

# Curriculum Vitae

## Personal information

Name: Inguglia, Gianluca  
Institute: HEPHY, Nikolsdorfer Gasse 18, 1050, Vienna, Austria  
Current position: Group Leader (tenured)  
ORCID: 0000-0003-0331-8279  
Date of birth: 16 October, 1981  
Nationality: ITALY  
Homepage URL: Gianluca Inguglia  
Research Interest: Fundamental physics, dark matter, gravitational waves, particle physics.

## Education

2014 Ph.D. in Physics, Queen Mary University of London, UK.  
2011 M.Sc. in Physics, University of Groningen, The Netherlands.  
2008 B.Sc. in Astronomy, University of Bologna, Italy.

## Scientific positions

Since 2024 HEPHY Group Leader (tenured), Austrian Academy of Sciences.  
2020-2024 HEPHY Junior Group Leader, tenure track, Austrian Academy of Sciences.  
2017-2020 Postdoc, HEPHY-Vienna, Austria.  
2014-2017 DESY postdoc Fellow, DESY-Hamburg, Germany.

## Third-party fundings acquired

**Total third-party funding acquired since 2018: 1,764,471.00 EUR.**

*InterLeptons: A search for new Interactions at Belle II using leptons*, European Research Council, Starting Grant, funding ID ERC-StG nr. 947006, 1,486,137.00 EUR, 11/2020–10/2025.

*Search for dark matter and dark forces at Belle II*, FWF Austrian Science Fund, Stand-Alone, funding ID FWF P31361-N36, 278,334.00 EUR, 2018–2022.

## Supervision of graduate students

Since 2021 9 Master students, 7 PhD students, 3 postdoc.

## Management and commission of trust

since 2024	Member of the Belle II Publications Committee.
2019-2023	Chair of the Belle II Statistics Advisory Committee.
Since 2020	Member of the management of the Institute of High Energy Physics of the Austrian Academy of Sciences.
2019-2023	Member of the Executive Board of the Belle experiment.
2019-2013	Convenor for the Belle Collaboration of the Dark Sector Physics group.
Since 2019	Convenor for the JENNIFER II Consortium of the Dark Sector Physics activities.
2019-2021	Liaison for the Belle2 Machine Learning group and Belle II Stat. Adv. Committee.
2019-2021	Deputy chair of the Belle II Statistics Advisory Committee.
2018-2023	Project leader, project FWF Stand-Alone P31361, <i>Searches for dark matter and dark forces at Belle II</i> , HEPHY, Vienna.
2017-2018	Convenor of the Belle II Statistics and New Physics Group.
Since 2015	Expert referee for the Science and Technology Facilities Council (STFC), for the Italian Ministry of education, and expert referee for <i>Journal of High Energy Physics</i> , <i>IoP</i> , <i>Physics Letters B</i> , Chinese Physics C.

## List of 10 selected publications

- Test of light-lepton universality in  $\tau$  decays with the Belle II experiment, the Belle II Collaboration, *Journal of High Energy Physics* **08**, 205, ArXiv:2405.14625.  
DOI: [https://doi.org/10.1007/JHEP08\(2024\)205](https://doi.org/10.1007/JHEP08(2024)205).
- Light New Physics in  $B^+ \rightarrow K^+ \nu \nu$ ? W. Altmannshofer, A. Crivellin, H. Haigh, G. Inguglia, J. M. Camalich, *Phys. Rev. D* **7** 075008, arXiv:2311.14629.  
DOI: <https://doi.org/10.1103/PhysRevD.109.075008>.
- Search for an Invisible  $Z'$  in a Final State with Two Muons and Missing Energy at Belle II”, the Belle II Collaboration, *Phys. Rev. Lett.* **130**, 231801, ArXiv: 2212.03066.  
DOI: <https://doi.org/10.1103/PhysRevLett.130.231801>.
- Search for a dark photon and dark Higgs boson in  $\mu^+ \mu^-$  and missing energy final states with the Belle II experiment”, the Belle II Collaboration, *Phys. Rev. Lett.* **130**, 071804, ArXiv:2207.00509.  
DOI: <https://doi.org/10.1103/PhysRevLett.130.071804>.
- Towards excluding a light  $Z'$  explanation of  $b \rightarrow s \ell^+ \ell^-$ ,” A. Crivellin, C. A. Manzari, W. Altmannshofer, G. Inguglia, P. Feichtinger, et al., *Phys. Rev. D* **106** L031703, arXiv:2202.12900.  
DOI: <https://doi.org/10.1103/PhysRevD.106.L031703>.
- Testing Lepton Flavour Universality Violation in the Charged Current with Kaon, Pion, Tau and Beta Decays,” D. Bryman, V. Cirigliano, A. Crivellin and G. Inguglia, *Annual Review of Nuclear and Particle Science* **72**, ArXiv: 2111.05338.  
DOI: <https://doi.org/10.1146/annurev-nucl-110121-051223>.
- Punzi-loss: A non-differentiable metric approximation for sensitivity optimisation in the search for new particles”, P. Feichtinger, H. Haigh, G. Inguglia, J. Kahn *et al.*, *Eur. Phys. J. C* **82** (2022)

