

Curriculum Vitae

Personal information

Name: Inguglia, Gianluca
Institute: HEPHY, Nikolsdorfer Gasse 18, 1050, Vienna, Austria
Current position: Junior Group Leader (tenure track)
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 2020 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 τ decays with the Belle II experiment, the Belle II Collaboration, *Journal of High Energy Physics* **08**, 205, ArXiv:2405.14625.
- 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>.
- 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.
- 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.
- 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.
- 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.
- 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.
- Search for an invisibly decaying Z' boson at Belle II in $e^+e^- \rightarrow \mu^+\mu^-(e^\pm\mu^\mp) +$ missing energy final states”, Belle II Collaboration, *Phys. Rev. Lett.* **124**, 141801.

- The Belle II Physics Book, author of several bottomonium and dark sector sections and leading reviewer of the τ *physics* chapter, *PTEP* **12**, 123C01, DOI: 10.1093/ptep/ptz106, KEK Preprint 2018-27, BELLE2-PUB-PH-2018-001, ArXiv:1808.10567.
- Time Dependent CP Asymmetries in D and B decays”, A. Bevan, G. Inguglia, B. Meadows, Phys. Rev. D **84**, 114009, ArXiv:1106.5075.

List of selected invited presentations at international conferences

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| 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 τ 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 τ at Belle and Belle II”. |

List of selected invited seminars or Colloquia

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| 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

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| 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.