

Matteo Maria Musso

Università degli studi di Torino

Dipartimento di Fisica

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Born: September 9, 1996-Torino, Italy

Nationality: Italian

Residence: Via Giuseppe di Vittorio 107, 10040, Rivalta di Torino, Torino, Italy

Current Position

February 2025 -
July 2025

Scholar fellowship at the National Research Council for Atmospheric Sciences and Climate (CNR-ISAC). This position concerns the update and the parallelization of the Lagrangian particle dispersion model for pollutant dispersion in the atmosphere MILORD

employer: *Dr. Trini Castelli Silvia, CNR-ISAC, corso Fiume 4, 10133, Torino, Italy*

Areas of specialisation

- Fluid dynamics and Lagrangian dispersion models;
- Astrophysical plasma flows and MagnetoHydroDynamic (MHD) models;

Research Projects

present	parallelization and GPU porting of the Lagrangian particle dispersion model MILORD with OpenMP and OpenACC directives
2022 – 2024	Investigation of aerodynamic behaviour of microplastics in the atmosphere through numerical models.
2019 – 2024	Studies of plasma instabilities in astrophysical high energy jets for magnetic energy dissipation through numerical simulations and linear analysis.

Education

- March 2025 **PhD degree in Physics**, *Università degli studi di Torino – Torino (TO), Italy*
Dissertation: *Study and assessment of the dispersion of microplastics in the atmosphere through numerical modelling dispersion.*
Advisors: *Professor Ferrarese Silvia, Dr. Trini Castelli Silvia.*
- April 14, 2021 **Master degree in Physics**, *Università degli studi di Torino – Torino (TO), Italy*
Curriculum: Theoretical physics & Astrophysics.
Specialization: Astrophysics.
Grade: 110/110 cum laude.
Dissertaion: *Stability of magnetically confined plasma columns under different equilibrium conditions.*
Advisors: *Professor Mignone Andrea, Dr. Bodo Gianluigi.*
- December 5, 2018 **Bachelor degree in Physics**, *Università degli studi di Torino, Torino (TO), Italy.*
Grade: 98/110.
Dissertation: *You know the planet if you know the star: evaluation of stars radii with transiting planet.*
Advisor: *Professor Gandolfi Davide.*
- July, 2015 **Scientific High school Diploma**, *Liceo scientifico "Alessandro Volta", Torino (TO), Italy*
Grade: 95/100

Research experience

- April–May 2023 **EWTL, Meteorologisches Institut, Universität Hamburg, Hamburg, Germany**
Mentors: *Professor Bernd Leidl, Dr. Frank Harms*
Research for the optimal setup for the investigation of microplastics aerodynamic behavior in stable and turbulent atmospheric conditions.
- 2021–2024 **Università degli studi di Torino, CNR-ISAC**
Mentors: *Professor Ferrarese Silvia, Dr. Trini Castelli Silvia*
Investigation of pollutants dispersion in the atmosphere through numerical simulations and modeling.
- 2021–2024 **Università degli studi di Torino, Istituto Nazionale di Astrofisica (INAF)**
Mentor: *Professor Mignone Andrea, Dr. Bodo Gianluigi*
Investigation of instabilities properties of magnetically confined astrophysical plasma jets through numerical simulations with the PLUTO model.

Teaching experience

January–June 2022 **Tutorial activities for the course "Fisica 1: Meccanica, Onde Fluidi e Termodinamica" at Physics Department, Università degli studi di Torino**
Helping students to solve exercises concerning lectures arguments in preparation for the final exam.

Technical skills

Programming languages & Analysis software:

C++/C: good

R: good

IDL: good

Wolfram Language: good

LaTeX: good

Python: basic

Fortran: good

Languages:

Italian: mother language

English: fluent

German: basic

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I also declare that I am fully aware of the penal liability in case of false statements, false qualifications and/or use of false documents referred to in Art. 76 of DPR 445/2000, as well as the forfeiture of any benefits resulting from giving false statements according to Art. 75 of DPR 445/2000.

Torino, February 5, 2025

A handwritten signature in blue ink, reading "Matteo Maria Munno", is written over a horizontal line.