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## Personal Information

Name and surname **Giacomo Galoppini**  
Birth date June 18, 1998  
Nationality Italian  
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## Education

- 2022/09 – present **Master's degree in Physics, Università di Pisa, Pisa, Italy**  
Master Thesis Activities at EGO-Virgo, Cascina, Italy.  
Supervisors: Massimiliano Razzano, Valerio Boschi  
I am involved in the Virgo-Pisa group, proactively collaborating on the commissioning activities related to the Virgo Superattenuators (SAT). I developed a diagnostic and analysis custom python tool to evaluate the SAT performance through the monitoring of the data stream of hundreds of SAT-related auxiliary channels to identify transient anomalies, called 'glitches', proposing innovative ideas and presenting data-driven results, making them accessible to the entire collaboration.
- 2017/09 – 2022/07 **Bachelor's degree in Physics, Università di Pisa, Pisa, Italy, final mark 98/110, 1° cycle QF-EHEA/6° Level EQF**  
Thesis tile: Realizzazione di un misuratore di lunghezza d'onda con rivelatori dello spettro visibile (Construction of a wavelength meter with visible spectrum detectors)  
Supervisor: Alberto Di Lieto  
I have realized a wavelength meter overcoming hardware and software troubleshooting with minimal external supervision during the distance learning period due to COVID-19 distancing measures. The instrument was built with a WS7.56 dual-junction photodiode, two trans-impedance amplifiers (convert photocurrent into potential differences) assembled on a breadboard, and a NUCLEO-L4R5ZI microcontroller equipped with ADC and programmed via Matlab script to read the voltages from the two amplifiers. It was tested measuring IR and red Laser, led and also the wavelength emitted by the sub-pixel (RGB) of a smartphone's OLED screen, demonstrating that it is possible to deliver a fully functional device under highly restrictive conditions with low cost components and with resolution suitable for led sources.
- 2012/09 – 2017/07 **Maturità scientifica, Liceo Scientifico Federigo Enriques, Livorno, Italy, final mark 100/100**

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## Work Experience

- 2024/09 – present **Outreach Activities, EGO-Virgo, Cascina, Italy**  
Collaborator in the dissemination and outreach activities carried out by the EGO (European Gravitational Observatory) consortium, operator of the Virgo interferometer for the study of gravitational waves. I have developed science communication and public speaking skills, providing support in the development of the content and format of in-person on-site visits by translating complex physical concepts into engaging content for diverse audience, ensuring customized support and guidance during live interactions.
- 2023/11 – 2024/05 **Mathematics tutor, Università di Pisa, Pisa, Italy**  
2022/11 – 2023/05 I won a call for two consecutive years, to carry out educational-integrative tutoring activities for the Mathematics course in the Geological Sciences and Natural Sciences degree program. The experience improved my communication and teaching skills, having adopted personalized strategies and making use of digital teaching tools (graphics tablet and video-conferences), to convey complex concepts to a student audience. I have developed problem-solving skills and flexibility, handling requests for clarification on the topics explained and supportive lessons with flexible hours. Finally, I consolidated my teamwork skills through constant and fruitful collaboration with the reference teacher, prof. F. Disanto.
- 2021/11-12 **Latex tutor**  
As an AISF (Associazione Italiana Studenti di Fisica) member, I have given some Latex lessons organized by the local AISF committee of Pisa
- 2017/09 – present **Tutor in mathematics and physics, Livorno, Italy**

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## Other Experiences

- 2026/03 **5-day LVK-meeting, Pisa, Italy**  
I have participated at the LIGO-Virgo-KAGRA Collaboration Meeting, presenting at the LVK Suspension and Isolation Working Group parallel session the preliminary results on the analysis of the SAT-subsytem performance during the O4 observing run, obtained with the tool developed during the master thesis work.
- 2015/09 – 2017/07 **EEE (Extreme Energy Events) Project**  
A physics project for secondary school student in collaboration with Istituto Nazionale di Fisica Nucleare (INFN) Pisa and Study and Research Center "Enrico Fermi" Roma

## 2017/02-04 **Student competitions**

*Campionati di giochi logici*, Final phase at "Modena Fiera Play", Modena, Italy; *Giochi della Chimica*, Fase regionale Toscana, Massa Marittima, Grosseto, Italy; *Olimpiadi delle scienze naturali*, Fase regionale Toscana, Empoli, Firenze, Italy; *Olimpiadi della fisica*, Gara di 2° livello, Pisa, Italy

## 2017/03 **International masterclass: hands on particle physics, INFN Pisa, Pisa, Italy**

One day masterclass on particle physics for secondary school students, held simultaneously among 225 research centres.

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## Digital skills

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|--------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Programming languages                | Python 3 (scientific libraries: Matplotlib, NumPy, SciPy, Pandas, Astropy, GWpy, PyCBC; other libraries: os, sys, serial, tomllib, tk, numba), C, Bash, MatLab (data analysis, graphics, curve fitting toolbox, optimization toolbox, symbolic toolbox, image processing toolbox).                                      |
| Markup languages                     | L <sup>A</sup> T <sub>E</sub> X, Markdown.                                                                                                                                                                                                                                                                              |
| AI instrument and prompt engineering | Critical and supervised use of GenAI (Gemini, NotebookLM, Copilot) for scientific research, text summarization, and source validation. Experience in AI-assisted Python programming, embedding AI tools into development IDEs (VS Code, Zed) to optimize workflow efficiency and creating python-tk UIs and HTML pages. |
| Other software                       | Basic knowledge of LabView, usage of Tina-TI for electronic simulation and basic video and audio editing with Audacity, LMMS, Kdenlive. Knowledge of the version control software git, used with the hosting platform GitHub, GitLab.                                                                                   |
| Operative System                     | User of the GNU/Linux environment (WSL on Windows, Ubuntu, Fedora), knowledge of the basic command line instructions and currently user of Windows 10/11.                                                                                                                                                               |
| Other knowledge                      | Knowledge of the Microsoft Office environment (Office 365) and Gsuite environment. I'm able to communicate with microcontrollers programmed with Arduino using Python or MatLab and I'm able to control sensor using I <sup>2</sup> C standard.                                                                         |

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## Languages

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| Italian | Mother tongue                                                                   |
| English | Cambridge FCE certificate B2: reading B2, listening B2, writing B2, speaking B2 |

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## Other competences

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|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Driving License | European driving license class B and A                                                                                                                                                                  |
| Piano           | <b>II level certificate</b> , Istituto Superiore di Studi Musicali "Pietro Mascagni", Livorno, Italy<br>I have studied piano from 2012/09 to 2018/09 attending the pre-academic musical training course |