

March 28, 2025

Academic Background and Research Experience

- **3/1/2025 – 5/31/2025**

PhD Visiting Student - Space Physics and Astronomy Research Unit at the University of Oulu within the GERACLIS project and SCOSTEP Visiting Scholar 2025.

Topic: Advancing Galactic Cosmic Ray Modeling and Its Implications for Atmospheric Chemistry and Climate Dynamics.

Supervisors: Ilya Usoskin and Pauli Väisänen.

- **11/1/2023 – Present**

PhD Student - University of Perugia, Department of Physics.

Topic: Phenomenological study of cosmic radiation in Space.

Supervisor: Nicola Tomassetti

- **12/1/2022 – 11/1/2023**

Postgraduate Research Fellow - University of Perugia.

Topic: Implementation of an efficient model for predicting the flux of galactic cosmic rays. The activity is carried out within the framework of the Comprehensive spAce wEather Studies for the ASPIS prototype Realization (CAESAR) project, supported by the Italian Space Agency (ASI) and the National Institute for Astrophysics (INAF).

- **4/27/2023**

Master's Degree in Astrophysics and Astroparticle Physics - University of Perugia.

Title: *A Numerical Model for the Transport of Cosmic Rays in the Heliosphere.*

Supervisor: Nicola Tomassetti.

Grade: *110/110 cum laude*

- **6/11/2020**

Bachelor's Degree in Physics - University of Perugia.

Title: *Development of a web application for monitoring cosmic radiation and solar activity.*

Supervisors: Nicola Tomassetti, Matteo Duranti.

Grade: *110/110*

Conferences and Schools

- **11/27/2024 – 11/29/2024**

Space Weather Italian Community (SWICO) Congress, Italian Space Agency (ASI).

Talk: "An Effective and Predictive Model for the Long-Term Variations of Cosmic Rays in the Heliosphere".

- **9/23/2024 – 9/27/2024**

RICAP-24, Roma International Conference on AstroParticle Physics, Frascati, Italy.

Poster presentation: "An Effective and Predictive Model for the Long-Term Variations of Cosmic Rays in the Heliosphere".

- **8/25/2024 – 9/10/2024**

The ESA-FAIR Space Radiation School 2024, Darmstadt, Germany.

Organizers: European Space Agency and GSI/FAIR.

- **5/13/2024 – 5/17/2024**
INFN School of Statistics, Paestum (Salerno, Italy)
Organizers: INFN and University "Federico II", Naples.
- **4/29/2024 – 5/3/2024**
ESPD summerschool, Dubrovnik, Croatia.
Theme: Energisation and heating in the solar plasma.
Organizers: European Solar Physics Division (ESPD) of the European Physical Society (EPS).
- **4/14/2024 – 4/19/2024**
EGU General Assembly 2024, Vienna, Austria.
Poster presentation: "An effective and predictive model for the long-term variations of Cosmic Rays in the Heliosphere".
details.
- **10/23/2023 – 10/27/2023**
International School on Open Science Cloud (SOSC 2023).
Theme: Computing Models for Scientific Experiments.
Organizers: INFN, Department of Physics and Astronomy "Augusto Righi" of the University of Bologna and the Departments of Physics and Geology of the University of Perugia.
- **9/11/2023 – 9/15/2023**
109th National Congress – Italian Society of Physics - Salerno, Italy.
Talk: "An Effective and Predictive Model for the Long-term Variations of Cosmic Rays in the Heliosphere".
- **5/15/2023 – 5/17/2023**
SPACEMON 2023: Space Environments Monitoring Workshop, ESA, Escape Tennis Hall (ESA/ESTEC – Noordwijk).
Talk: "An Effective and Predictive Model for the Long-term Variations of Cosmic Rays in the Heliosphere".
- **7/12/2021 – 7/23/2021**
International Cosmic Ray Conference (ICRC), Berlin.
Poster Presentation: "A Web Application for Monitoring Cosmic Rays and Solar Activity".
- **9/14/2020 – 9/18/2020**
106th National Congress – Italian Society of Physics.
Talk: "Development of a web application for monitoring cosmic radiation and solar activity".
Selected as "Particularly Meritorious" and awarded with publication in a special issue of *Il Nuovo Cimento C*.

Publications

- D. Pelosi, F. Barão, B. Bertucci, E. Fiandrini, M. Orcinha, A. Reina Conde, N. Tomassetti, "Cross-correlation analysis for cosmic ray flux forecasting", *EPJ Web Conf.*, 319 (2025) 13004
- M. Orcinha, F. Barão, B. Bertucci, E. Fiandrini, D. Pelosi, N. Tomassetti, "Understanding variations of galactic energetic particles in the heliosphere: modelling and radiation hazard assessment", *Cent. Eur. Astrophys. Bull.* 48 (2024), (**awaiting publication**). Presented at The 28th European Cosmic Ray Symposium (ECRS 2024), Hvar, Croatia, 23–27 September 2024.
- D. Pelosi, N. Tomassetti, M. Duranti, "Development of a Web Application for Monitoring Solar Activity and Cosmic Radiation", *Il Nuovo Cimento C*, 2021 - Issue 2-3,
- D. Pelosi, N. Tomassetti, M. Duranti, "A Web Application for Monitoring Cosmic Rays and Solar Activity", *PoS, ICRC2021*, 1259.

Awards

- 28/11/2024 – Awarded the "Premio Franco Mariani" by the Space Weather Italian Community for the best master's thesis on Space Weather research.
- SCOSTEP Visiting Scholar Program 2025 Awardee

Teaching Experience

- **10/1/2021 – 5/31/2023**

Tutoring activities for the course "Physics" for the Bachelor's Degree in Civil and Environmental Engineering.

- **3/1/2021 – 6/30/2022**

Tutoring activities for the course "Physics" for the Master's Degree in Building Engineering and Architecture.

Outreach

- **1/6/2019 – 1/6/2021**

President of the AISF Local Committee of Perugia.

The Italian Association of Physics Students (AISF) is a non-profit organization founded in 2014 to connect physics students across Italy and promote science. AISF serves as the National Committee for Italy within the International Association of Physics Students (IAPS), a global organization representing over 60,000 students from more than 50 countries, fostering collaboration and scientific exchange.

- **2023 – Present**

I am actively involved in outreach activities at the Department of Physics, University of Perugia, as part of the "Sharing Researchers' Passion for Education and Rights" (SHARPER) European Researchers' Night, an initiative supported by the European Commission.

- **11/26/2024**

I was involved in the organization of the 13th International Cosmic Day (ICD) activity at the University of Perugia, conducting lectures and leading data analysis exercises for high school students. The ICD is organized by DESY, IPPOG (the International Particle Physics Outreach Group), and various national networks and partners.

Sincerely,

