

LUCA VISINELLI

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Education

- December 16, 2011 **Ph.D. in Physics**, *The University of Utah*, Salt Lake City, USA.
Advisor: Prof. Paolo Gondolo. Thesis: [Axions in CDM and inflation models](#)
- August 5, 2011 **M.Sc. in Physics**, *The University of Utah*, Salt Lake City, USA.
Advisor: Prof. Paolo Gondolo. GPA: 3.982/4.000
- June 22, 2007 **M.Sc. in Physics (Laurea specialistica)**, *University of Bologna*, Italy.
Advisor: Prof. Fiorenzo Bastianelli. Grade: 110/110 *cum Laude*
- October 14, 2005 **B.Sc. in Physics (Laurea triennale)**, *University of Bologna*, Italy.
Advisor: Prof. Giovanni Carlo Bonsignori. Grade: 110/110 *cum Laude*
- July 4, 2002 **High School Diploma**, *High School "E. Fermi"*, Bologna, Italy. Grade: 100/100.

Previous research experience

- 2020 – 2021 **Marie Skłodowska-Curie "Fellini" fellow**, [INFN Frascati National Laboratories](#) (Italy)
- 2019 – 2020 **GRAPPA fellow**, [GRAPPA](#), [University of Amsterdam](#) (Netherlands)
Principal investigator: Prof. Christoph Weniger (GRAPPA, Amsterdam)
- 2016 – 2019 **Postdoctoral researcher**, [NORDITA & Stockholm University](#) (Sweden)
Principal investigator: Prof. Katherine Freese (UT Austin & Stockholm U.)
- 2013 – 2015 **Postdoctoral fellow**, [Euro-Mediterranean Center \(CMCC\)](#), Bologna (Italy)
Principal investigators: Prof. Simona Masina (CMCC)
- 2007 – 2011 **Research assistant**, The University of Utah (USA)

Certifications

- 2020-2031 **National Scientific Qualification** for the role of Associate Professor in Italy.
Sector of competence: "02/A2 - Theoretical Physics of Fundamental Interactions"

Publications

80 papers (of which 68 published/accepted on top-tier JCR journals), **h-index=42**;
8000+ total citations, 17 (35) papers with 100+ (50+) citations; 115.2 average citations
per refereed paper (INSPIRE statistics as of June 5, 2024).
Full list of publications provided below, see also my [INSPIRE](#), [ADS](#), and [Google Scholar](#).

- ORCID** [0000-0001-7958-8940](https://orcid.org/0000-0001-7958-8940)
- ResearcherID** [J-5573-2015](https://www.researcherid.com/profile/J-5573-2015)
- Scopus** [34168444500](https://www.scopus.com/authid/detail.uri?authorid=34168444500)
- ArXiv** My article list on <https://arxiv.org>
- Sciprofiles** <https://sciprofiles.com/profile/lucavisinelli>
- GIT Repository** <https://github.com/lucavisinelli>

Individual Grants Awarded

- August 2023 **Research Fund for International Excellent Young Scientists**, National Natural Science Foundation of China, grant No. 12350610240. Principal Investigator: **Luca Visinelli**. 2023–2025. Approx. 110.000 EUR for 2 years.
- November 2020 **Start-up grant** offered along with the Fellowship at the [Tsung-Dao Lee Institute](#). Startup fund: Approx. 210.000 EUR.
- November 2020 [Horizon 2020 FELLINI programme](#), issued by the European Union under the **Sklodowska-Curie** COFUND Action, grant agreement No. 754496 (H2020-MSCA-COFUND- 2016 FELLINI) “Tools for Axions, Leptogenesis, and Neutrino Theories (TALeNT)”. Principal Investigator: **Luca Visinelli**. 2020-2023. 50.520,00 EUR/year.
- 2007-2008 [Award for PhD students abroad](#) (26.318,70 EUR), University of Bologna
- Fall 2006 Undergraduate Student Award (Approx. 2.000 EUR), University of Bologna

Group Grants Awarded

- Fall 2022 [Green Bank Telescope Proposal: “Continuing the Search for Axion Dark Matter in Andromeda with VEGAS”](#), Accepted (GBT/23A-245). Data has been taken during 2023.
- August 2021 [Green Bank Telescope Proposal: “Searching for Axion Dark Matter in Andromeda Using an X-band Receiver”](#), Accepted (GBT/22A-067). Data has been taken during 2022.

Prizes Awarded

- January 2022 [2021 Buchalter Cosmology Prize \(Third Prize\)](#) for the paper “The XENON1T excess and future prospects” [[hep-ph/2103.15834](#)]. Co-recipients: S. Vagnozzi, P. Brax, A.C. Davis, J. Sakstein. Also announced by the [American Astronomical Society](#).

Other Awards

- Fall 2020 [Tax Relief Award “Rientro dei Cervelli” \(Brain Gain\)](#) issued by the Italian Government
- Fall 2019 [Tax Relief Award for highly skilled immigrants in the Netherlands](#)
- Fall 2016 [Tax Relief Award for foreign key personnel in Sweden](#)
- Spring 2011 Outstanding Teaching Assistantship Award, The University of Utah.
- 2001-2002 Honorable Mention at the Italian Physics Olympiads.

Additional Participation in Research Contracts

- Spring 2022 [COST Action Proposal OC-2019-1-23688 “COSMIC WISPerS in the Dark Universe: Theory, astrophysics and experiments”](#), Approved. Principal investigator: Prof. Alessandro Mirizzi.
- 2019-2020 Dutch Research Council, contract No. 680.92.18.03 “The Hidden Universe of Weakly Interacting Particles”, Principal Investigator: Prof. Paul De Jong (University of Amsterdam), 2018-2023. I took part as a GRAPPA Fellow at University of Amsterdam.
- 2016-2019 Swedish Research Council, contract No. 638-2013-8993, Principal Investigator Prof. Katherine Freese (U. of Texas Austin and Stockholm University), 2014-2024. Approximately 10.000.000,00 EUR. I took part at Stockholm University and Uppsala University.
- 2013 – 2015 EU FP7-SPACE “MyOcean followup”, 2014-2015, 99.244,19 EUR; EU FP7-SPACE “MyOcean2”, 2012-2014. 464.980,00 EUR. EU FP7-ENV “GEOCARBON”, 2012-2014. 95.000,00 EUR. Principal Investigator Prof. Simona Masina (Division director, Euro-Mediterranean Centre on Climate Changes). I participated as a post-doctoral researcher.

Academic Service

- 2021-today Committee member, Tsung-Dao Lee Institute and Shanghai Jiao Tong University. I regularly take part in the committees for selecting graduate students, postdocs, junior professors, as well as prizes and grants for students and researchers.
2024 member of the CSC committee for selecting grants to send students abroad.
- 2023 Co-organizer of the “Tea time” colloquia at the Tsung-Dao Lee Institute.
- 2017-2018 Nordita Postdoc Representative (Administrative position), Stockholm (Sweden).
- 2017-2018 Co-organizer of the “Beyond the Standard Model” workgroup at Stockholm University.
- 2016-Today Regular refereeing for Physical Review Letters (PRL), Physical Review D (PRD), Physics Letters B (PLB), Physics of the Dark Universe (PDU), Journal of Cosmology & Astroparticle Physics (JCAP), Modern Physics Letters A (MPLA), Universe.

