

Part A. PERSONAL INFORMATION

CV date	8-10-2019
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First and Family name	Bernardo Adeva Andany		
Social Security, Passport, ID number		Age	64
Researcher codes	WoS Researcher ID (*)	BA	
	SCOPUS Author ID(*)	7006017976	
	Open Researcher and Contributor ID (ORCID) **	L-1378-2014 0000-0001-9756-3712	

(*) At least one of these is mandatory

(**) Mandatory

A.1. Current position

Name of University/Institution	Universidade de Santiago de Compostela		
Department	Departamento de Física de Partículas		
Address and Country	Facultad de Física. Campus Sur. E-15782, Santiago de Compostela. Spain.		
Phone number	881813986	E-mail	Bernardo.adeva@usc.es
Current position	catedrático , full professor	From	26-5-1993
Key words	Particle Physics		

A.2. Education

PhD	University	Year
	Complutense University of Madrid	6-12-1983

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

- number of 6-year terms (sexenios) awarded under Spanish research system: 6
- dates of last sexenio: 2010/2016
- number of Ph D thesis last 10 years: 8 thesis.
- total number of citations from Web of Science: 23488.
- average citations/year, WoS, last 5 years (excluding 2019) : 2402.8 (period 2014/2018: 2104+1984+2807+3197+2848.
- total number of publications i(Q1) : 622

h-index, according to SCOPUS: 72.

Some doctoral thesis supervised:

- 1) Brais Sanmartín Sedes. "Study of CP violation asymmetries in the decay of B^0 and B_s mesons into two light vector states". November, 2017 / USC. Directors: Bernardo Adeva Andany and Cibrán Santamarina Ríos.
- 2) Paula Álvarez Cartelle. "Study of $B_s \rightarrow K^{*0} K^{*0b}$ decay channel at LHCb". November 21, 2014 / USC. Directors: Bernardo Adeva Andany and Abraham Gallas Torreira.
- 3) Pablo Rodríguez Pérez."Development and operation of tracking detectors in Silicon technology for the LHCb upgrade". June 18, 2014 USC. Directors: Bernardo Adeva Andany and Abraham Gallas Torreira.
- 4) Xabier Cid Vidal. "Search for the rare decays $B_s \rightarrow \mu^+ \mu^-$ and $K_s \rightarrow \mu^+ \mu^-$ with 1 fb⁻¹ at LHCb". October 26, 2012 USC. Directors: José Ángel Hernando Morata, Bernardo Adeva Andany ,
- 5) José Luis Fungueiriño Pazos. "Determination of the Pionium Lifetime in the DIRAC Experiment at CERN". April 27, 2012 USC. Directors: Bernardo Adeva Andany, Máximo Pló Casasús, Antonio Romero Vidal.
- 6) Daniel Esperante Pereira. "Design and Development of Electronics and the Control Software for the Silicon Tracker of LHCb". October 25, 2010 USC. Directors: Bernardo Adeva Andany, Abraham Antonio Gallas Torreira, Pablo Vázquez Regueiro.
- 7) Diego Martínez Santos." Study of the very rare decay $B_s \rightarrow \mu^+ \mu^-$ in LHCb". May 5, 2010, USC. Directorss José Ángel Hernando Morata, Bernardo Adeva Andany.



- 8) Antonio Romero Vidal." Precision Determination of the S-wave $\pi\pi$ Isospin Scattering Length Difference $|a_0 - a_2|$ in the DIRAC Experiment". July 3, 2008 USC.
Director: Bernardo Adeva Andany.

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

My scientific carrier has two well defined terms, first my work under the leadership of Prof. S. C. C. Ting of MIT (Nobel Laureate 1976) and his team, with whom I collaborated 11 years in two different experiments. First as a member, at the DESY laboratory (Hamburg, Germany), of the MARK J experiment at the PETRA accelerator, during the period 1981-1984, where decisive contributions were made to the consolidation of the Standard Model of Particle Physics, among them the discovery of the 3-jet events, and the first evidence of the Z^0 interference with the photon. Then I joined CERN, initially as a Fellow in 1984-1986, then as a scientific staff member of the EP Division in 1986-1991, where I was part of the L3 experiment effort at LEP, having being honored to participate in the small team that presented the L3 conceptual design in 1984. My contributions were, in the MARK J, performing the first precision measurements of the coupling constant of the strong interaction α_s . In the L3 experiment I participated in the installation of the muon detector, together with the CIEMAT institute, and later I was proponent of the first measurement of the oscillation parameter for $B^0 - \bar{B}^0$ mesons at LEP, using inclusive dimuon pairs.

