



CURRICULUM VITAE (CVA)

**IMPORTANT – The Curriculum Vitae cannot exceed 4 pages.
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Part A. PERSONAL INFORMATION

CV date	28/05/2022
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First name	Francisco Javier		
Family name	Almendros González		
e-mail	vikingo@ugr.es		
Open Researcher and Contributor ID (ORCID) (*)	0000-0001-5936-6160		

(*) Mandatory

A.1. Current position

Position	Full Professor (Catedrático de Universidad)		
Initial date	24/05/2022		
Institution	University of Granada (UGR)		
Department/Center	Department of Theoretical and Cosmos Physics		
Country	Spain	Teleph. number	+34 958249552
Key words	Volcano Seismology; volcanic tremor; long-period events; seismic arrays; seismo-volcanic sources; wave propagation		

A.2. Previous positions (research activity interruptions, art. 14.2.b)

Period	Position/Institution/Country/Interruption cause
JUL1995-JUN1999	PhD Fellowship, UGR, Spain
JUL1999-JUN2001	Postdoctoral Fellowship, Volcano Hazards Group, USGS, USA
AUG2001-DEC2002	Postdoctoral Research Contract, UGR, Spain
FEB2003-NOV2007	Postdoctoral Contract "Ramón y Cajal", UGR, Spain
DEC2007-ENE2008	Associate Professor (Profesor Contratado Doctor), UGR, Spain
FEB2008-MAY2022	Associate Professor (Profesor Titular de Universidad), UGR, Spain
MAY2022-present	Full Professor (Catedrático de Universidad), UGR, Spain

A.3. Education

PhD, Licensed, Graduate	University/Country	Year
Degree in Physics	Complutense University of Madrid	1994
PhD in Physics	University of Granada	1999

Part B. CV SUMMARY (max. 5000 characters, including spaces)

Career path: In 1994 I got a Degree in Physics, with double specialization in Astrophysics and Geophysics, at Complutense University of Madrid. In 1999 I obtained a Doctorate in Physics, in the Doctorate Program in Seismology of University of Granada, with a thesis on the application of seismic array techniques to Volcano Seismology. From 1999 to 2001 I had a postdoctoral contract at the Volcano Seismology group, U.S. Geological Survey, in Menlo Park (CA, USA). Between 2002 and 2007, I was a postdoctoral researcher and then a "Ramón y Cajal" postdoctoral fellow at University of Granada. From 2008 to 2022 I was Associate Professor (Profesor Titular de Universidad) at the Department of Theoretical and Cosmos Physics, University of Granada, in the area of Physics of the Earth. In May 2022 I obtained the category of Full Professor (Catedrático de Universidad).

Teaching activity: Since 2003, I have been responsible of different courses related to Physics and Geophysics at University of Granada. For the last ten years, I collaborate in teaching Geophysics in the Degree in Physics, as well as Volcano Geophysics, Planetary Geophysics,



Applied Geophysics, and Data Processing Methods, in the Master in Geophysics and Meteorology, where I have been also the Program Coordinator from 2013 to 2021.

Training and leadership: I have led several research projects, most of them related to the investigation of Deception Island and other Antarctic volcanoes. I have been PI of projects CORSHET (2006-2010) and BRAVOSEIS (2016-2020), involving a large group of ~25 researchers from national and international institutions. I have been responsible for the seismic monitoring activities at Deception Island volcano from 2008 to 2019, and advisor of the Spanish Polar Committee for the management of the volcanic alert system of Deception Island. As PI I have managed ~950 k€. I am advisor of 7 PhD theses, 17 MSc theses, and 5 BSc theses. I have been responsible for 7 research contracts linked to projects (64 months), and 2 contracts under the Youth Employment Program of the Junta de Andalucía (42 months).