121, ArXiv: 2110.00810.

DOI: <https://doi.org/10.1140/epjc/s10052-022-10070-0>.

- Search for an invisibly decaying  $Z'$  boson at Belle II in  $e^+e^- \rightarrow \mu^+\mu^-(e^\pm\mu^\mp) + \text{missing energy final states}$ , Belle II Collaboration, Phys. Rev. Lett. **124**, 141801, arXiv: 1912.11276.  
DOI: <https://doi.org/10.1103/PhysRevLett.124.141801>.
- Time Dependent  $CP$  Asymmetries in  $D$  and  $B$  decays”, A. Bevan, G. Inguglia, B. Meadows, Phys. Rev. D **84**, 114009, ArXiv:1106.5075.  
DOI: <https://doi.org/10.1103/PhysRevD.84.114009>.

### List of selected invited presentations at international conferences

2023	TAU2023, Wishlist for new results expected at Tau2025, Louisville, US.
2022	IPPP Beyond flavour anomalies, What other LFU ratios will add, Durham.
2021	Les Rencontres de Moriond QCD, latest results in $\tau$ and dark sector physics at Belle.
2019	La Thuile 2019: “Dark Sector Physics Within Belle II”.
2016	ICHEP 2016 Chicago, invited talk: “Studies of dark sector and $B$ decays involving $\tau$ at Belle and Belle II”.

### List of selected invited seminars or Colloquia

2024	New Physics at Belle II, seminar “Flavour Physics beyond the Standard Model”, KIT.
2022	The InterLeptons project and the search for new fundamental interactions at Belle II, Atom Institute, AT (remote).
2020	Search for new interactions at Belle II, Birmingham University, UK (remote).
2019	Hunting for new interactions at Belle II, University of Siegen, Germany.
2018	Light dark matter searches at collider, Univerista’ di Roma Tre, Roma, Italy.
2014	Phenomenology and possible signatures of dark photon in $e^+e^-$ collisions, University of Hawai’i, Honolulu, US.

### List of selected outreach talks

2024	Gravitational waves, Dark Matter day 2024.
2021	InterLeptons: How Anomalies In Data Will Reveal The Future Of The Universe, Wien Planetarium Webinar.
2019	Representing the Invisible, Translating Dark Matter, documentary interview released for Art & Science project, the University of Applied Arts of Vienna, 2019.
2018	Dark Matter Day 2018, Vienna, presentation of Belle II Virtual Reality, event organizer.
2017	WAA Jahrestagung 2017, invited public lecture, “The fate of antimatter: can the Belle II experiment reveal what happened to the antimatter Universe?”.
2013	Understand the Higgs boson at Royal Society Summer Science Exhibition, “The Higgs boson and the ATLAS experiment: demonstration”, London, UK.

## Organisation of scientific meetings

2024	Organising Committee Member of TAUP2023, Vienna.
2023	Chair of Alpine Physics Symposium (ALPS) 2023, Obergurgl, Austria
2022	Chair of IPA 2022 (Interplay between Particle and Astroparticle physics), Vienna.
2021	Chair of <i>Anomalies and Precision in the Belle II Era</i> , Vienna, September 2021.
2019	Chair of <i>Z' and exotic searches at Belle II</i> , Vienna, April 2019.