The second term of my carrier begins with the creation of my own research group in experimental physics at the University of Santiago de Compostela (USC), after being awarded a full professorship (cátedra) in May 1993. During this time my group, based at USC, has been involved in three consecutive experiments at CERN: the Spin Muon Collaboration (SMC), under leadership of Prof. V. W. Hughes, that performed precision measurements of the polarized structure functions g_1 of the proton and the neutron, that are still a world reference for the so-called "proton spin problem" of QCD, yet ongoing. Next the DIRAC experiment, only spectrometer so far built in the world capable of detecting electromagnetically bound mesonic atoms, and performing a precision measurement of their lifetime in the femtosecond range. In the latter experiment at CERN, the USC team under my leadership delivered full construction and installation of two key detectors: the GEM/MSGC tracker upstream the magnet, and the 125 ps Time-of-Flight detector (VH), as well as the final publication on Pionium ($\pi^+\pi^-$) lifetime.

Finally in 1988, my group was one of the proponents of the Letter of Intent for the LHCb experiment at CERN. We took responsibility in the conceptual design and prototyping, construction and installation of its Silicon Tracker, with 21% overall share, together with Zurich, Lausanne and Heidelberg universities, having been member of its Steering Committee until 2013. I created in 2011 a small analysis group at USC, aiming to perform full CPV analysis on a newly discovered high statistics b -decay, $B_s \rightarrow K^0 K^{*0} b$, that can provide competitive information on new physics contributions from penguin diagrams to the electroweak phase β_s , in non-charmonium final states. This activity at USC has produced a significant number of LHCb publications and doctoral thesis.

I have been part of various international committees, in particular of the LHC Committee of CERN (LHCC) during the approval time of the large experiments 1997/2000. I created an experimental group at USC of 9 staff researchers, and I was founder, and first director, of the Galician Institute of High Energy Physics IGFAE (1999-2001), later evolved to center of excellence Maria de Maeztu.

Part C. RELEVANT MERITS

C.1. Publications (including books)

1. The LHCb Detector at the LHC

LHCb Collab. (A. Augusto Alves Jr. et al.). August 2008.

JINST 3 (2008) S08005, 217 pag., 892 authors, B. Adeva n° 394 (1223 citations).

2. Test of lepton universality using $B^+ \rightarrow K^+ \ell^+ \ell^-$ decays

LHCb Collab. (R. Aaij et al.). June 2014.



- Phys.Rev.Lett. 113 (2014) 151601, 10 pag., 892 authors, B. Adeva n° 2 (565 citations).
- 3. The construction of the L3 Experiment** Nuclear Inst. and Methods in Physics Research, A289(1-2), pp. 35-102 (1990) 595 authors, B. Adeva n° 1 (495 citations).
- 4. Observation of J/ψ Resonances Consistent with Pentaquark States in $\Lambda_b^0 \rightarrow J/\psi K^+ p$ Decays.** LHCb collab. (R. Aaij. et al.). July 2015. Phys.Rev.Lett. 115 (2015) 072001, 15 pag., 892 authors, B. Adeva n° 2 (462 citations).
- 5. Measurement of the spin dependent structure function $g_1(x)$ of the proton** Spin Muon Collab. (D. Adams et al.). April 1994. Phys.Lett. B329 (1994) 399-406, 11 pag., 145 authors, B. Adeva n° 2 (414 citations).
- 6. LHCb Detector Performance** International Journal of Modern Physics A 30(7),1530022 (2015) (R. Aaij et al.) 704 authors, B. Adeva n° 2 (382 citations).
- 7. Measurement of the spin dependent structure function $g_1(x)$ of the deuteron** Spin Muon Collab. (B. Adeva et al.). March 1993. Phys.Lett. B302 (1993) 533-539, 10 pag., 145 authors, B. Adeva n° 1 (378 citations).
- 8. Measurement of the Ratio of Branching Fractions $B(B^- \rightarrow d^* \pi^- \nu^- \tau) / B(B^- \rightarrow d^* \pi^- \nu^- \mu)$** Physical Review Letters 115(11),111803 (2015), 726 authors, B. Adeva n° 2 (357 citations)
- 9. Measurement of Form-Factor-Independent Observables in the Decay $B^0 \rightarrow K^* \mu^+ \mu^-$.** LHCb collab. (R. Aaij. et al.). Aug. 2013. Phys.Rev.Lett. 111 (2013) 191801, 8 pag., 892 authors, B. Adeva n° 2 (344 citations).
- 10. Spin asymmetries $A(1)$ and structure functions g_1 of the proton and the deuteron from polarized high-energy muon scattering** Spin Muon Collab. (B. Adeva et al.). May 1998. Phys.Rev. D58 (1998) 112001, 11 pag., 145 authors, B. Adeva n° 1 (343 citations).