Research activity: My field of research is Volcano Seismology, which deals with the analysis of ground motions produced by volcanic earthquakes to infer the structure, physical state, and dynamic processes occurring in the interior of volcanoes. This knowledge is critical to build realistic models of the volcanic phenomena that allow us to represent and quantify their dynamic behavior, especially during eruptions. My purpose is to understand the origin of the seismic signals generated by the volcanic activity. For this, it is important to investigate both the source that produces the seismic waves and the medium where they propagate. Therefore, my interests focus on: (1) the study of the seismo-volcanic source, specially regarding long-period seismicity and volcanic tremor; (2) the characterization of the structure of the volcanic medium; and (3) the propagation effects associated to the topography and velocity heterogeneities. Moreover, I am specialized in array techniques, a seismic method that allows for a complete representation of the seismic wave field. This was the main subject of my PhD Thesis, and is still among my main interests. I've pioneered the application of array techniques in Volcano Seismology. I have extended the capabilities of these methods, and developed applications to improve the source location process, such as the joint location with multiple seismic arrays, the generation of synthetic models of apparent slowness vector in complex 3D media, the radial semblance method, and the relative slowness estimate method. With these tools, we are able to provide a more precise and reliable interpretation of the mechanisms that generate the volcanic earthquakes and tremor. I have worked in different volcanic areas such as Deception Island and the Bransfield Rift (Antarctica); Kilauea (Hawaii); Juan de Fuca Ridge (NE Pacific); Stromboli and Etna (Italy); Tenerife, Gran Canaria, Lanzarote and El Hierro (Canary Islands); Arenal (Costa Rica); etc. My production has been especially intense at Deception Island, where we have carried out numerous seismic experiments of great interest and international impact. I collaborate with a network of national and international researchers, specially in Europe, Latin America, USA and China.

WoS: Publications 48, 21 Q1, 11 D1, 1133 cites, 45 cites/year, 104 cites in 2021, h-index 22

GooAc: 1661 cites, 159 cites in 2021, h-index 24

Part C. RELEVANT MERITS (*sorted by typology*)

C.1. Publications (*last 10 contributions*)

Li, W.; Yuan, X.; Heit, B.; Schmidt-Aursch, M. C.; **Almendros, J.**; Geissler, W. H.; Chen, Y. (2021). Back-arc extension of the Central Bransfield Basin induced by ridge-trench collision: Implications from ambient noise tomography and stress field inversion. *Geophys. Res. Lett.*, 48, 095032, doi: 10.1029/2021GL095032

Moreno-Vacas, A.; **Almendros, J.** (2021). On the origin of recent seismic unrest episodes at Deception Island volcano, Antarctica, *J. Volcan. Geotherm. Res.*, 419, 107376, doi: 10.1016/j.jvolgeores.2021.107376

Geyer, A.; Pedrazzi, D.; **Almendros, J.**; Berrocoso, M.; Lopez-Martinez, J.; Maestro, A.; Carmona, E.; Alvarez-Valero, A. M.; de Gill, A. (2021). Deception Island. *Geological Society, London, Memoirs*, vol. 55, pp. 667-693, doi: 10.1144/M55-2018-56

Parera-Portell, J. A.; Mancilla, F.; Morales, J.; **Almendros, J.**; Jiménez-Morales, V. (2021). Structure of the crust and upper mantle beneath the Bransfield Strait (Antarctica) using P receiver functions, *Tectonophysics*, 802, 228744, doi: 10.1016/j.tecto.2021.228744



Almendros, J.; Wilcock, W.; Soule, D.; Yuan, X.; Heit, B.; Abella, R.; Carmona, E.; Serrano, I.; Ontiveros, A.; et al. (2020). BRAVOSEIS: Geophysical investigation of rifting and volcanism in the Bransfield Strait, Antarctica, *J. South Am. Earth Sci.*, 104, 102834, doi: 10.1016/j.jsames.2020.102834

