

# Curriculum Vitae

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## Jorge Alda Gallo

### Ph.D. in Theoretical Physics

✉ [jalda@unizar.es](mailto:jalda@unizar.es)

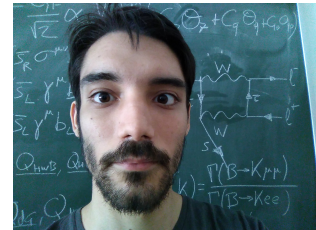
📞 +34 676 70 35 11

🏠 C/Rioja 18 2B, 50017 Zaragoza, Spain.

🌐 <https://jorge-alda.github.io>

🐙 Jorge-Alda

🆎 0000-0002-6728-1105



## ☆ Research interests

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

## 🎓 Education

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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

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Università degli Studi di Padova/INFN

Summer 2021



## Scientific Production

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**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. Guerrero, 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

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**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

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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

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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.



## Languages

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Spanish    ■■■■■■

English    ■■■■■■

Italian    ■■■■■■

German    ■■■■■■

French    ■■■■■■



## Coding languages

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$\text{\LaTeX}$     ■■■■■■

Python    ■■■■■■

C/C++    ■■■■■■

Mathematica    ■■■■■■



## Awards

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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

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This CV was last updated in July 20, 2022.  
You can find the latest version at  
[https://github.com/Jorge-Alda/Jorge-Alda/  
releases/latest/download/CV.pdf](https://github.com/Jorge-Alda/Jorge-Alda/releases/latest/download/CV.pdf)

