

Part A. PERSONAL INFORMATION		CV date	17/03/2020
First and Family name	M. Elvira Gámiz Sánchez		
Social Security, Passport, ID number		Age	
Researcher numbers	Researcher ID	E-8009-2016	
	Orcid code	0000-0001-5125-2687	

A.1. Current position

Name of University/Institution	Universidad de Granada		
Department	Dpto. de Física Teórica y del Cosmos		
Address and Country	Facultad de Ciencias, E-18071 Granada		
Phone number	958249094	E-mail	megamiz@ugr.es
Current position	Profesora Titular de Universidad	From	23/11/2013
Espec. cód. UNESCO	2212; 2290		
Palabras clave	Particle Physics; Lattice Gauge Theories; QCD; Flavour Physics; Effective Theories		

A.2. Education

PhD	University	Year
M.Sc. in Physics	Universidad de Granada	1999
Ph.D. in Physics	Universidad de Granada	2003

A.3. JCR articles, h Index, thesis supervised...

Number of *sexenios*: **3** (last obtained in 2017)
 Number of PhD thesis co-supervised in the last 10 years: **2**
 Total number of publications (in Q1): **42** (36)
 Total number of publications including proceedings and reviews: **116**

Statistics in inSPIRE (Published only)

Total number of citations: **3411**
 Number of citations/article: **81** h index: **31** (36 including proceedings)
 1 article with more than 250 citations, 13 articles with more than 100 citations.

Statistics in WoS

Total number of citations: 2026
 Number of citations/year in the last 5 years (2015-2019): 191 h index: 25

Part B. CV SUMMARY (*max. 3500 characters, including spaces*)

I have nearly 20 years of research experience in the phenomenology of particle physics, especially in flavor physics and the determination of fundamental parameters of the Standard Model (SM). My scientific career started as a graduate student at Univ. of Granada in 2000. After getting my PhD at the end of 2003 I was awarded a Marie Curie Intra-European fellowship, with which I worked as a postdoc at University of Glasgow (UK). After this stay, I worked as a postdoctoral researcher at Univ. of Illinois at Urbana-Champaign (2006-2009) and Fermilab (2009-2011). Before the end of my last postdoc, in May 2011, I joined the Theoretical Physics and Cosmology department at Univ. of Granada as a Ramón y Cajal researcher. Since November 2013 I am *Profesora Titular* at Univ. of Granada.

In 2004 and 2006 I started to collaborate with the High Precision QCD (HPQCD) and the Fermilab Lattice-MILC collaborations, respectively, both at the international forefront of phenomenological studies using lattice QCD. Within those collaborations I have been the leader researcher in projects such as: the first realistic calculation of B_K , the parameter describing indirect CP violation in the neutral K system, the first realistic calculation of the parameters that describe the B^0 -anti B^0 mixing, or the state-of-the-art determination of the CKM matrix element V_{us} using semileptonic decays. The main objective of my current and



mid-term research is exploiting lattice QCD techniques to perform high precision calculations of hadronic matrix elements needed for the analysis of current and forthcoming experimental flavour data. The main goals are performing the most stringent tests of the SM, try to unveil physics BSM and put constraints on the allowed new theories. Another of my research interests, where my experience with both continuum and lattice techniques converge, is the use of Chiral Perturbation Theory (the effective theory of QCD at very low energies) to analyze lattice simulation data.

I have been involved in the organization of several international meetings, in particular, I was the chair of the Local Organising Committee in the 2017 edition of the most important conference in the field, the *International Symposium on Lattice Field Theory* (Lattice 2017), <http://www.lattice2017.es>, held in Granada.

As a reviewer, I have participated in evaluation committees for the Ramón y Cajal and postdoctoral national programs, as well as in the evaluation of projects for ANEP. Since August 2017, I am responsible for the theoretical physics subarea in the Evaluation subdivision of the National Research Agency (AEI).