Service in Editorial Boards

- 2022-2023 Guest editor for the Special Issue of the journal Symmetry: “Asymmetric and Symmetric Dark Matter”, to be published in 2024.
Link: https://www.mdpi.com/journal/symmetry/special_issues.
- 2020-2022 Guest editor for the Special Issue of the journal Universe: “Dark Matter and Dark Energy: Particle Physics, Cosmology, & Experimental Searches”, to appear in 2023.
Link: www.mdpi-com/journal/universe/special_issues/DM_DE.

Organization of international conferences

- November 2024 Co-organizer of the 2024 Shanghai Symposium on Particle Physics and Cosmology (SPCS 2024), TDLI Shanghai.
- December 2023 Co-organizer of the [32nd Texas Symposium on Relativistic Astrophysics](#), TDLI Shanghai.
- October 2023 Organizer of the workshop [Advancements in Axion Physics](#), TDLI Shanghai. [YouTube](#)

Teaching Experience

- 2017 Lecturer for FK5024 “Nuclear physics”, Stockholm University, Stockholm (Sweden)
- 2015-2016 Lecturer for “Introductory Mathematics”, Department of Political Sciences, University of Bologna (Italy)
- 2015 Teaching assistant in Mathematics for International Markets, Department of Economics, University of Bologna. Supervisor: Prof. Sabrina Mulinacci
- 2015 Teaching assistant for “Mathematics for Economics and Finance”, Department of Economics, University of Bologna. Supervisor: Prof. Alessandra Giovagnoli
- 2010-2011 Teaching assistant for Physics 3740, “Special relativity and quantum mechanics”, The University of Utah. Supervisors: Prof. Kyle Dawson and Prof. Jordan Gerton
- 2009 Teaching assistant for Physics 5020, “Electromagnetism”, The University of Utah. Supervisor: Prof. Mikhail Raikh
- 2008 Teaching assistant for Physics 5010, “Classical and Quantum Mechanics”, The University of Utah. Supervisor: Prof. Mikhail Raikh

Research in Physics

Topics Theoretical physics, astroparticle physics, and cosmology.

Sample talk: my presentation in Georgetown University (Washington D.C.) for the Vera Rubin Symposium in 2019, link: <https://www.youtube.com/watch?v=iazE3tBg2cw>

Mentoring of undergraduate and master students

- 2023–today I am mentoring Linda Raimondo for her B.Sc. at University of Torino (Italy).
- 2023–today I am mentoring Qixuan Xu during a leap year at the Tsung-Dao Lee Institute (China).
- 2022–2023 My former M.Sc. student Kratika Mazde is now a graduate student at IAP Paris.
- 2019–2020 My former M.Sc. student Nicklas Ramberg has graduated at Mainz University and is now a postdoc at SISSA. [\[Link to the master thesis\]](#)

Mentoring of PhD students

- 2024–today Xinhui Chu, Tsung-Dao Lee Institute & Shanghai Jiao Tong University
- 2024–today Yongzhi Tang, Tsung-Dao Lee Institute & Shanghai Jiao Tong University
- 2023–today Hanyu Cheng, Tsung-Dao Lee Institute & Shanghai Jiao Tong University.
- 2023–today Ziwen Yin, Tsung-Dao Lee Institute & Shanghai Jiao Tong University.

Co-Supervision of PhD and M.Sc. students

- 2023–today Andrea Boccia (Ph.D. student, University of Napoli). Main advisor: Fabio Iocco.
- 2021–2023 Rittick Roy (M.Sc. student, Fudan University). Main advisor: Cosimo Bambi.
- 2019–2022 Youjia Wu (Ph.D. student, University of Michigan). Main advisor: Katherine Freese.
- 2017–2018 Janina Renk (Ph.D. student, Stockholm University). Main advisor: Joakim Edsjö.

Postdocs supervision

- 2024–today Hong-Yi Zhang, Tsung-Dao Lee Institute.
- 2022–2024 Michael Zantedeschi, Tsung-Dao Lee Institute.

Programming skills

- Systems Linux, UNIX, Mac OS, Microsoft.
- Programming Python, Fortran, C/C++, Visual Basic, Pascal, parallel computing with MPI.
- Calculus Mathematica, Matlab, R.
- Databases Maintenance of numerical codes using the GIT repository
- Datasets Manipulating large datasets in different format: NetCDF, ASCII, NCO, CDO.
- Supercomputer High performance computing (IBM iDataplex cluster “Athena”, 7712 cores).
- Text editor Microsoft Office, \LaTeX , Vi.
- Software used GAL PROP, DarkSUSY, Gadget2, MESA, NEMO, BFM.

Articles published in peer-reviewed international journals

A complete list of my publications can be found at: <http://inspirehep.net/author/profile/L.Visinelli.1>

