS (CUM LAUDE)

- Thesis title: Coherent States in Quantum Mechanics

Genoa, Italy

Sept. 2014 - Ott. 2017

### Liceo Scientifico Tecnologico - Scuola Secondaria F. Liceti

HIGH SCHOOL DIPLOMA (80/100)

Rapallo, Italy

Sept. 2008 - Jun. 2013

## Skills

**Programming** C++, Python, Bash/Unix, Mathematica, LaTeX

**Languages** Italian (mother-tongue), English (fluent)

## Publications

### Tagging the initial-state gluon

EUR. PHYS. J. C, 81 9 (2021) 844

[arXiv:2108.10024 \[hep-ph\]](#)

25 Sept. 2021

### Jet Angularities in Z+Jet production at the LHC

J. HIGH ENERG. PHYS. 2021, 76

[arXiv:2104.06920 \[hep-ph\]](#)

13 July 2021

## Presentations & Posters

### LHCP2021

PRESENTER FOR <TAGGING THE INITIAL-STATE-GLUON IN THE Z+JET PROCESS>

Online Poster Session

7-12 June 2021

### LHC Electroweak Working Group on Jets

PRESENTER FOR <JET ANGULARITIES IN Z+JET PRODUCTION AT THE LHC>

Online Seminar

24 May 2021

## Experience

### MCnet-CTEQ Summer School 2021 VIRTUAL

Online school

6 - 16 Sept. 2021

- It is the 14th MCnet Summer School and 27th CTEQ School. The school provides training on the physics at high energy colliders, particularly the LHC. We will have series of lectures on basic and more advanced topics, practical sessions, and evening discussions with the lecturers.

## **BOOST 2021**

*Online conference*

2 - 5 Aug. 2021

- BOOST 2021 is the thirteenth conference of a series of successful joint theory/experiment workshops that bring together the world's leading experts from theory and LHC experiments to discuss the latest progress and develop new approaches on the reconstruction of and use of jet substructure in order to search for new physics and study the standard model.

## **MITP Summer School 2021: The Amplitudes Games**

*Online School*

MAINZ INSTITUTE FOR THEORETICAL PHYSICS

12 - 30 July 2021

- Summer school with "Scattering Amplitudes" as the main theme, ranging from recent new formal developments to precision calculations. Topics include lectures on the geometry of scattering amplitudes, on mathematical functions associated to loop amplitudes, on phenomenological applications in jet physics and on applications in perturbative gravity.

## **Jets and their Substructure from LHC data**

*Online Workshop*

CERN

31 May 2021 - 03 June 2021

- CERN-TH workshop with a particular emphasis on phenomenology and the open challenges in jet physics at the LHC.

## **Machine Learning for High Energy Physics**

*Online series of Lectures*

ML FOR HEP | MILANO BICOCCA

03 May 2021 - 07 May 2021

- Series of lectures on Machine Learning for High Energy Physics applications by Maurizio Pierini.

## **Standard Model at the LHC 2021**

*Online conference*

SM@LHC 2021

26 Apr. 2021 - 30 Apr. 2021

- This workshop deals with the latest developments in Standard Model phenomenology at the LHC, and aims at bringing together experimentalists and theorists to stimulate discussions across the various fields. The main topics include Electroweak, Higgs, QCD, Top, Flavor Physics and EFT.

## **Wolfram Physics Winter School 2021**

*Online school*

WOLFRAM RESEARCH

4 Jan. 2021 - 15 Jan. 2021

- Series of lectures on the recent Wolfram Physics Project developments. In addition, students projects using the Wolfram Language have been made with the support of a mentor.  
Personal project: Towards a Spin-Statistics Theorem for Wolfram Model Multiway Systems

## **LHC-EW Workshop Group: Jets and EW bosons**

*Online conference*

19, 26 Oct. and 2 Nov. 2020

- Mini workshop on jet substructure.

## **BOOST 2020**

*Online conference*

DESY

20 July 2020 - 24 July 2020

- BOOST 2020 is the twelfth conference of a series of successful joint theory/experiment workshops that bring together the world's leading experts from theory and LHC experiments. Our aim are lively discussions about the latest progress in this field and the exchange of expertise to generate new ideas, in order develop new approaches on the reconstruction and use of boosted decay topologies in particle physics and beyond.

## **Strings 2020**

*Online conference*

29 June 2020 - 3 July 2020

- Remote conference on a wide range of contemporary developments involving quantum fields, strings, and gravity, as well as connections with condensed matter physics, quantum information and mathematics.

## **RECONNECT 2020**

*Online conference*

IPPP DURHAM

25 May 2020 - 29 May 2020

- Remote Conference on New Concepts in Particle Theory. Topics will include gravity and string theory, physics of the early Universe, the geometry of scattering amplitudes, physics beyond the Standard Model and precision collider phenomenology.

## **GGI2020: Lectures on the theory of fundamental interactions**

*Florence, Italy*

GALILEO GALILEI INSTITUTE FOR THEORETICAL PHYSICS

7 Jan. 2020 - 24 Jan. 2020

- Series of lectures which aim is to study foundations of the concepts and tools needed for research in High Energy Particle and Astroparticle Physics at a deep and advanced level.
- Lectures and topics:
  - Nima Arkani-Hamed (Positive Geometry of the Real World)
  - Gilherme Pimentel (Cosmological Fluctuation and their Bootstrap)
  - Luigi Del Debbio (QFTs on the lattice)
  - Silvia Pascoli (Neutrino Physics)
  - Rafael Porto (Gravitational Waves: a modern approach)
  - Jesse Thaler (QCD and Collider Physics)

## Tif-Lab Meeting

UNIVERSITÀ DEGLI STUDI DI MILANO

- Yearly meeting on recent developments in the physics of the standard model and beyond.

*Milan, Italy*

*19 Dec. 2019 - 20 Dec. 2019*

## Special Lecture Series in LHC Phenomenology

UNIVERSITÀ DEGLI STUDI DI TORINO

- Topic: Advanced Perturbative QCD for Collider Physics
- by Eric Laenen, University of Amsterdam and Nikhef

*Turin, Italy*

*30 Sept. 2019 - 4 Oct. 2019*

## High Accuracy Resummation & Parton Shower (HARPS 2018)

UNIVERSITÀ DEGLI STUDI DI GENOVA

*Genoa, Italy*

*29 Oct. 2018 - 31 Oct. 2018*

# Teaching

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## Teaching Assistant

MATHEMATICA CRASH COURSE FOR GRADUATE STUDENTS - PHYSICS - UNIVERSITÀ DEGLI STUDI DI GENOVA

- Additional preliminary course on Wolfram Mathematica for Master students in Physics.

*Genoa, Italy*

*March 2021*

## Teaching Assistant

GENERAL PHYSICS - ENVIRONMENTAL ENGINEERING - UNIVERSITÀ DEGLI STUDI DI GENOVA

- Exercises of classical mechanics.

*Genoa, Italy*

*Sept. 2019 - currently*

## Academic Tutor

GENERAL PHYSICS - ENVIRONMENTAL ENGINEERING - UNIVERSITÀ DEGLI STUDI DI GENOVA

- Mechanics and electromagnetism exercises.

*Genoa, Italy*

*Sept. 2018 - July 2019*