I have participated in numerous projects with regional, national, European and US funding. Between 2012-2016 I was the PI of a Career Integration Grant (FP7 programme) with a total funding of 100.000€ ("*High precision flavour physics with lattice QCD*"). I am currently the co-PI of the national project "*Non-perturbative and perturbative precision calculations relevant for the SM and its extensions*" FPA2016-78220-C3-3-P, and the regional project "*La física de sabor como sonda en la búsqueda más allá del Modelo Estándar*" (A-FQM-467-UGR18).

Part C. RELEVANT MERITS

C.1. Publications (including books)

(Selected 10 publications from the last 10 years. Number of citations included only for those articles with over 50 citations)

1. "*Hadronic vacuum-polarization contribution to the muon's anomalous magnetic moment from four-flavor lattice QCD*", C.T.H. Davies *et al.* [Fermilab Lattice and LATTICE-HPQCD and MILC Collaborations], Phys. Rev. D101 (2020) no.3, 034512.
2. "*B- and D- meson leptonic decay constants from four-flavor lattice QCD*", A. Bazavov *et al.*, Phys. Rev. D98 (2018) no.7, 074512 [67 citations]
3. "*Opportunities in Flavour Physics at the HL-LHC and HE-LHC*" (chapter "*Lattice QCD on the HL/HE-LHC era*"), A. Cerri *et al.*, CERN Yellow Report, arXiv:1812.07638 [76 citations]
4. " *$B_{(s)}^0$ -mixing matrix elements from lattice QCD for the Standard Model and beyond*", A. Bazavov *et al.* [Fermilab Lattice and MILC Collaborations], Phys.Rev. D93 (2016) no.11, 113016 [154 citations]
5. "*B \rightarrow K ll decay form factors from three-flavor lattice QCD*", J.A.Bailey *et al.* [Fermilab Lattice and MILC Collaborations], Phys. Rev. D. 93 (2016) no.2, 025026. [77 citations]
6. "*B \rightarrow πll form factors for new-physics searches from lattice QCD*", J.A.Bailey *et al.* [Fermilab Lattice and MILC Collaborations], Phys. Rev. Lett. 115 (2015) no.15, 152002.
7. "Update of $|V_{cb}|$ from B \rightarrow D * $l\nu$ form factors at zero recoil with three-flavor lattice QCD", J.A.Bailey *et al.* [Fermilab Lattice and MILC Collaborations], Phys. Rev. D. 89 (2014) no.11, 114504. [161 citations]
8. "*Semileptonic Kaon Decay in Staggered Chiral Perturbation Theory*", C. Bernard, J.Bijnens and E. Gámiz, Phys. Rev. D 89 (2014) no.5, 054510.
9. "*Determination of $|V_{us}|$ from a lattice-QCD calculation of the K \rightarrow $\pi ll\nu$ semileptonic form factor with physical quark masses*", A. Bazavov *et al.*, Phys. Rev. Lett. 112 (2014) no.11, 112001 (PRL Editor's suggestion) [41 citations]
10. "*Refining new-physics searches in B \rightarrow D * $l\nu$ decay with lattice QCD*", J. A. Bailey *et al.*, Phys. Rev. Lett. 109 (2012) 071802. [101 citations]

C.2. Research projects and grants

(More relevant projects in the last 10 years as PI)

1. A-FQM-467-UGR18, “La física de sabor como sonda en la búsqueda más allá del Modelo Estándar”, Funding agency: Junta de Andalucía. PIs: Francisco del Águila Giménez / M. Elvira Gámiz Sánchez. 01/01/2020-31/12/2022. 35.000 €. Participation: **Principal Investigator**
2. FPA2016-78220-C3-3-P, *Non-perturbative and perturbative precision calculations relevant for the SM and its extensions*. PLAN NACIONAL I+D. PIs: Francisco del Águila Giménez / Elvira Gámiz. 01/01/2017-29/12/2019. 140.000 €. Participation: **Principal Investigator**
3. PCIG10-GA-2011-303781, *High precision flavour physics with lattice QCD*, **Marie Curie Career Integration Grant (EC)**. PI: M. Elvira Gámiz Sánchez. 01/02/2012-31/01/2016. 100.000 €. Participation: **Principal Investigator**
4. Since 2017, I have been **co-PI** of several successful applications for large-scale computational resources in the USA. Those projects are funded by several USA agencies.