68. F. Iocco and **L. Visinelli**, *Compatibility of JWST results with exotic halos*, *Phys. Dark Univ.* **44**, 101496 [[astro-ph/2403.13068](#)] (2024).
67. S. Bulanov et al (with **L. Visinelli**), *The science case for an intermediate energy advanced and novel accelerator linear collider facility*, *JINST* **19**, T01010 [[physics.acc-ph/2203.08425](#)] (2024).
66. G. Montefalcone, V. Aragam, **L. Visinelli**, and K. Freese, *WarmSPY: A numerical study of cosmological perturbations in warm inflation*, *JCAP* **2401**, 032 [[astro-ph/2306.16190](#)] (2024).
65. A. Addazi, Y.-F. Cai, A. Marcianò, and **L. Visinelli**, *Have pulsar timing array methods detected a cosmological phase transition?*, *Phys. Rev. D* **109**, 015028 [[astro-ph/2306.17205](#)] (2024).
64. D. Alesini et al (with **L. Visinelli**), *The future search for low-frequency axions and new physics with the FLASH resonant cavity experiment at Frascati National Laboratories*, *Phys. Dark Univ.* **42**, 101370 [[physics.ins-det/2309.00351](#)] (2023).
63. G. Lambiase, L. Mastrototaro, and **L. Visinelli**, *Astrophysical neutrino oscillations after pulsar timing array analyses*, *Phys. Rev. D* **108**, 123028 [[astro-ph/2306.16977](#)] (2023).
62. S. Vagnozzi, R. Roy, Y.-D. Tsai, **L. Visinelli**, and others, *Horizon-scale tests of gravity theories and fundamental physics from the Event Horizon Telescope image of Sagittarius A**, *Class. Quant. Grav.* **40**, 165007 [[gr-qc/2205.07787](#)] (2023).
61. Y.-D. Tsai, Y. Wu, S. Vagnozzi, and **L. Visinelli**, *Novel constraints on fifth forces and ultralight dark sector with asteroidal data*, *JCAP* **2304**, 031 [[hep-ph/2107.04038](#)] (2023).
60. A. Litsa, K. Freese, E. Sfakianakis, P. Stengel, and **L. Visinelli**, *Primordial non-Gaussianity from the Effects of the Standard Model Higgs during Reheating after Inflation*, *JCAP* **2303**, 033 [[hep-ph/2011.11649](#)] (2023).
59. G. Montefalcone, V. Aragam, **L. Visinelli**, and K. Freese, *Observational constraints on warm natural inflation*, *JCAP* **2303**, 002 [[gr-qc/2212.04482](#)] (2023).
58. G. Montefalcone, V. Aragam, **L. Visinelli**, and K. Freese, *Constraints on the scalar-field potential in warm inflation*, *Phys. Rev. D* **107**, 063543 [[gr-qc/2209.14908](#)] (2023).
57. K. Mazde and **L. Visinelli**, *The interplay between the dark matter axion and primordial black holes*, *JCAP* **2301**, 021 [[astro-ph/2209.14307](#)] (2023).
56. G. Lambiase, L. Mastrototaro, and **L. Visinelli**, *Gravitational waves and neutrino oscillations in Chern-Simons axion gravity*, *JCAP* **2301**, 011 [[hep-ph/2207.08067](#)] (2023).
55. L. Caloni, M. Gerbino, M. Lattanzi, and **L. Visinelli**, *Novel cosmological bounds on thermally-produced axion-like particles*, *JCAP* **2209**, 021 [[astro-ph/2205.01637](#)] (2022).
54. W. Lin, **L. Visinelli**, D. Xu, and T. T. Yanagida, *Neutrino astronomy as a probe of physics beyond the Standard Model*, *Phys. Rev. D* **106**, 075011 [[hep-ph/2202.04496](#)] (2022).
53. Y. Wu, S. Baum, K. Freese, **L. Visinelli**, and H.-B. Yu, *Dark stars powered by self-interacting dark matter*, *Phys. Rev. D* **106**, 043028 [[hep-ph/2205.10904](#)] (2022).

52. Y. Chen, R. Roy, S. Vagnozzi, and **L. Visinelli**, *Superradiant evolution of the shadow and photon ring of Sagittarius A**, *Phys. Rev. D* **106**, 043021 [[astro-ph/2205.06238](#)] (2022).
51. S. Vagnozzi and **L. Visinelli**, *Note on fundamental physics tests from black hole imaging*, *Res. Notes AAS* **6**, 106 [[astro-ph/2205.11314](#)] (2022).
50. **L. Visinelli** and H. Terças, *B-field induced mixing between Langmuir waves and axions*, *Phys. Rev. D* **105**, 096024 [[hep-ph/1807.06828](#)] (2022).
49. E. di Valentino *et al*, *A Review of the Particle Physics, Astrophysics, and Cosmology Associated with the Cosmological Tensions and Anomalies*, *J. High En. Astrophys.* **2204**, 002 [[astro-ph/2203.06142](#)] (2022).
48. R. Roy, S. Vagnozzi, and **L. Visinelli**, *Superradiance evolution of black hole shadows revisited*, *Phys. Rev. D* **105**, 083002 [[astro-ph/2112.06932](#)] (2022).
47. B. Barman, N. Bernal, N. Ramberg, and **L. Visinelli**, *QCD Axion Kinetic Misalignment without Prejudice*, *Universe* **8**(12), 634 [[hep-ph/2111.03677](#)] (2022).
46. **L. Visinelli**, *Boson Stars and Oscillatons: A Review*, *Int. J. Mod. Phys. D* **30** 15, 2130006 [[gr-qc/2109.05481](#)] (2021).
45. G. Choi, W. Lin, **L. Visinelli**, and T. T. Yanagida, *Cosmic Birefringence and Electroweak Axion Dark Energy*, *Phys. Rev. D* **104**, L101302 [[hep-ph/2106.12602](#)] (2021).
44. A. Litsa, K. Freese, E. Sfakianakis, P. Stengel, and **L. Visinelli**, *Large Density Perturbations from Reheating to Standard Model particles due to the Dynamics of the Higgs Boson during Inflation*, *Phys. Rev. D* **104** 12, 123546 [[hep-ph/2009.14218](#)] (2021).
43. T. Edwards, B. Kavanagh, **L. Visinelli**, and C. Weniger, *Transient Radio Signatures from Neutron Star Encounters with QCD Axion Miniclusters*, *Phys. Rev. Lett.* **127**, 131103 [[hep-ph/2011.05378](#)] (2021).
42. B. Kavanagh, T. Edwards, **L. Visinelli**, and C. Weniger, *Stellar Disruption of Axion Miniclusters in the Milky Way*, *Phys. Rev. D* **104**, 063038 [[astro-ph/2011.05377](#)] (2021).
41. S. Vagnozzi, **L. Visinelli**, P. Brax, A. C. Davis, and J. Sakstein, *Direct detection of dark energy: the XENON1T excess and future prospects*, *Phys. Rev. D* **104**, 063023 [[hep-ph/2103.15834](#)] (2021).
40. B. Carr, F. Kühnel, and **L. Visinelli**, *Black Holes and WIMPs: All or Nothing or Something Else*, *Mon. Not. Roy. Astron. Soc.* **506** 3, 3648 (2021) [[astro-ph/2011.01930](#)] (2021).
39. E. di Valentino, O. Mena, S. Pan, **L. Visinelli**, W. Yang, A. Melchiorri, D. F. Mota, A. G. Riess, and J. Silk, *In the Realm of the Hubble tension - a Review of Solutions*, *Class. Quant. Grav.* **38**, 153001 [[astro-ph/2103.01183](#)] (2021).
38. N. Ramberg and **L. Visinelli**, *QCD axion and gravitational waves in light of NANOGrav results*, *Phys. Rev. D* **103**, 063031 [[astro-ph/2012.06882](#)] (2021).
37. T. Rindler-Daller, K. Freese, R. Townsend, and **L. Visinelli**, *Stability and Pulsation of the First Dark Stars*, *Mon. Not. Roy. Astron. Soc.* **503** 3, 3677 [[astro-ph/2011.00231](#)] (2021).
36. B. Carr, F. Kühnel, and **L. Visinelli**, *Constraints on Stupendously Large Black Holes*, *Mon. Not. Roy. Astron. Soc.* **501** 2, 2029 [[astro-ph/2008.08077](#)] (2021).
35. E. di Valentino *et al*, *Cosmology Intertwined IV: The Age of the Universe and its Curvature*, *Astropart. Phys.* **131**, 102607 [[astro-ph/2008.11286](#)] (2021).

