Curriculum Vitae

Jorge Alda Gallo
Ph.D. in Theoretical Physics

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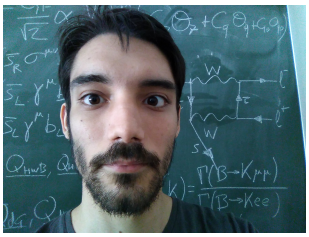

Research interests

- New physics beyond the Standard Model.
- Flavour Physics.
- B-meson anomalies.
- Effective Field Theories.
- Axions and Axion-like particles.

Education

B.Sc. in Physics, Universidad de Zaragoza 2011-2015

Average grade: 9.20/10. 13 Honours.
B.Ss. Project: *"Cálculo numérico en teoría cuántica de campos de la materia condensada"*. Under the supervision of David Zueco Láinez. Qualification: 9.5/10.

M.Sc. in Theoretical Physics, Universidad Complutense de Madrid 2015-2016

Average grade: 9.34/10.
M.Sc. Project: *New Applications of the Coleman-Weinberg Model.* Under the supervision of J. A. Ruiz Cembranos. Qualification: 9.0/10.

Ph.D. School 2018

Taller de Altas Energías. Benasque (Huesca, Spain).

Ph.D. in Physics, Universidad de Zaragoza 2016-2022

Under the supervision of Siannah Peñaranda Rivas.
Dissertation title: *A Glance into Flavour Physics with Effective Field Theories and Machine Learning.*
Defense date: 27th April 2022.
Qualification: *Cum Laude.*

Ph.D. School 2022

WE-Heraeus Summer School SMEFT'22: Theory and Phenomenology of the Standard Model EFT. Siegen (Germany).

Grants

Grant JAE-Intro CSIC 2014

Project *"Caos semiclásico en sistemas de bosones con interacción"*, supervised by David Zueco Láinez.
CSIC-ICMA (Spanish National Research Council and Instituto de Ciencia de Materiales de Aragón).

PreDoc Grant, Diputación General de Aragón 2017-2022

Programa Ibercaja-CAI de Estancias de Investigación 2021

Grant No. CB 5/21.

Memberships

CAPA 2019-present

Centro de Astropartículas y Física de Altas Energías. Zaragoza, Spain.
`capa.unizar.es`

Invited Positions

Università degli Studi di Padova/INFN Summer 2021

Scientific Production

J. Alda, J. Guasch and S. Peñaranda: ***Some results on Lepton Flavour Universality Violation***
Eur.Phys. J. C, 79 7 (2019) 588
doi:10.1140/epjc/s10052-019-7092-x
arXiv:1805.03636 [hep-ph]

J. Alda, J. Guasch and S. Peñaranda: ***Anomalies in B decays: A phenomenological approach***
Eur.Phys. J. Plus 137 (2022) 217
doi:10.1140/epjp/s13360-022-02405-3
arXiv:2012.14799 [hep-ph]

J. Alda, J. Guasch and S. Peñaranda: ***Anomalies in B decays: Present status and future collider prospects***
arXiv:2105.05095 [hep-ph]
SLAC eConf C21-03-15.1

J. Alda, J. Guasch and S. Peñaranda: ***Using Machine Learning techniques in phenomenological studies in flavour physics***
J. High Energ. Phys. 2022, 115 (2022)
doi:10.1007/JHEP07(2022)115
arXiv:2109.07405 [he-ph]

J. Alda, J. Guasch and S. Peñaranda: ***Exploring B-physics anomalies at colliders***
arXiv:2110.12240 [hep-ph]
PoS(EPS-HEP2021)494

J. Alda, A. W. M Guerrera, S. Peñaranda and S. Rigolin: ***Leptonic Meson Decays into Invisible ALP***
Nucl.Phys.B 979 (2022) 115791
doi:10.1016/j.nuclphysb.2022.115791
arXiv:2111.02536 [hep-ph]

Talks and conferences

2nd Red LHC Workshop. Madrid, Spain. 9-11 May 2018
Talk “Some Results on Lepton Flavour Violation”.

Taller de Altas Energías. Benasque (Huesca, Spain) 2-15 September 2018
Talk "Some Results on Lepton Flavour Violation".