C.2. Research projects and grants

1. Project reference: FPA2011-23608
Title: Precision measurements on Flavor Physics at the LHC.
Principal investigator: Bernardo Adeva Andany Funding agency: MICINN.
Duration: 2012-2014, extended to end 2015.
Funding: 563.255,00 €
2. Project reference: CN2011/052
Title: Consolidación e estruturación de unidades de investigación competitivas (Grupos de referencia competitiva).
Principal Investigator: Bernardo Adeva Andany Funding Agency: Xunta de Galicia
Duration: 2011-2013
Funding: 168.000,00 €
3. Project reference: FPA2011-14114-E
Title: Red de Física del LHC.
Principal investigator: Bernardo Adeva Andany Funding Agency: MICINN.
Duration: 2012-2013.
Funding: 16.000,00 €
4. Project reference: PGIDIT INCITE09 206 034 PR
Title: Construcción dun telescopio de trazado para evaluar detectores de posición de silicio nos aceleradores do CERN.
Principal investigator: Bernardo Adeva Andany Funding Agency: Xunta de Galicia
Duration: 2009-2012.
Funding: 75.508,0 €
5. Project reference: FPA-2008-03076
Title: Search for new physics at the LHCb experiment at CERN.
Principal investigator: Bernardo Adeva Andany Funding Agency: MEC
Duration: 2008-2011
Funding: 731.566,00 €
6. Project reference: 2007/000062-0.
Title: Programa de consolidación e estruturación de unidades de investigación competitivas do SUG.
Principal investigator: Bernardo Adeva Andany Funding Agency: Xunta de Galicia.



Duration: 4 years (2007-08-09-10)

Funding: 340.000,00 €

7. Project reference: FPA2005-06441

Title: Contribution to the construction and installation of the Silicon Tracker of the LHCb experiment at CERN.

Principal investigator: Bernardo Adeva Andany Funding Agency: MCYT

Duration: 2005-2008.

Funding: 731.850,00 €

C.3. Contracts

1. Construction of 21% of the Silicon Tracker (ST) of the LHCb experiment (Spanish participation in LHCb), installed in 2009 at the LHC (CERN), LHCb MoU CERN-RRB-2002-032, 24 May, 2002, Total ST cost: 4M€.

2. Construction of 100% of the MSGC/GEM tracker and the TOF (VH) of the DIRAC experiment at the PS accelerator of CERN, both installed in 2001 (MoU for the execution of the PS212 (DIRAC) experiment, CERN, 20 March, 1997, total cost: 310 KCHF)

C.4. Patents C.5, C.6, C.7... (e. g., Institutional responsibilities, memberships of scientific societies...)

C.5. Membership of International Committees

- Coordinator of the Spanish participation at LHCb (CERN), period 2012-2014 and period 2000-2006.
- Deputy Spokesman of the DIRAC experiment at CERN 1998-2007.
- Coordinator of the Technical Board of the DIRAC experiment at CERN, 1998-2003.
- Member of the LHCb Collaboration Board from 1998 to 2013.
- Member of the Membership Committee of LHCb 2012-2013.
- Member of the Large Hadron Collider Committee of CERN (LHCC), for the approval period of the main experiments: 10/1997 to 10/2000.

C.6. Editorial Boards

- Member of the LHCb Editorial Board at CERN, 2007/2009.
- Member of the DIRAC Editorial Board at CERN 2008-2011.

C.7. Institutional responsibilities

- Coordinator of the Grupo de Física de Altas Energías (GAES) of the University of Santiago de Compostela, from 1992 to 2013.
- Director of Instituto Galego de Física de Altas Enerxías (IGFAE) 1999-2004.
- Coordinator of the Spanish Red Temática for the study of LHC physics, period 2008-2011, and period 2011-2014.
- Member of the Executive Board of CPAN, 2013-2015.

C.8. Refereeing activities

- Member of the "Comisión Nacional Evaluadora de la actividad investigadora", 2000-2002.
- Member of the Advisory Commission of the Spanish National Plan for HEP, 2007.
- Referee of various publications at LHCb, 2010-2017
- Frequent referee of ANEP