34. E. di Valentino *et al*, *Cosmology Intertwined III: $f\sigma_8$ and S_8* , *Astropart. Phys.* **131**, 102604 [[astro-ph/2008.11285](#)] (2021).
33. E. di Valentino *et al*, *Cosmology Intertwined II: The Hubble Constant Tension*, *Astropart. Phys.* **131**, 102605 [[astro-ph/2008.11284](#)] (2021).
32. E. di Valentino *et al*, *Cosmology Intertwined I: Perspectives for the Next Decade*, *Astropart. Phys.* **131**, 102606 [[astro-ph/2008.11283](#)] (2021).
31. L. Di Luzio, M. Giannotti, E. Nardi, and **L. Visinelli**, *The landscape of QCD axion models*, *Physics Reports* **1**, 870 [[hep-ph/2003.01100](#)] (2020). [Corrigendum: *Physics Reports* **6**, 006 (2022).]
30. S. Vagnozzi, C. Bambi, and **L. Visinelli**, *Concerns regarding the use of black hole shadows as standard rulers*, *Class. Quant. Grav.* **37**, 8 [[gr-qc/2001.02986](#)] (2020).
29. S. Vagnozzi, **L. Visinelli**, O. Mena, and D. Mota, *Do we have any hope of detecting scattering between dark energy and baryons through cosmology?*, *Mon. Not. R. Astron. Soc.* **493** 1, 1139 [[gr-qc/1911.12374](#)] (2020).
28. **L. Visinelli** and J. Redondo, *Axion Miniclusters in Modified Cosmological Histories*, *Phys. Rev. D* **101**, 023008 [[hep-ph/1808.01879](#)] (2020).
27. **L. Visinelli**, S. Vagnozzi, and U. Danielsson, *Revisiting a negative cosmological constant from low-redshift data*, *Symmetry* **11**(8), 1035, *Special Issue* [[astro-ph/1907.07953](#)] (2019).
26. T. Tenkanen and **L. Visinelli**, *Axion dark matter from Higgs inflation with an intermediate H_** , *JCAP* **1908**, 033 [[astro-ph/1906.11837](#)] (2019).
25. E. Di Valentino, R. Ferreira, **L. Visinelli**, and U. Danielsson, *Late time transitions in the quintessence field and the H_0 tension*, *Phys. Dark Univ.* **26**, 100385 [[astro-ph/1906.11255](#)] (2019).
24. C. Bambi, K. Freese, S. Vagnozzi, and **L. Visinelli**, *Testing the rotational nature of the supermassive object M87* from the circularity and size of its first image*, *Phys. Rev. D* **100**, 044057 [[gr-qc/1904.12983](#)] (2019).
23. S. Vagnozzi and **L. Visinelli**, *Hunting for extra dimensions in the shadow of M87**, *Phys. Rev. D* **100**, 024020 [[gr-qc/1905.12421](#)] (2019).
22. N. Ramberg and **L. Visinelli**, *Probing the Early Universe with Axion Physics and Gravitational Waves*, *Phys. Rev. D* **99**, 123513 [[astro-ph/1904.05707](#)] (2019).
21. W. H. Kinney, S. Vagnozzi, and **L. Visinelli**, *The Zoo Plot Meets the Swampland: Mutual (In)Consistency of Single-Field Inflation, String Conjectures, and Cosmological Data*, *Class. Quant. Grav.* **36**, 11 [[astro-ph/1808.06424](#)] (2019).
20. **L. Visinelli** and S. Vagnozzi, *Cosmological window onto the string axiverse and the supersymmetry breaking scale*, *Phys. Rev. D* **99**, 063517 [[hep-ph/1809.06382](#)] (2019).
19. S. Boucenna, F. Kühnel, T. Ohlsson, and **L. Visinelli**, *Novel Constraints on Mixed Dark-Matter Scenarios of Primordial Black Holes and WIMPs*, *JCAP* **1807**, 003 [[hep-ph/1712.06383](#)] (2018).
18. K. Freese, E. Sfakianakis, P. Stengel, and **L. Visinelli**, *The Standard Model Higgs Boson can delay Reheating in Inflation*, *JCAP* **1805**, 067 [[hep-ph/1712.03791](#)] (2018).
17. **L. Visinelli**, N. Bolis, and S. Vagnozzi, *Brane-world extra dimensions in light of GW170817*, *Phys. Rev. D* **97**, 064039 [[gr-qc/1711.06628](#)] (2018).

16. **L. Visinelli**, S. Baum, J. Redondo, K. Freese, F. Wilczek, *Dilute and dense axion stars*, *Phys. Lett. B* **777**, 64 [[astro-ph/1710.08910](#)] (2018).
15. **L. Visinelli**, *(Non-)thermal production of WIMPs during kination*, *Symmetry* **10**, 546 [[astro-ph/1710.11006](#)] (2018).
14. **L. Visinelli**, *Light axion-like dark matter must be present during inflation*, *Phys. Rev. D* **96**, 023013 [[astro-ph/1703.08798](#)] (2017).
13. S. Baum, **L. Visinelli**, K. Freese, and P. Stengel, *Dark matter capture, sub-dominant WIMPs, and neutrino observatories*, *Phys. Rev. D* **95**, 043007 [[astro-ph/1611.09665](#)] (2017).
12. **L. Visinelli**, *Observational Constraints on Monomial Warm Inflation*, *JCAP* **1607**, 054 [[astro-ph/1605.06449](#)] (2016).
11. **L. Visinelli**, *Condensation of Galactic Cold Dark Matter*, *JCAP* **1607**, 009 [[hep-ph/1509.05871](#)] (2016).
10. **L. Visinelli**, S. Masina, M. Vichi, A. Storto, and T. Lovato, *Impacts of Data Assimilation on the Global Ocean Carbonate System*, *Journal of Marine Systems* **158**, 106 (2016).
9. **L. Visinelli** and P. Gondolo, *Kinetic decoupling of WIMPs: analytic expressions*, *Phys. Rev. D* **91** 8, 083526 [[astro-ph/1501.02233](#)] (2015).
8. **L. Visinelli**, *Neutrino flavor oscillations in a curved space-time*, *Gen. Rel. Grav.* **47** 5, 62 [[gr-qc/1410.1523](#)] (2015).
7. **L. Visinelli**, *Cosmological perturbations for an inflaton field coupled to radiation*, *JCAP* **1501**, 005 [[astro-ph/1410.1187](#)] (2015).
6. **L. Visinelli**, S. Masina, M. Vichi, and A. Storto, *Impacts of Physical Data Assimilation on the Global Ocean Carbonate System*, *Biogeosciences Discussions* **11** (4), 5399-5441 (2014).
5. P. Gondolo and **L. Visinelli**, *Axion Cold Dark Matter in view of BICEP2 results*, *Phys. Rev. Lett.* **113**, 011802, Editor's Suggestion [[hep-ph/1403.4594](#)] (2014).
4. **L. Visinelli**, *Axion-Electromagnetic Waves*, *MPLA* **28**, 35 [[physics.class-ph/1401.0709](#)] (2013).
3. **L. Visinelli**, *Natural Warm Inflation*, *JCAP* **1109**, 013 [[astro-ph/1107.3523](#)] (2011).
2. **L. Visinelli** and P. Gondolo, *Axions Cold Dark Matter in Nonstandard Cosmologies*, *Phys. Rev. D* **81**, 063508 [[astro-ph/0912.0015](#)] (2010).
1. **L. Visinelli** and P. Gondolo, *Dark Matter Axions Revisited*, *Phys. Rev. D* **80**, 035024 [[astro-ph/0903.4377](#)] (2009).

