



Matteo Bruno

EDUCATION AND TRAINING

[11/2022 – Current]

PhD in Physics

Sapienza University of Rome

City: Rome | Country: Italy |

[09/2020 – 10/2022]

Master of Physics

Sapienza University of Rome

City: Rome | Country: Italy | | Final grade: 110/110 cum laude | Thesis: Classical and Quantum formulation of non-diagonal Bianchi I model in the loop framework

[09/2017 – 09/2020]

Bachelor of Physics

Sapienza University of Rome

City: Rome | Country: Italy | | Final grade: 110/110 cum laude | Thesis: Integrali sui cammini in Meccanica Quantistica e applicazioni} (Path integrals in Quantum Mechanics and applications)

HONOURS AND AWARDS

[07/03/2022]

Borsa di studio "Enrico Persico" Awarding institution: Accademia Nazionale dei Lincei

SCHOLARSHIP AND FELLOWSHIP

[10/2023]

Mobility scholarship from Sapienza University of Rome

Scholarship to finance three months at a university abroad.

Project: "Gauge structure of Loop Quantum Gravity on homogeneous Universes"

ACADEMIC ACHIEVEMENTS

[02/2024 – 05/2024]

Visiting student at Western University

Invited position as Visiting Graduate Student in the research group of Carlo Rovelli and Francesca Vidotto at University of Western Ontario, London, Canada

[10/2022]

Successfully completed the excellence program for the Master's degree in Physics at Sapienza University of Rome.

Attended courses: *Geometria Superiore* by Simone Diverio, *Spin geometry* by Francesco Bei

WORK EXPERIENCE

[2022 – 2023]

Volunteering

Scomodo, Sapienza University of Rome

Archivist and website creator regarding the Nobel laureate Giorgio Parisi (<https://www.parisigiorgio.it>)

TEACHING EXPERIENCE

[11/2023 – 02/2024]

Geomerty

Course in Bachelor's degree program for Physics, Sapienza University of Rome. (Assistantship)

PUBLICATIONS

- [2024] [Generalized Uncertainty Principle theories and their classical interpretation](#)
Reference: Matteo Bruno, Sebastiano Segreto and Giovanni Montani, arXiv, Jul 2024 (preprint)
- [2024] [Cosmological sector of Loop Quantum Gravity: a Yang-Mills approach](#)
Reference: Matteo Bruno, arXiv, May 2024 (preprint)
- [2024] [The fiber bundle structure of General Relativity in Ashtekar variables](#)
Reference: Matteo Bruno, arXiv, Jan 2024 (preprint)
- [2023] **Is the diagonal case a general picture for loop quantum cosmology?**
Reference: Matteo Bruno and Giovanni Montani, Phys. Rev. D, vol. 108, Aug 2023
- [2023] **Loop quantum cosmology of nondiagonal Bianchi models**
Reference: Matteo Bruno and Giovanni Montani, Phys. Rev. D, vol. 107, Jun 2023

CONFERENCES AND SEMINARS

- [07/07/2024 – 12/07/2024] **17th Marcel Grossmann Meeting** Gabriele d'Annunzio University, Pescara, Italy
- [10/06/2024 – 14/06/2024] **Estate Quantistica 2024: International School on Gravity, Cosmology, and Mathematical Physics**
Scalea, Italy
- [27/05/2024] **2024 CAP congress** Western University, London, Canada
- [06/05/2024 – 10/05/2024] **LOOPS'24** Florida Atlantic University, Fort Lauderdale, USA
- [29/04/2024 – 03/05/2024] **Loop Quantum Gravity Summer School 2024** Florida Atlantic University, Fort Lauderdale, USA
- [10/07/2023 – 14/07/2023] **Quantum Gravity 2023** Radboud University, Nijmegen, Netherlands
- [13/02/2023 – 17/02/2023] **SIGRAV International School 2023 - School of Applied Quantum Gravity** Vietri sul Mare (SA), Italy
- [18/07/2022 – 22/07/2022] **LOOPS'22** ENS de Lyon, Lyon, France

LANGUAGE SKILLS

Mother tongue(s): Italian

Other language(s):

English

LISTENING C1 READING C1 WRITING C1

SPOKEN PRODUCTION C1 SPOKEN INTERACTION C1

Spanish

LISTENING A1 READING A1 WRITING A1

SPOKEN PRODUCTION A1 SPOKEN INTERACTION A1

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

My Digital Skills

Programming Languages

C | R | Wolfram Mathematica

Office package

Microsoft Word | Microsoft Powerpoint | Microsoft Excel

Autorizzo il trattamento dei miei dati personali ai sensi del Decreto Legislativo 30 giugno 2003, n. 196 "Codice in materia di protezione dei dati personali".

Il sottoscritto dichiara di essere consapevole che il presente curriculum vitae sarà pubblicato sul sito istituzionale dell'Ateneo, nella Sezione "Amministrazione trasparente", nelle modalità e per la durata prevista dal d.lgs. n. 33/2013, art. 15.

Data

02/09/2024

f.to Matteo Bruno