

Lavinia Paiella

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Research interests

I am strongly interested in **stellar evolution** and **multi-messenger** astronomy. I am currently investigating the capability of first populations of stars, namely **Population III** and **Population II** stars, to produce **gamma-ray bursts** and to be progenitors of **intermediate-mass black hole** seeds for supermassive black holes.

Education

Ph.D. program

Astroparticle Physics

Supervisors: Prof. Manuel Arca Sedda, Prof. Gor Oganessian

key words: gamma ray bursts, population III stars, population synthesis

Gran Sasso Science Institute

Nov 2022 - Present

Master degree

Astrophysics, 110/110 w.h.

Thesis title: *Anatomy of a binary neutron star merger*

Supervisor: Prof. Andrea Maselli

key words: neutron star binaries, gravitational waves, kilonovae

La Sapienza University

Sep 2020 - Sep 2022

Bachelor Degree

Physics, 110/110 w.h.

Thesis title: *Estimating photometric redshifts with Artificial Neural Networks*

Supervisor: Prof. Stefano Giagu

key words: machine learning, galaxy surveys

La Sapienza University

Sep 2017 - Sep 2020

Awards and Honours

Milla Baldo Ceolin National Prize

Awarded by INFN, ~ 1k euros

National award for the 10 best master theses in Theoretical Physics written by women.

July 2023

Physics Master Honours Programme

Awarded by La Sapienza University

Programme promoted by individual faculties through annual calls. Students are admitted to the programme based on merit and can take part in additional educational activities.

Jan 2021 - Sep 2022

Physics Bachelor Honours Programme

Awarded by La Sapienza University

Jan 2019 - Sep 2020

Conferences

Local Organizing Committee.....

Asymmetric Binaries meet Fundamental Astro-Physics
L'Aquila, Italy

Gran Sasso Science Institute
20-22 Sept 2023

PHAROS 2022
Rome, Italy

La Sapienza University
16-19 May 2022

Work Experience

Outreach experience.....

European Researchers' Night
L'Aquila, Italy

Gran Sasso Science Institute
29-30 Sep 2023

Volunteered at the activities organized by Gran Sasso Science Institute.

Space Explorers
L'Aquila, Italy

Gran Sasso Science Institute
27 Apr 2023

Outreach event organized by the Astrophysics and Cosmology Group of Gran Sasso Science Institute for elementary schools in L'Aquila.

European Researchers' Night
Frascati, Italy

29-30 Sep 2019

Volunteered at the activities organized by Coder Dojo Roma SPQR.

Student Collaboration Scholarships.....

Library Assistant
Physics Library, Rome, Rome

La Sapienza University
Jan 2022 - Sep 2022

Assistant to the Share Science project
Department of Physics, Rome

La Sapienza University
Jan 2021 - Jan 2022

Library Assistant
Physics Library, Rome, Rome

La Sapienza University
Jan 2020 - Oct 2020

Schools attended

School on Scientific Communication
Bertinoro, Italy

INAF
1-6 Oct 2023

School on Student Entrepreneurship
Pavia, Italy

IUSS
25-27 Sept 2023

GWsNS2023 PhD School
Assois, France

CNRS
5-9 Jun 2023

AstroCamp 2017
Porto, Portugal

CAUP
6-20 Aug 2017

Summer camp for high school students on Astronomy co-funded by ESO.

Publications

[1]: Cozzumbo, A., Mestichelli, B., Mirabile, M., **Paiella, L.**, Tissino, J., and Harms, J., "Opportunities and limits of lunar gravitational-wave detection", arXiv e-prints, 2023.
DOI: 10.48550/arXiv.2309.15160.

Technical skills

Programming: Python (advanced),
C/C++ (intermediate),
Mathematica, Fortran (beginner)
O.S.: Linux, Windows (advanced)

Other: \LaTeX , Office (advanced),
Matlab (beginner)

Languages

Italian: Native

English: Proficient

IELTS Certificate, average score: 8 (January 2022)