Proceedings

3. **L. Visinelli**, *Theoretical Motivations for Hidden Light Bosons*, Submitted to Nuclear and Particle Physics Proceedings (2024).
2. **L. Visinelli**, *Analytic expressions for the kinetic decoupling of WIMPs*, *Journal of Physics - Conference Series* **718** [[astro-ph/1601.00817](#)] (2016).
1. **L. Visinelli** and P. Gondolo, *Axion Cold Dark Matter Revisited*, *Journal of Physics - Conference Series* **203** [[astro-ph/0910.3941](#)] (2010).

Articles currently under review

6. T. O'Shea, A.-C. Davis, M. Giannotti, S. Vagnozzi, **L. Visinelli**, and J. Vogel, *Solar chameleons: novel channels (I)*, submitted to Phys. Rev. D [[hep-ph/2406.01691](#)] (2024).
5. A. Boccia, F. Iocco, and **L. Visinelli**, *Constraining the primordial black hole abundance through Big-Bang nucleosynthesis*, submitted to Phys. Rev. D [[astro-ph/2405.18493](#)] (2024).
4. Z. Yin and **L. Visinelli**, *Axion star condensation around primordial black holes and microlensing limits*, submitted to JCAP [[gr-qc/2404.10340](#)] (2024).
3. C. Gatti, **L. Visinelli**, M. Zantedeschi, *Cavity Detection of Gravitational Waves: Where Do We Stand?*, submitted to Phys. Rev. D [[gr-qc/2403.18610](#)] (2024).
2. ngEHT Collaboration (with **L. Visinelli**), *Fundamental Physics Opportunities with the Next-Generation Event Horizon Telescope*, Submitted to Living Rev. Relativ. [[astro-ph/2312.02130](#)] (2024).
1. Y.-D. Tsai, D. Farnocchia, M. Micheli, S. Vagnozzi, and **L. Visinelli**, *Constraints on fifth forces and ultralight dark matter from OSIRIS-REx target asteroid Bennu*, Submitted to Communication Physics [[hep-ph/2309.13106](#)] (2024).

Articles in preparation

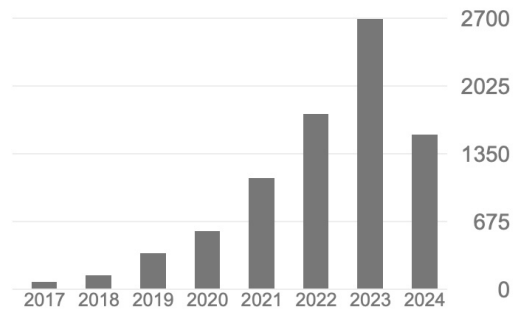
6. L. Walters *et al* (with **L. Visinelli**), *A search for axions-photon conversions in the Andromeda galaxy using the Green Bank Telescope*, in preparation (collaboration with the University of Virginia).
5. Q. Xu, S. Vagnozzi, and **L. Visinelli**, *Superradiance and light bosons*, in preparation.
4. H. Cheng and **L. Visinelli**, *Cosmic strings decay*, in preparation.
3. X. Chu and **L. Visinelli**, *Gravitational wave detection*, in preparation.
2. Y. Tang, **L. Visinelli**, and Katherine Freese, *Deriving the dark matter abundance for the Yang-Mills axion*, in preparation.
1. **L. Visinelli**, T.T. Yanagida, and M. Zantedeschi, *B-L gauge bosons and neutrinos*, in preparation.

Technical reports

4. R. X. Adhikari *et al*, *Report of the Topical Group on Cosmic Probes of Fundamental Physics for Snowmass 2021* [[hep-ex/2209.11726](#)] (2022).
3. J. Jaeckel, G. Rybka, L. Winslow, *et al*, *Axion Dark Matter* [[hep-ex/2203.14923](#)] (2022).
2. D. Antypas *et al*, *New Horizons: Scalar and Vector Ultralight Dark Matter* [[hep-ex/2203.14915](#)] (2022).
1. D. Alesini *et al*, *KLASH Conceptual Design Report* [[ins-det/1911.02427](#)] (2019).

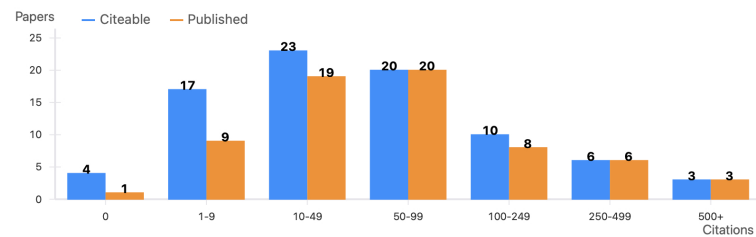
Summary of statistics as of June 5, 2024

	All	Since 2019
Citations	8501	8057
h-index	44	42
i10-index	63	61



Citations per year (Google Scholars)

	Citeable	Published
Papers	83	66
Citations	8,000	7,605
h-index	42	42
Citations/paper (avg)	96.4	115.2



Total number of citations (HEP-INSPIRE)

