

Part A. PERSONAL DATA

CV date	04/03/2021
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First and Family name	Juan F. PRIETO		
Social Security, Passport, ID number	██████████	Age	56
Researcher codes	ORCID	0000-0002-7235-5295	
	SCOPUS Author ID (*)	7201826710	
	WoS Researcher ID (*)	I-7198-2012	

(*) Optional (**) Mandatory

A.1. Current professional situation

Name of University/Institution	Universidad Politécnica de Madrid (UPM)		
Department	E.T.S. de Ingenieros en Topografía, Geodesia y Cartografía		
Address and Country	Ctra. Valencia km 7 – 28031 Madrid , Spain		
Phone number	+34 910673991	E-mail	juanf.prieto@upm.es
Current position	Associate Professor	From	06/03/2017
Key words	Geodesy, Remote Sensing, Natural and Anthropoid Hazards, GNSS, Geodetic Networks and Deformation Analysis, Tectonics		

A.2. Academic education

PhD	University	Year
Geodesy and Geomatics	Universidad Politécnica de Madrid (UPM)	2016

A.3. General quality indicators of scientific production (see instructions)

- Number of Research Activity and Research Transfer Results, 6 years evaluation periods (*Sexenios Investigación y Transferencia*) with positive evaluation: **3** . Last 2010-2015.
- Total number of citations of published works: **372** (*Google Scholar*)
- Average number of citations / year during the last 5 years: **56.8**
- Total number of SJR-JCR publications: **23**
- Total number of publications **Q1: 9**
- h-Index: **10** i10-Index: **13** (*Google Scholar*)
- Average number of citations per published SCI article (up to 2020): **16.2**
- Average number of articles / year published 2015-2020: **3.6** (total)
- Average number of articles / year published 2010-2014: **6.0** (total)
- Thesis supervised: **2** in progress

Part B. SUMMARY OF THE CURRICULUM (max. 3500 characters, including spaces)

Juan F. Prieto holds a PhD in Geodesy and Geomatics from the ETSI Agrónomos (UPM, 2016), a M.S. in Geodesy and Cartography Engineering (EPES-UPM, 2000) and a B.S. in Engineering Surveying (UPM, 1986). From 2000 until now, he has been teaching in technical engineering programs, both undergraduate and master's degrees in the School of Surveying, Geodesy and Cartography Engineering (UPM).

His research is developed within the framework of Geodesy and Geomatics, and its application to shape and dimensions of the Earth, to natural risks (earthquakes, volcanoes, terrain instabilities) and anthropogenic, both in the observational aspects (using terrestrial and space techniques) and data processing. His research involves the development of national GNSS geodetic networks in general (Europe, Asia and Africa), as well as of crustal displacements and gravity variations fields in volcanic (Canary Islands) and seismic areas (Spain). All these works are a fundamental tool for the location and positioning on the surface of the Earth, as well as in situations of volcanic crisis, or in the study of crustal properties and the mantle in general. Concerning geodetic monitoring, he has jointly applied new observational and data processing methodologies in Radar Synthetic Aperture Interferometry (InSAR), gravimetry, and GNSS (Global Navigation Satellite System), in collaboration with other national and foreign groups.

He has participated in a total of 45 research projects (Spanish national, European Union, ESA, NASA and other Space Agencies, World Bank and international organizations), being in 7 of them Coordinator or Responsible Investigator. He has directed, or co-directed, about fifty B.S. Thesis and M.S Thesis, some of them awarded in several national competitions.

In his professional role he was assigned to the National Geographical Institute (Spanish Government office), as a career officer from 1989 to 2000. Throughout this period, he belonged to the *Cuerpo Nacional de Ingenieros Técnicos en Topografía* and the *Cuerpo de Gestión de Sistema e Informática de la Administración del Estado*. During this period, he developed his activity at the Geodetic Programs Service of the aforementioned Geographical Institute, participating in the major geodetic projects developed by the IGN using GNSS spatial techniques: IBERIA95, BALEAR98, REGENTE Network and the GNSS Permanent Station Network. He also participates in former projects by terrestrial techniques: ROI and RPO Geodetic Networks.

He is also an International Consultant of the World Bank (STC-HQ) in geodetic matters, and since 1999 he has carried out research and development projects for the new geodetic networks of national coverage, using space techniques, for the Islamic Republic of Mauritania (1999), the Republic of Mozambique (2002), the Republic of Zambia (2006), Mongolia (2008), the Federal Republic of Nigeria (2010), Burkina Faso (2014), the Dominican Republic (2015) and the Republic of Guinea (Conakry, 2016).

