

# Francesco Sorrenti

## Curriculum Vitae

Université de Genève  
24, quai Ernest Ansermet  
1211 Genève, Switzerland  
<https://orcid.org/0000-0001-7141-9659>  
✉ [francesco.sorrenti@unige.ch](mailto:francesco.sorrenti@unige.ch)  
📄 <https://fsorrenti.github.io/>

### Personal Information

Birth 25<sup>th</sup> November 1996, Taurianova (Italy)  
Nationality Italian

### Current Position

2021–present **PhD student in Cosmology**, *Department of Theoretical Physics*, Genève.  
Supervisors: Profs. Ruth Durrer, Martin Kunz, Camille Bonvin

### Research Interest

Key words Large scale structure, Weak lensing, Supernovae Ia, Peculiar velocities, Data analysis and modelling, Forecasting

### Education

2018–2021 **Master's Degree in Physics**, *Theoretical Physics Curriculum*, (110/110), Università degli Studi di Perugia.  
Advisor: Prof. Martina Gerbino  
2015–2018 **Bachelor's Degree in Physics**, (110/110) cum laude, Università degli Studi di Perugia.  
Advisor: Prof. Simone Pacetti

### Additional educational experiences

Jun 2024 **"Space and Global health"** hackathon organized by ESA  
Nov-Dec 2023 Visiting Professor Ferreira at the Cosmology Group in the Astrophysics Department of the University of Oxford  
Apr 2023 "Future Cosmology", Ecole thématique du CNRS, IESC Cargèse (France)  
Jun 2022 "Advanced Euclid School", Les Houches (France)  
Mar 2022 "Theoretical Aspects of Astroparticle Physics, Cosmology and Gravitation", Galileo Galilei Institute, Florence (Italy)  
Nov 2019 "GIPE (German Italian Physics Exchange)", Dresden (Germany)  
Jul 2017 "NiPS Summer School - Energy Harvesting", Gubbio (Italy)

## Publications (updated list available [here](#))

- [1] G. Jelic-Cizmek, F. Sorrenti, et al. "Euclid preparation - XL. Impact of magnification on spectroscopic galaxy clustering". In: *Astron. Astrophys.* 685 (2024), A167. DOI: [10.1051/0004-6361/202348628](#).
- [2] Y. Mellier et al. "Euclid. I. Overview of the Euclid mission". In: (May 2024). DOI: [10.48550/arXiv.2405.13491](#).
- [3] Francesco Sorrenti, Ruth Durrer, and Martin Kunz. "A local infall from a cosmographic analysis of Pantheon+". In: (July 2024). arXiv: [2407.07002](#) [[astro-ph.CO](#)].
- [4] Francesco Sorrenti, Ruth Durrer, and Martin Kunz. "The dipole of the Pantheon+SH0ES data". In: *JCAP* 11 (2023), p. 054. DOI: [10.1088/1475-7516/2023/11/054](#). eprint: [2212.10328](#).
- [5] Francesco Sorrenti, Ruth Durrer, and Martin Kunz. "The low multipoles in the Pantheon+SH0ES data". In: (Mar. 2024). arXiv: [2403.17741](#) [[astro-ph.CO](#)].

## Membership

- 2023–present **COST actions**, *CA21136 CosmoVerse*, *CA21106 - COSMIC WISPerS*.
- 2021–present **Euclid Consortium**, *Theory working group*, involved in the "Relativistic effects" work package, *Chair of the Early Career Committee*.
- 2021–2022 **Italian Physical Society**.
- 2019–2021 **AISF** (*Italian Association of Physics Students*).

## Scholarships

- 2024 ESA scholarship (CHF 35k) for the victory in the "[Space and Global health](#)" hackathon, in order to keep developing our project.
- 2023 Sacad Scholarship (CHF 2300) for funding a visiting at the University of Oxford
- 2021–2025 PhD Degree (~ CHF 240k): Financed by SNSF Sinergia
- 2014 MIUR Prize (€500): For obtaining the highest marks in high school at national level
- 2014 Lyons Prize (€1000): For obtaining the highest marks in high school at local level

## Teaching activities

- 2023–present Assistant of 'Mechanics II' for Physics Bachelor's
- 2022–2024 Assistant of 'Theoretical Lab. IV' for Physics Master's
- 2022 Assistant of 'Group Theory' for Physics Master's
- 2021–2022 Assistant of 'Quantum Mechanics II' for Physics Bachelor's
- 2020–2021 Tutor of 'General Physics' for Engineering Bachelor's
- 2020–2021 Tutor of 'Physics' for Environmental Sciences Bachelor's

## Outreach activities

- 2023–present Collaboration in the Swiss Euclid outreach: [Website](#) setup and maintenance

- 2020 Organization of seminars and talks for Perugia Comitee of AISF such as:
  - "Fantastic CMB and where to find it" with M.Gerbino (INFN researcher)
  - "Man vs Radiation" about space weather with V.Vagelli (ASI reasercher)
- 2021 Collaboration in outreaching activities with POST (Museum of Science - Perugia):  
Conducted activities for primary school children
- 2019–2021 Collaboration in outreaching activities with AISF via social media and through the website: <http://ai-sf.it/perugia/>
- 2019–2021 University Placement in Perugia: contributed to events for incoming students
- 2019 Collaboration in Outreaching Activities with the Physics Department of Perugia: engaged in theatre activities to promote physics outreach

## Talks

- Dec 24 Computational and Observational Cosmology Group Observatório Nacional - ON (RJ/Brazil), held remotely, *invited* talk
- Jul 24 "Relativistic effects and novel observables in Cosmology", University of Geneva (Switzerland), talk
- Jun 24 "Standard cosmology at the threshold of a change?", Aristotle University of Thessaloniki (Greece), talk
- Jun 24 Astrophysics Group of Aristotle University of Thessaloniki (Greece), talk
- May 24 "EuCAPT Annual Symposium", CERN, talk
- Dec 23 Weekly Journal Club, Cosmology Group, University of Oxford, *invited* talk: "*The Hitchhiker's Guide to the Galaxy (peculiar velocities)*"
- Sep 23 "A multipolar Universe?", Aristotle University of Thessaloniki (Greece), talk
- Jun 23 "EuCAPT Annual Symposium", CERN, talk
- Apr 23 "Future Cosmology", IESC Cargese (France), talk
- Feb 23 Weekly Journal Club, Cosmology Group of Tor Vergata University (Italy), held remotely, *invited* talk

## Languages

- Italian Native Speaker
- English *writing* - B2 Level (Cambridge - FIRST certificate in English B2),  
*speaking* - C1 Level (Certification TRINITY - GRADE 10 (C1.1 of the CEFR))
- French B1 *overall*

## Numerical skills

- Programming Python, Mathematica,  $\text{\LaTeX}$ , Julia, C++
- Operating MacOS, Windows, Ubuntu  
system

Geneva, December 12, 2024