Invited talks

58. 09/13/24 University of Torino (IT), TBD.
57. 06/04/24 University of Trento (IT), [Theoretical motivations for a light boson and its phenomenology](#).
56. 05/27/24 Institut D'Astrophysique de Paris (FR), [The interplay between primordial BHs and particle DM](#).
55. 03/28/24 Yunnan University (CHN), Axion Resonant Conversion in Neutron Star Magnetospheres.
54. 03/13/24 IBS Science and Culture Center, Daejeon (Korea), Indirect Detection of the QCD Axion: Resonant Conversion in Neutron Star Magnetospheres
53. 03/06/24 Shanghai Jiao Tong University (CHN), Indirect Detection of the QCD Axion: Resonant Conversion in Neutron Star Magnetospheres
52. 01/31/24 University of Louisiana at Lafayette (USA), [Tracing the footprints of dark matter](#)
51. 08/22/23 University of Texas at Austin (USA), [Axions as dark matter or dark radiation](#)
50. 07/18/23 University of Bologna (IT), [The interplay of primordial black holes, dark matter, and axions](#)
49. 05/16/23 Fudan University, Shanghai (CHN), [Dark radiation in the Universe](#)
48. 03/09/23 University of Napoli (IT), The interplay of primordial black holes, dark matter, and axions
47. 02/09/23 [University of Trento \(IT\)](#), The interplay of primordial black holes and particle dark matter
46. 02/06/23 University of Ferrara (IT), The interplay of primordial black holes and particle dark matter
45. 01/26/23 [DESY \(DE\)](#), Novel Cosmological Bounds on Thermally-produced Axion-like Particles
44. 05/20/22 [Chinese Academy of Science, Beijing \(CHN\)](#), Radio signals from axions conversion
43. 04/27/22 [KEK, Tsukuba \(JP\)](#), Radio signals from axions conversion
42. 04/08/22 Indian Institute of Technology, Mumbai (IN), [Superradiance evolution of black hole shadows](#)
41. 12/15/21 [Helsinki Institute of Physics \(FI\)](#), Axion miniclusters in the Milky Way
40. 10/14/21 SISSA, Trieste (IT), Radio signals from axion miniclusters colliding with neutron stars
39. 06/11/21 University of L'Aquila (IT), The population of axion miniclusters in the Galaxy
38. 04/26/21 Shanghai Jiao Tong University, Shanghai (CHN), Direct detection of dark energy
37. 02/17/21 Kavli IPMU, Tokyo (JP), [The interplay of primordial black holes and particle dark matter](#)
36. 11/04/20 Institute of Physics, Academia Sinica (TW), [Compact objects and dark matter](#)
35. 10/13/20 Undergraduate seminar, Colgate University (USA), *One dark matter candidate: the axion*
34. 06/04/20 International Institute of Physics, Natal (BR), *Radio and gravitational wave signals from cosmic axions* [[LINK to the YouTube video on the IIP channel: https://rb.gy/tsg0of](#)]
33. 05/11/20 Newton 1665 webinars series, [New physics out of the Shadow](#)
[[LINK to the YouTube video on the Newton1665 channel: https://www.youtube.com/watch?v=yCDUfzv8oKY](#)]

32. 04/29/20 Latin American Webinars (LAWphysics) series, *Astrophysics with axion stars and miniclusters*
[LINK to the YouTube video on the LAWphysics channel: <https://www.youtube.com/watch?v=ilfmBKMgyH8>]
31. 04/07/20 University of Texas at Austin (USA), *The future of light boson dark matter*
30. 03/02/20 DAMTP Institute of Astronomy, University of Cambridge (UK), *Light boson dark matter*
29. 12/20/19 National Institute Of Chemical Physics And Biophysics, Tallinn (ES), *Light boson dark matter*
28. 11/27/19 Fudan University, Shanghai (CHN), *Testing the rotational nature of the supermassive object M87**
27. 11/25/19 Shanghai Jiao Tong University, Shanghai (CHN), *Light bosons as dark matter candidates*
26. 11/07/19 Nordita, Stockholm (SE), *Testing the rotational nature of the supermassive object M87**
25. 05/21/19 INFN Frascati, Rome (IT), *Axion miniclusters and implications for axion detection*
24. 05/10/19 Wayne State University, MI (USA), *Probing the Early Universe with Axion Physics*
23. 05/01/19 Kavli Institute for Cosmological Physics, IL (USA), *Probing the Early Universe with Axions*
22. 04/30/19 Argonne National Laboratory, IL (USA), *Probing the Early Universe with Axions*
21. 04/25/19 University of Michigan, MI (USA), *The Quest for the Axion*
20. 04/17/19 Barry University, FL (USA), *Introduction to Cosmology and Particle Physics*
19. 04/12/19 University of Florida, FL (USA), *Probing the Early Universe with Axion Physics*
18. 04/04/19 IFIC, Valencia (ES), *Probing the Early Universe with Axions*
17. 01/08/19 SISSA, Trieste (IT), *The Cold Dark Matter axion and Axion Stars*
16. 10/23/18 Nikhef Amsterdam (NL), *The Quest for the Axion*
15. 11/30/18 INFN Frascati, Rome (IT), *Motivations for the search of light axions*
14. 10/23/18 University of Bologna (IT), *Searching for Axions and the String Axiverse in the Cosmo*
13. 10/18/18 INFN Frascati, Rome (IT), *Searching for Axions in the Lab and in the Cosmo*
12. 04/11/18 Latin American Webinars (LAWphysics) series, *The axion in cosmology and astrophysics*
[LINK to the YouTube video on the LAWphysics channel: <https://www.youtube.com/watch?v=YWqVpPrpLjw>]
11. 02/01/18 CEICO, Prague (CZ), *The Cold Dark Matter axion and Axion Stars*
10. 12/01/17 University of Turin (IT), *The Cold Dark Matter axion and Axion Stars*
9. 08/16/17 University of Oslo (NO), *Dark matter capture and neutrino observatories*
8. 06/15/17 University of Bologna (IT), *Dark matter capture and neutrino observatories*
7. 02/01/07 University of Michigan, MI (USA), *Axion cold dark matter, miniclusters, and axion stars*
6. 10/25/16 University of Helsinki (FI), *Axion cold dark matter, status and perspectives*
5. 01/21/16 University of Zaragoza (ES), *Axion cold dark matter, status and perspectives*
4. 06/03/13 CMCC Lecce (IT), *Impacts of Data Assimilation on the Global Ocean Carbonate System*

3. 06/15/11 University of Pisa (IT), *Axion cold dark matter in standard and non-standard cosmologies*
2. 10/12/10 University of New Mexico, NM (USA), *An integral equation for distorted-wave amplitudes*
1. 05/21/09 University of Bologna (IT), *Axion cold dark matter revisited*