Melchor, I.; **Almendros, J.**; Carniel, R.; Konstantinou, K.; Hantusch, M.; Caselli, A. (2020). On data reduction methods for volcanic tremor characterization: The 2012 eruption of Copahue volcano, Southern Andes, *Earth Plan. Spa.*, 72, 134, doi: 10.1186/s40623-020-01270-7

Almendros, J.; Carmona, E.; Jiménez-Morales, V.; Díaz-Moreno, A.; Lorenzo, F. (2018). Volcano-tectonic activity at Deception Island volcano following a seismic swarm in the Bransfield Rift (2014-2015), *Geophys. Res. Lett.* 45, 4788-4798, doi: 10.1029/2018GL077490

Jiménez-Morales, V.; **Almendros, J.**; Carmona, E. (2017). Detection of long-duration tremors at Deception Island volcano, Antarctica, *J. Volcan. Geotherm. Res.* 347, 234-249, doi: 10.1016/j.jvolgeores.2017.09.016

Ibáñez, J. M., Díaz-Moreno, A., Prudencio, J., Zandomenoghi, D., Wilcock, W., Barclay, A., **Almendros, J.**, Benitez, C., García-Yeguas, A., & Alguacil, G. (2017). Database of multiparametric geophysical data from the TOMODEC experiment on Deception Island, Antarctica. *Scientific Data*, 4, 170128. doi: 10.1038/sdata.2017.128

Padron, E., Hernandez, P. A., Carmona, E., Perez, N. M., Melian, G., Sumino, H., **Almendros, J.**, Kusakabe, M., Wakita, H., & Padilla, G. D. (2015). Geochemical evidence of different sources of long-period seismic events at Deception volcano, South Shetland Islands, Antarctica. *Antarctic Science*, 27(6), 557-565. doi: 10.1017/S0954102015000346

C.2. Congress (last 10 contributions)

2021 General Assembly of the ESC, Athens, Greece (online), 19-24 SEP 2021

Jiménez-Morales, V.; García-Jerez, A.; **Almendros, J.**; Lontsi, A. M.; Luzón, F.; Sánchez-Sesma, F. J. New insights into the seismic velocity structure of Deception Island from H/V analysis of ambient noise [ESC2021-S12-P607]

Davoli, R.; **Almendros, J.**; Kaviris, G. Seismic anisotropy study of the upper crust in the Bransfield Strait (Antarctica) [ESC2021-S10-142]

Moreno-Vacas, A.; **Almendros, J.** A comparison among the 1992, 1999, and 2015 volcano-tectonic earthquake swarms at Deception Island volcano, Antarctica [ESC2021-S23-046]

García de Leániz, F.; **Almendros, J.**; Martín-León, R.; Seivane, H.; Wilcock, W.; Soule, D. Analysis of the microseismicity of the submarine volcano Orca using data from the BRAVOSEIS network [ESC2021-S23-P342]

García-Hernando, B.; **Almendros, J.**; Plasencia, M. Characterization of the micro-seismicity produced during the 2020 seismic series at Orca volcano, Antarctica [ESC2021-S23-P489]

2020 General Assembly of the EGU, Vienna, Austria, 4-8 MAY 2020

Parera-Portell, J. A.; Mancilla, F.; Morales, J.; **Almendros, J.** Structure of the crust and upper mantle beneath the Bransfield Strait (Antarctica) using P-wave receiver functions [EGU2020-12344].

2019 Fall Meeting of the AGU, San Francisco, USA, 9-13 DEC 2019

Soule, D.; **Almendros, J.**; Wilcock, W.; Teixido, T.; Vizcaino, L.; Martin-Jimenez, D. Preliminary results from a marine geophysics survey of Orca Volcano in the Bransfield Strait, Antarctica [T33F-0422].

2019 Workshop of the ESC Group on Volcano Seismology, Garachico, Tenerife (Spain), 27SEP-30OCT 2019

Jiménez-Morales, V.; **Almendros, J.**; Carmona, E.; Fernández-Melchor, I.; Agüí, F.; Abella, R. Deception Island: a challenging test database for automatic recognition systems.