X CPAN Days. Salamanca, Spain. 29-31 October 2018
Talk "Complex Wilson coefficients in the analysis of B-anomalies".

I Jornadas de Jóvenes Investigadores CAPA. Zaragoza, Spain. 7 May 2019
Talk "Effective Theories for B-meson anomalies".

I Jornadas del Programa de Doctorado de Física. Zaragoza, Spain. 20 June 2019
Talk "Effective Theories for B-meson anomalies".

XXXVII Bienal de Física de la Real Sociedad Española de Física. Zaragoza, Spain. 15-19 de July 2019
Talk "Some Results on Lepton Flavour Universality Violation".

International Workshop on Future Linear Colliders - LCWS2021. Online. 15-18 March 2021
Talk "Anomalies in B mesons decays: Present status and future collider prospects".

European Physical Society Conference on High Energy Physics 2021 (EPS-HEP2021). Online. 26-30 July 2021
Poster "Exploring B-physics anomalies at colliders ".

Seminar, Department of Theoretical Physics. University of Zaragoza, Spain. 18 November 2021
Talk "Leptonic Mesons Decays into invisible ALP".

II Jornadas del Programa de Doctorado de Física. University of Zaragoza, Spain. 3 December 2021
Talk "Leptonic Mesons Decays into invisible ALP".

Seminar, Department of Theoretical Physics. University of Zaragoza, Spain. 20 January 2022
Talk "Using Machine Learning techniques in phenomenological studies in flavour physics".

Seminar, Institute of Theoretical Physics (IFT). Autonomous University of Madrid, Spain. 27 January 2022
Talk "Using Machine Learning techniques in phenomenological studies in flavour physics".

XIII CPAN Days. Huelva, Spain. 21-23 March 2022
Talk "Using Machine Learning techniques in phenomenological studies in flavour physics".

5th Inter-experiment Machine Learning Workshop. CERN, Switzerland. 8-13 May 2022
Talk "Using Machine Learning techniques in phenomenological studies in flavour physics".

Contributions to public repositories

flavio

1 pull request merged: `https://github.com/flav-io/flavio/pull/160`

smelli

1 pull request: `https://github.com/smelli/smelli/pull/45`

Teaching

September 2019

Ph.D. School "Taller de Altas Energías de Benasque" (Huesca, Spain).
Associate teacher.

2019-2020

Differential Equations
Problem-solving sessions, 38 teaching hours.
Second year course, Bachelor Degree in Physics, Universidad de Zaragoza.

General Physics
Laboratory sessions, 10 teaching hours.
First year course, Bachelor Degree in Mathematics, Universidad de Zaragoza.

2020-2021

Differential Equations
Problem-solving sessions, 38 teaching hours.
Second year course, Bachelor Degree in Physics, Universidad de Zaragoza.

General Physics
Laboratory sessions, 10 teaching hours.
First year course, Bachelor Degree in Mathematics, Universidad de Zaragoza.

2021-2022

Differential Equations
Problem-solving sessions, 38 teaching hours.
Second year course, Bachelor Degree in Physics, Universidad de Zaragoza.

Co-direction of B.Sc. Project
10 teaching hours. Fourth year course, Bachelor Degree in Physics, Universidad de Zaragoza.

General Physics
Laboratory sessions, 10 teaching hours.
First year course, Bachelor Degree in Mathematics, Universidad de Zaragoza.

2022-23

Co-direction of M.Sc. Project
10 teaching hours. Master Degree in Physics, Universidad de Zaragoza.

Scientific Dissemination

Dark Matter Day. University of Zaragoza, Spain. 31 October 2022

Languages

Spanish	■■■■■
English	■■■■■
Italian	■■■□□
German	■■■□□
French	■■□□□

Programming languages

TEX/LATEX	■■■■■
Python	■■■■■
C/C++	■■■□□
Mathematica	■■■□□
Docker	■■□□□
Rust	■□□□□

Awards

XXII Spanish Physics Olympiad 2011

Silver Medal (Rank 15).
Second position in the regional Aragonese phase.

20th International Mathematics Competition 2013

Bronze Medal (rank 177).

About this CV

This CV was last updated in November 7, 2022.
You can find the latest version at
`https://github.com/Jorge-Alda/Jorge-Alda/releases/latest/download/CV.pdf`