Conference talks

48. 01/12-17/25 [Prospects for the String Axiverse](#), Banff International Research Station (Canada), *TBD*
47. 09/03-06/24 [Plenary talk, 2nd General Meeting of the COST Action "Cosmic WISPer"](#), Istanbul (Turkey), *Direct and indirect detection of the QCD Axion*
46. 07/08-12/24 [IDM2024](#), GSSI L'Aquila (Italy), *Indirect Detection of the QCD Axion: Resonant Conversion in Neutron Star Magnetospheres*
45. 07/08-12/24 [Marcel Grossmann Meeting](#), Pescara (Italy), *Compatibility of JWST results with exotic halos*
44. 07/01-05/24 [Invisibles Workshop 2024](#), Bologna (Italy), *H_0 and cosmological tensions: An overview*
43. 06/17-20/24 [New Horizons in Primordial Black Hole physics \(NEHOP\)](#), Durham (UK), *Searching for high-frequency gravitational waves with resonant cavities*
42. 05/15/24 [FLASH Technical Design Report \(TDR\)](#), Frascati (Italy), *Forecast reach of the FLASH cavity experiment at LNF*
41. 04/09-11/24 [Gravitational Waves and the early Universe Workshop](#), Beijing (CHN), *Searching for high-frequency gravitational waves with resonant cavities*
40. 11/16-18 23 [The 9th China LHC Physics Workshop \(CLHCP2023\)](#), Shanghai (CHN), *Theoretical Motivations for Hidden Light Bosons*
39. 11/10-13 23 [International Symposium on Cosmology and Particle Astrophysics CosPA 2023](#), Hong Kong, *Direct detection experiments and light bosons*
38. 10/30-11/3 23 [IBS Conference on Dark World 2023](#), IBS Science and Culture Center, Daejeon (Korea), *Direct detection experiments and light bosons*
37. 09/15 23 [Dark Energy from Fundamental Theories to Observations](#), Frascati (Italy), *Direct detection experiments and light chameleons*
36. 09/11-14 23 [Plenary talk on axions at TeVPA 2023](#), Napoli (Italy), *The QCD axion: theory, phenomenology, and searches*
35. 06/19-21 23 [New Horizons in Primordial Black Hole physics \(NEHOP\)](#), Napoli (Italy), *Primordial black holes and particle dark matter are intimately intertwined*
34. 06/5-9 23 [Axion Across Boundaries](#), Galileo Galilei Institute, Arcetri (Italy), *Axions and inflation* [\[YouTube\]](#)
33. 02/23-24 23 [Kick-off Meeting of COST Action COSMIC WISPer](#), INFN Frascati (Italy), *Axions and PBHs*
32. 11/18-20 22 [Particle Physics and Cosmology Symposium 2022](#), Shanghai (CHN), *Novel Cosmological Bounds on Thermally-produced Axion-like Particles*
31. 11/29-12/03 21 [Sixth Colombian Meeting on High Energy Physics](#), Santa Marta (CO), *Plenary speaker: Future probes of light bosons*

30. 10/12-13/21 Cosmology Frontier in Particle Physics: Astroparticle Physics and Early Universe, NCTS NTU, *Axion miniclusters in the Milky Way*
29. 07/5-16/21 [Cosmology from Home 2021](#), *Direct detection of dark energy* [\[LINK to YouTube video\]](#)
28. 05/15/21 [TDLI International Workshop "Current Topics on Axion"](#), Shanghai Jiao Tong University, Shanghai (CHN), *Future probes of the axion landscape*
27. 10/13-16/20 The 5th IBS-IFT-MultiDark Workshop, Institute for Basic Science (IBS), Daejeon (KR), *Recent and future developments of dark matter axion physics*
26. 09/24/20 [CoCo 2020: Cosmology in Colombia](#), Bogotá (CO), *Constraints on Reheating to SM Particles due to Large Effective Higgs Boson Mass*
25. 08/24/20 [Cosmology from Home 2020](#), *Axion Miniclusters: Tidal Disruption and Radioastronomy* [\[LINK\]](#)
24. 07/21/20 [IDM2020](#), Zurich (CH), *The future of Axion Physics*
23. 12/2-6/19 [TeVPA 2019](#), Sydney (AU), *Probing the Early Universe with Axion Physics*
22. 06/24-06/26 [Vera Rubin Fest](#), Washington DC (USA), *Axions*
21. 06/10-14/19 [Invisibles19](#), Valencia (ES), *Coordinating one of the panel discussion session*
20. 12/18/18 [SLAP 2018](#), King's College London (UK), *The Cold Dark Matter axion and Axion Stars*
19. 12/11/18 [The quest for New Physics](#), Instituto de Física Corpuscular (ES), *Axion Stars*
18. 09/05/18 [Invisibles18 Workshop](#), Karlsruhe Institute of Technology (DE), *Dilute and dense axion stars*
17. 06/20/18 [14th Patras Workshop](#), DESY Hamburg (DE),
The Higgs Boson can delay Reheating after Inflation
16. 06/12/18 [Preparing for Dark Matter Particle Discovery](#), Chalmers University of Technology, Goteborg (SE),
The Higgs Boson can delay Reheating after Inflation
15. 03/07/18 [Ultralight Dark Matter and Axions](#), University of Michigan (USA),
The parameter space of axion-like particles
14. 02/22/18 [UCLA Dark Matter 2018](#), UCLA (USA), *Axions in cosmology and astrophysics*
13. 08/31/17 [DavCO](#), CP³ Origin (DK), *Axions and ALPs as the Cold Dark Matter*
12. 08/04/17 [Self-interacting dark matter](#), Niels Bohr Institute (DK), *Sharpening Fuzzy Dark Matter*
11. 07/19/17 [Advances in Theoretical Cosmology in Light of Data](#) Nordita (SE), *Axion dark matter*
10. 12/06/16 [Axion Dark Matter workshop](#), Nordita (SE), *Axion dark matter, miniclusters, and axion stars*
9. 08/12/16 [IDM2016](#), Sheffield (UK), *Galactic Cold Dark Matter from First Principles*
8. 09/07/15 [TAUP 2015](#), Turin (IT) *Analytical expressions for the kinetic decoupling of WIMPs*
7. 11/19/14 [GEOCARBON Final Meeting](#), Paris (FR),
Summary contribution to GEOCARBON from Land and Ocean Components
6. 07/08/14 [NEMO Users Meeting](#), Grenoble (FR),
Assimilation of Physical and Carbonate Data on the Global Ocean Carbonate System

5. 10/15/10 [American Physical Society Four Corners Meeting](#), Ogden (USA),
An integral equation for distorted-wave amplitudes
4. 07/13/10 [PPC 2010 Conference](#), Turin (IT), *An integral equation for distorted-wave amplitudes*
3. 03/28/10 [SnowPac & SnowCluster 2010](#), Alta (USA), *Axion dark matter in non-standard cosmologies*
2. 07/02/09 [TAUP 2009](#), Rome (IT), *Axion cold dark matter revisited*
1. 10/20/07 [American Physical Society Four Corners](#), Flagstaff (USA),
Oscillation amplitude for neutrino wave packets

Workshop attendance

- | | |
|----------------|---|
| May 2023 | Axions across boundaries between Particle Physics, Astrophysics, Cosmology and forefront Detection Technologies , Galileo Galilei Institute, Arcetri (IT) |
| April 2017 | The 5th MCTP Spring Symposium , Ann Arbor, MI (USA) |
| September 2014 | Data Assimilation in Ocean Physics , Trieste (Italy) |
| June 2013 | Advanced School on Data Assimilation , Bologna (Italy) |
| December 2009 | Focus week on indirect dark matter search , IPMU Tokyo (Japan) |

Visitors hosted at the Tsung-Dao Lee Institute

- | | |
|--------------|---|
| Apr-May 2024 | Enrico Schiappacasse, San Sebastian University (CL) |
| Mar-May 2024 | Andrea Boccia, University of Napoli & Scuola Superiore Meridionale (IT) |
| 4/12 2024 | Prof. Jessica Turner, University of Edinburg (UK) |
| 2/25–27 2024 | Prof. Alejandro Ibarra, Technical University of Munich (DE) |
| 2/19–23 2024 | Prof. Eleonora Di Valentino, University of Sheffield (UK) |
| 11/7–11 2023 | Dr. Florian Kühnel, Ludwig-Maximilians Universität (DE) |
| 9/16–28 2023 | Prof. Fabio Iocco, University of Napoli (IT) |

