europass Curriculum vitae

PERSONAL INFORMATION

Alessandro Gaz

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Gender Male | Date of birth January 5th 1980 | Nationality Italian

WORK EXPERIENCE

2020 – present — Associate Professor

Dipartimento di Fisica e Astronomia G. Galilei, Università degli Studi di Padova, via Marzolo 8, 35131 Padova (ITALY)

- Physics analysis of the Belle II Experiment data
- Coordination of activities (also using machine learning) aimed at improving the particle identification performance of the Time Of Propagation (TOP) sub-detector of Belle II
- Commissioning, calibration, and upgrade of the TOP sub-detector

2016 – 2020 — Associate Professor

Kobayashi-Maskawa Institute, Nagoya University Furo-cho, Chikusa-ku, Nagoya Aichi 464-8602 (JAPAN)

- Construction, commissioning, and calibration of the TOP sub-detector of Belle II
- Analysis of the first data collected by Belle II, particularly in relation to $B\overline{B}$ mixing and charmless B decays
- Coordination of the central Monte Carlo simulation production of the Belle II Experiment

2015 — Senior Postdoc

Dipartimento di Fisica e Astronomia G. Galilei, Università degli Studi di Padova, via Marzolo 8, 35131 Padova (ITALY)

- Construction of the laser calibration system of the TOP sub-detector of Belle II
- Evaluation of the sensitivity of the Belle II Experiment in B-decay channels exhibiting CP violation

2008 – 2014 — Postdoctoral Research Associate

Department of Physics, 390 UCB, University of Colorado Boulder, CO 80309-0390 (USA)

- Analysis of $B \to$ charmless decays on the full BaBar data set
- Development of the ultimate charged particle identification algoithms, based on multivariate discriminators
- Development and commissioning of the slow control system for the CMS silicon tracker detector
- Searches for signatures of decays of supersymmetric particles at the CMS Experiment

EDUCATION AND TRAINING

2005 – 2008 — PhD in Experimental Physics

Università degli Studi di Padova (ITALY). Thesis on CP violation in $B\overline{B}$ mixing at the BaBar Experiment, Prof. Franco Simonetto

1999 – 2004 **Master in Physics**

Università degli Studi di Padova (ITALY), 110/110 cum Laude. Thesis on B physics studies at the BaBar Experiment, Prof. Franco Simonetto

PERSONAL SKILLS

Mother tongue: Italian

Other languages: English (fluent), Japanese (JLPT N3), French (very basic reading and conversation skills), Spanish (very basic reading and conversation skills)

Digital skills
- Expert in programming techniques (C++, Python, shell scripts)
- Expert in particle identification (PID) at High Energy Physics experiments, also using multivariate techniques and machine learning

Job-related skills
- Management of research groups
- Supervision of students
- Organization of research workshops and physics conferences

Management and coordination roles
- Physics Coordinator of the Belle II Experiment (September 2019 – August 2021)
- Co-convener of the Time Dependent CP Violation physics working group of Belle II (November 2015 – August 2019)
- Monte Carlo production manager of the Belle II Experiment (June 2018 - June 2019)
- Safety officer of the CMS Experiment Pixel Detector (September 2011 – September 2014)
- Co-convener of the B $\rightarrow$ Charmless decays physics working group at the BaBar Experiment (October 2008 – November 2014)
- Convener of the Charged Particle Identification working group at the BaBar Experiment (October 2008 – November 2014)

Evaluation metrics
- H-index (Scopus): 119
- Citations (Scopus): 65487
- Indexed products in the last 10 years (Scopus): 569

SELECTED PUBLICATIONS

1 Search for $B^+ \rightarrow K\nu\overline{\nu}$ decays using an inclusive tagging method at Belle II, Belle II Collaboration, F. Abudinen et al., Phys. Rev. Lett. 127, 181802 (2021), DOI: 10.1103/PhysRevLett.127.181802

2 The Belle II Physics Book, E. Kou et al, special issue of Prog. Theor. Exp. Phys. (2019), DOI: 10.1093/ptep/ptz106, 10.1093/ptep/ptaa008 (erratum)

3 The Physics of the B Factories, A. J. Bevan et al, Eur. Phys. J. C74 (2014) 3026, DOI: 10.1140/epjc/s10052-014-3026-9

4 Search for gluino mediated bottom- and top-squark production in multijet final states in pp collisions at 8 TeV, CMS Collaboration, S. Chatrchyan et al., Phys. Lett. B 725 (2013) 243, DOI: 10.1016/j.physletb.2013.06.058

5 Search for CP Violation in $B^0\overline{B}^0$ Mixing using Partial Reconstruction of $B^0 \rightarrow D^{*-}X\ell^+\nu$ and a Kaon Tag", BaBar Collaboration, J. P. Lees et al., Phys. Rev. Lett. 111, 101802 (2013), DOI: 10.1103/PhysRevLett.111.101802, 10.1103/PhysRevLett.111.159901

According to law 679/2016 of the Regulation of the European Parliament of 27th April 2016, I hereby express my consent to process and use my data provided in this CV.