C.5. Invited seminars and talks

I have been invited to give over 60 seminars and talks in Europe, USA and Asia. A few recent examples are listed below

2020: *Semileptonic form factors in lattice QCD*, Flavor Physics and CP Violation (FPCP2020), A Toxa (Spain).

2019: *Heavy-to-light decay form factors*, Advances in lattice field theory [CERN TH Institute], CERN (Switzerland)

2018: *Lattice QCD for flavour Physics*, First Workshop on High Energy Theory and Gender, CERN (Switzerland).

2018: *Status and outlook of Lattice calculations for flavour anomalies*, Exotic Hadrons and Flavor Physics, Simon Center for Geometry and Physics, Stony Brook (USA)

2015: *Lattice perspective on leptonic and semileptonic decays*, The 7th International Workshop on Charm Physics, Wayne State University (USA).

2014: *Precise determinations of $|V_{us}|$, semileptonic/leptonic D decays, and determinations of $|V_{cd}|$ and $|V_{cs}|$* , 8th International Workshop on the CKM Unitarity Triangle, Vienna (Austria). (Plenary summary talk of Working Group 1).

C.6. Organization of scientific meetings

(More relevant activities in the last 10 years)

2020: *38th International Symposium on Lattice Field Theory*, Bonn (Germany). Member of the International Advisory Committee.

2019: *37th International Symposium on Lattice Field Theory*, Wuhan (China). Member of the International Advisory Committee.

2019: *Open Symposium on the Update of European Strategy for Particle Physics*, Granada (Spain). Member of the Local Organizing Committee.

2018: *36th International Symposium on Lattice Field Theory*, East Lansing (USA). Member of the International Advisory Committee.

2018: *Challenges and opportunities in Lattice Gauge Theories Workshop*, IFT, Madrid. Member of the Local Organizing Committee

2017: *35th International Symposium on Lattice Field Theory*, Granada (Spain). **Chair of the Local Organizing Committee**

2016: *34th International Symposium on Lattice Field Theory*, Southampton (United Kingdom). Member of the International Advisory Committee.

2014: *37th International Conference on High Energy Physics (ICHEP 2014)*, Valencia (Spain). Co-convener of the “*Lattice Gauge theories*” working group.

2014: *8th International Workshop on the CKM unitarity triangle (CKM2014)*, Wien (Austria). Co-convener of WG1 (Precise determinations of V_{ud} and V_{us} , semileptonic/leptonic D decays and determinations of V_{cs} and V_{cd}).

C.7. Evaluation

August 2017-: Responsible for the theoretical physics subarea in the Evaluation subdivision of the *National Research Agency (AEI)*.

2015-: Referee for the *Agencia Nacional de Evaluación (ANEP)*

2015: Member of the selection committee for the Ramón y Cajal programme.

2014: Member of the selection committee for the “Formación Postdoctoral” programme.

Referee, among others, for *Journal of High Energy Physics*, *Physical Review D* and *European Physical Journal C*.

External reviewer for the 2019 edition of the “Review of Lattice Results Concerning Low-Energy Particle Physics” (FLAG 2019), section on “Leptonic and semileptonic kaon and pion decay, $|V_{ud}|$ and $|V_{us}|$ ”.

Member of the **Thesis committee** of Alice Donati (UGR 2015), Antonio Rodríguez (UV 2018), Pablo Guerrero (UGR 2019) and Héctor Gisbert (UV 2019).