Books

- June 2024 Enzo Pellegrino & **Luca Visinelli**, [Dove Abita il Tempo](#) (In Italian).
Published with Pendragon Editions in June 2024.
[Link al sito Mondadori Store](#)

Outreach: Presenting science to popular audience

- July 2022 [South physics observatory astronomy summer camp "Astronomy for Future Scientists"](#), The University of Utah. Host: Paul Ricketts.
- January 2022 Virtual interview with the online newspaper "Fanpage" on dark energy (in Italian) [\[Youtube link\]](#)
- September 2021 Interview for the podcast "co.scienza" (in Italian), aimed at young researchers [\[Link\]](#)
- August 2021 Public lecture "Le cinque ere dell'Universo e la vita su altri pianeti" (In Italian).
Youtube links: [PART 1](#) [PART 2](#)
- August 2020 Public lecture "Buchi neri e onde gravitazionali: La ricerca in Italia" (In Italian).
Youtube links: [PART 1](#) [PART 2](#)
- March 2016 Public lecture "Capire le onde gravitazionali" (In Italian), Bologna.
- November 2015 Public lecture "Physics for everybody!" (In Italian), Bologna.
- February 2013 Public lecture "Galileo, father of the scientific method" (In Italian), Bologna.
- April 2011 Public lecture "Dark Matters", The University of Utah, Math Department.

Visiting researcher

- Jun 09–12 2024 INFN Frascati (IT)
- Feb 2–7 2024 University of Texas at Austin (TX)
- Jan 17–23 2024 INFN Ferrara (IT)
- Aug 21–31 2023 University of Texas at Austin (TX)
- Jul 09–15 2023 INFN Frascati (IT)
- Mar 06–07 2023 Università di Salerno (IT)
- Apr 20–31 2019 University of Michigan (MI)
- Apr 10–20 2019 Barry University (FL)
- Jan 20–31 2019 INFN Frascati (IT)
- May 1–15 2017 Perimeter Institute (CA)
- Feb 25–30 2017 Massachusetts Institute of Technology (MA)
- Jan–Mar 2017 University of Michigan (MI)

Press coverage and media appearance

- October 2021 “[Signal From The XENON1T Experiment May Be A Hallmark Of Dark Energy](#)”, **Forbes**
- September 2021 “[Have we detected dark energy?](#)”, **www.cam.ac.uk**
- June 2021 “[Can we see dark energy from Earth? New experiments offer hope](#)”, **Space.com**
- January 2021 “[Black holes could reach 'stupendously large' sizes](#)”, **Queen Mary University of London**
- November 2020 “[Top ArXiv papers from week 48 2020, entry #2](#)”, **Sunny Vagnozzi's blog**
- November 2020 “[Top ArXiv papers from week 46 2020, entry #2](#)”, **Sunny Vagnozzi's blog**
- September 2020 “[‘Stupendously large’ black holes could grow to truly monstrous sizes](#)”, **Space.com**
- September 2020 “[Black holes - Do they grow stupendously large?](#)”, **Astrobites.org**
- April 2020 “[Interview with Luca Visinelli on “Il Messaggero” \(In Italian\)](#)”, **ilmessaggero.it**
- September 2018 “[Hunting for extra dimensions with gravitational waves](#)”, **Oskar Klein Centre blog**
- August 2018 “[Zoos, Swamplands and Cosmology](#)”, **Astrobites.org**
- September 2017 “[Interview with Luca Visinelli](#)”, **Oskar Klein Centre blog**

Additional work experience

- 2015 **Editing work for JCAP and JHEP**, Sissa-Medialab publications, Trieste (Italy)
- 2015 – 2016 **High school teacher**, Private High School "M. Malpighi", Bologna (Italy)
- 2015 – 2016 **High school teacher**, Public High School "E. Majorana", Bologna (Italy)
- 2011 – 2016 **Private tutoring** in mathematics and physics for high school and university students.
- 2011 – 2012 **Editor for high-school mathbooks**, Zanichelli Editore. [Textbook here](#).

Other Experiences

- 2015 - today **Voluntary affiliation, Italian Civil Protection Department**, *Loiano (Bologna)*, Italy.
- 2014 - 2016 **Elected as Town Councilor**, *Comune di Loiano (Bologna)*, Italy.

Professional references addressing my research activity

- Christoph Weniger** **Associate Professor (Postdoc supervisor),**
• GRAPPA, University of Amsterdam
Room C4.160, Science Park 904, 1098 XH Amsterdam, The Netherlands.
Tel. +31 20525 6294, Email: c.weniger@uva.nl.
- Paolo Gondolo** **Full Professor (Ph.D. supervisor),**
• Department of Physics and Astronomy, The University of Utah
115 S 1400 E #201, Salt Lake City, UT 84112-0830.
Tel. +1 801 581 77 88, Email: paolo.gondolo@utah.edu.
- Anne-Christine Davis** **Full Professor,**
Department of Applied Mathematics and Theoretical Physics, University of Cambridge
Wilberforce Road, Cambridge CB3 0WA, United Kingdom.
Tel. +44 012 2333 7878, Email: ad107@cam.ac.uk.
- Katherine Freese** **Full Professor (Postdoc supervisor),**
• Department of Physics, University of Texas at Austin
2515 Speedway, Austin TX 78712, United States of America.
Tel. +1 734 604 1325, Email: ktfreese@utexas.edu.

Professional references addressing my teaching activity

- Lars Bergström** **Professor and former director,**
Oskar Klein Centre, Stockholm University
Roslagstullsbacken 21 A 10691 Stockholm, Sweden.
Email: lbe@fysik.su.se.

Additional references

- Tsutomu T. Yanagida** **Emeritus Professor,**
Tokyo University, IPMU,
5-1-5 Kashiwanoha, Kashiwa, Chiba, 277-8583, Japan.
Email: tsutomu.tyanagida@sjtu.edu.cn.
- Frank Wilczek** **Full Professor,**
• Department of Physics, Massachusetts Institute of Technology
77 Massachusetts Ave, 6-301. Cambridge, MA 02139, United States of America;
• Department of Physics and Origins Project, Arizona State University
Tempe, AZ 25287, United States of America.
Tel. +1 617 253 0284, Email: wilczek@mit.edu.
Secretary [for reference letters]: Anne.Dominic@asu.edu.
- Javier Redondo** **Associate Professor,**
Theoretical physics dept., Zaragoza University,
C/ Pedro Cerbuna 12 E-50009, Zaragoza, Spain.
Tel. +34 876 553312, Email: jredondo@unizar.es.