



Matilde Dondi

Curriculum Vitae

Education

Nov 2024 – **PhD Student in Physics**, *University of Bologna*, Italy
present Title: *Fisica sperimentale delle interazioni fondamentali*

Sept 2022 – **MSc in Physics, Nuclear and Subnuclear Physics**, *University of Bologna*, Italy,
Oct 2024 Final grade: 110L/110
Thesis: *Measurement of nuclear fragmentation cross section for a 400 MeV/u ^{16}O beam on a polyethylene target with the FOOT experiment*

Sept 2019 – **BSc in Physics**, *University of Bologna*, Italy, Final grade: 110L/110
Oct 2022 Thesis: *Analisi di un metodo per la discriminazione delle particelle neutre nell'ambito dell'esperimento FOOT*

Sept 2014 – **Scientific High School Diploma**, *Liceo Scientifico Laurana, Urbino (PU)*, Italy,
July 2019 Final grade: 100L/100

Research Experiences

Nov 2024 – **PhD activity**, *University of Bologna, Bologna*, Italy
present The research activity concerns the study of nuclear fragmentation processes in the FOOT experiment through the analysis of data from different campaigns and the development of dedicated software for cross section measurements. The activity also includes participation in data-taking campaigns at CNAO (Centro Nazionale di Adroterapia Oncologica, Pavia).

Apr – June 2024 **Research Internship**, *Centro Nazionale di Adroterapia Oncologica (CNAO), Pavia*, Italy
Study of geometrical optics for the HeCheck project (real-time verification system for patient positioning in hadrontherapy).

Sept – Oct 2023 **Research Internship**, *INFN National Laboratories of Frascati, Frascati*, Italy
2023 Characterization of micro-RWELL detectors for HEP applications.

Oral Contributions

23 Sept 2025 **European Nuclear Physics Conference 2025, Caen, France**
Elemental and angular differential fragmentation cross section measurements with the FOOT experiment

12 Sept 2024 **110° SIF Congress 2024, Bologna, Italy**
Elemental and angular fragmentation cross-section measurements with the FOOT experiment

Awards and Prizes

Sept 2024 **Best Communication, 110° Congresso della Società Italiana di Fisica, Bologna**

Apr 2024 **INFN Scholarship, Research activity at CNAO, Pavia**

Feb 2024 **University of Bologna Scholarship**, Awarded to worthy students, Bologna

Jan 2024 **ENEN2plus Grant, n_TOF Nuclear Physics Winter School, CERN, Geneva**

Apr 2023 **INFN Award “Più donne nella Fisica”**

Sept 2023 **INFN Scientific and Technological Summer Student Fellowship, Laboratori Nazionali di Frascati, Frascati**

Schools

24–28 Nov 2025 **VIII Seminario Nazionale Rivelatori Innovativi, INFN, Genova, Italy**

8–13 June 2025 **XXII Seminar on Software for Nuclear, Subnuclear and Applied Physics, Alghero, Italy**

21–26 Jan 2024 **n_TOF Nuclear Physics Winter School, CERN n_TOF Collaboration, Saint-Gervais-les-Bains, France**

17–21 July 2023 **Physical Sensing and Processing Summer School, University of Bologna, Bologna, Italy**

10–12 June 2023 **ANIMMA International Summer School (AISS 2023), Pisa, Italy**

Tutoring and Teaching

Sept 2025– present **Tutor, University of Bologna**
Course (BSc in Physics): Laboratorio di meccanica e termodinamica

Sept 2025– present **Tutor, University of Bologna**
Course (BSc in Physics): Elettromagnetismo

Feb – July 2025 **Co-supervisor of a BSc Thesis, University of Bologna**
Title: *Esperimento FOOT: identificazione di frammenti nucleari*

Feb – June 2025 **Tutor, University of Bologna**
Course (MSc in Physics): Laboratory of Nuclear and Subnuclear Physics 2

Mar 2025 **Tutor, University of Bologna**
Masterclass in Particle Therapy

Jan – Apr 2024 **Study Program Tutor, University of Bologna**
MSc in Physics

Outreach and Dissemination

2024–2025 **“inVISIBILI” project, primary schools in Bologna, Italy**
EU HIDDeN initiative on STEM education for children (5–10 years old), topics: dark matter and neutrinos

19 May 2025 **Pint of Science, Bologna, Italy**
La fisica nucleare, un'esplosione... di applicazioni!!!

27 Sept 2024 **European Research Night, Bologna, Italy**
Fisica delle particelle nella medicina: l'adroterapia

Languages

Italian, Mother tongue

English, C1 level (FCE Certificate, Cambridge, June 2019)

Publications

- [1] R. Ridolfi, M. Toppi, A. Mengarelli, M. Dondi, et al. (FOOT Collaboration). Angular differential and elemental fragmentation cross sections of a 400 MeV/nucleon ^{16}O beam on a graphite target with the FOOT experiment. *Phys. Rev. C*, 112:014610, Jul 2025.
- [2] M. Dondi and R. Ridolfi (FOOT Collaboration). Elemental and angular fragmentation cross-section measurements with the foot experiment. *Il Nuovo Cimento C*, (4):240, 2025.