2019 Meeting of the IUGG, Montreal, Canada, 8-18 JUL 2019

Carmona, E.; **Almendros, J.**; Berrocoso, M.; et al. State-of-the-art monitoring of Deception Island volcano, Antarctica [V20P-425]



Almendros, J.; Abella, R.; Carmona, E.; et al. Deployment of an amphibious seismic network in the Bransfield Strait, Antarctica [V20P-426]

C.3. Research projects

BRAVOSEIS: Estudio sísmológico de los volcanes submarinos del Estrecho de Bransfield (Antártida): entorno geodinámico, estructura y dinámica (CTM2016-77315-R), Proyectos de Investigación Orientados a los Retos de la Sociedad, MINECO, 2017-2020, IP **Almendros, J.** (UGR)

Estaciones geofísicas multiparamétricas para la vigilancia de la actividad volcánica (UNGR13-1E-1658), Ayudas a Infraestructuras Científicas MINECO (115000 euros), 2013-2015, IP **Almendros, J.** (UGR)

Caracterización volcano-tectónica de los Parques Nacionales de la Caldera de Taburiente, Teide y Timanfaya: relaciones entre volcanismo, tectónica, sismicidad y magnetismo (569/2012), Organismo Autónomo de Parques Nacionales (56833 euros), 2013-2016, IP Sánchez, N. (IGME)

Desarrollo de modelos de propagación de ondas sísmicas en medios altamente heterogéneos y sus efectos: aplicación a regiones volcánicas activas (CGL2011-29499), Proyectos de Investigación MINECO (242000 euros), 2012-2015, IP Ibáñez, J. M. (UGR)

Seguimiento de la actividad sismovolcánica en la isla Decepción y mantenimiento de estaciones sísmicas permanentes en las Shetland del Sur (CTM2010-11740-E/ANT), Acciones Complementarias del MICINN (59000 euros), 2011-2012, IP **Almendros, J.** (UGR)

C.4. Contracts, technological or transfer merits

Seismic monitoring of the volcanic activity at Deception Island (Antarctica) during the Spanish Antarctic Surveys, Spanish Polar Committee, 35000 euros/year, IP **Almendros, J.**, (extended contract from 2013 to 2019)

C.5. Others

External reviewer for ANEP (3), NSF (8), NERC (1). Referee in scientific journals: Journal of Volcanology and Geothermal Research (14), Journal of Geophysical Research: Solid Earth (7), Geophysical Research Letters (4), Pure and Applied Geophysics (3), Seismological Research Letters (2), Nature Geoscience (1), Solid Earth (1), Tectonophysics (1), and others.

Evaluation of research theses: PhD (7), MSc (28), BSc (10).

Field surveys: Deception Island 1995-1996, 1998-1999, 2002-2003, 2004-2005, 2015-2016; Stromboli 1997; Etna 1999; Campi Flegrei 2001; Tenerife 2004; Azores 2003; El Hierro 2011-2012; Timanfaya 2014-2015. Marine surveys: Deception Island 2005; Bransfield Strait 2019, 2020.

Scientific advisor of the Spanish Polar Committee for the development and management of the volcanic alert system at Deception Island volcano (2008-2020)

Academic Coordinator of the MSc in Geophysics and Meteorology, University of Granada, from 2013 to 2021.

Member of the Advisory Council for Postgraduate Studies (Consejo Asesor de Enseñanzas de Posgrado, CAEP) of University of Granada since 2021.

Member of the American Geophysical Union (AGU); European Geosciences Union (EGU); Working Group on Seismic Phenomena Associated with Volcanic Activity, European Seismological Commission; International Association of Volcanology and Chemistry of the Earth's Interior (IAVCEI); Expert Group on Antarctic Volcanism (ANTVOLC) of the Scientific Committee for Antarctic Research (SCAR); Deception Volcano Observatory (WOVO#1900-03)