Part C. MOST RELEVANT MERITS (sorted by typology)

C.1. Publications (only last five years, see instructions)

1. **Scientific paper.** Fernández, J., Escayo, J., Hu, Z., Camacho, A.G., Samsonov, S., Prieto, J.F., Tiampo, K., Palano, M., Mallorquí, J., Ancochea, E. **2021**. Detection of volcanic unrest onset in LaPalma, Canary Islands, evolution and implications. *Scientific Reports*.11, pp.2540-2540.
2. **Scientific paper.** Raimundo, J., Lopez-Cuervo Medina, S., Prieto, J.F., Aguirre de Mata, J. **2021**. Super Resolution Infrared Thermal Imaging Using Pansharping Algorithms: Quantitative Assessment and Application to UAV Thermal Imaging. *Sensors*. 21(4).
3. **Scientific paper.** Camacho, A.G., Prieto, J.F., Aparicio, A., Ancochea, E., Fernández, J. **2021**. Upgraded GROWTH 3.0 software for structural gravity inversion and application to El Hierro (CanaryIslands). *Computers & Geosciences*. 150, pp.104720-104720.
4. **Scientific paper.** Escayo, J., Fernández, J., Prieto, J.F., Camacho, A.G., Palano, M., Aparicio, A., Rodríguez-Velasco, G., Ancochea, E. **2020**. Geodetic study of the 2006-2010 ground deformation in La Palma (Canary Islands): Observational results. *Remote Sensing*, 2020, 12(16), 2566.
5. **Scientific paper.** López-Cuervo Medina, S., Pérez-Martín, E., Herrero Tejedor, T.R., Prieto, J.F., Velasco, J., Conejo Martín, M.A., Ezquerro-Canalejo, A., Aguirre de Mata, J. **2019**. Assessment of DSMs Using Backpack-Mounted Systems and Drone Techniques to Characterise Ancient Underground Cellars in the Duero Basin (Spain). *Sensors*, 19(24) 5352. doi: 10.3390/s19245352
6. **Scientific paper.** Camacho, A.G., Prieto, J.F., Ancochea, E., Fernández, J. **2019**. Deep volcanic morphology below Lanzarote, Canaries, from gravity inversion: New results for Timanfaya and implications. *Journal of Volcanology And Geothermal Research*, 369(1) 64-79 doi: 10.1016/j.jvolgeores.2018.11.013 doi: 10.1038/s41598-018-33128-0
7. **Scientific paper.** Fernández, J., J. F. Prieto, J. Escayo, ... , J. J. Mallorquí, (3/18). **2018**. Modeling the two -and three-dimensional displacement field in Lorca, Spain, subsidence and the global implications. *Scientific Reports*, 8(1), 14782
8. **Scientific paper.** Fernández, J., González, P.J. Camacho, A.G., Prieto, J.F., Bru, G. **2015**. An Overview of Geodetic Volcano Research in the Canary Islands. *Pure and applied geophysics*, 172(11), 3189-3228, doi: 10.1007/s00024-014-0916-6.

9. **Scientific paper.** Velasco-Gómez, J., Prieto, J. F., Molina, I., Herrero, T., Fábrega, J., Pérez-Martín, E. 2016. Use of the gyrotheodolite in underground networks of long high-speed railway tunnels. *Survey Review*, 48(350), 329-337. doi: 10.1179/1752270615Y.0000000043.
10. **Scientific paper.** Camacho, A.G., Carmona, E., García-Jerez, A., Sánchez-Martos, F., Prieto, J.F., Fernández, J., Luzón, F. 2015. Structure of Alluvial Valleys from 3-D gravity inversion: The Low Andarax Valley (Almería, Spain) test case.- *Pure and Applied Geophysics*, vol. 172(11) 3107-3121 doi: 10.1007/s00024-014-0914-8.
11. **Scientific paper.** Velasco, J., Herrero, T., Molina, I., López, J., Pérez-Martín, E., Prieto, J. 2015. Metodología de diseño, observación y cálculo de redes geodésicas interiores en túneles de ferrocarril de alta velocidad. *Informes de la Construcción*. doi:10.3989/ic.13.172, Vol 67(538), e076.
12. **Scientific paper.** M.A. Conejo-Martín, T. R. Herrero-Tejedor, J. Lapazaran, E. Perez-Martin, J. Otero, J. F. Prieto, J. Velasco. 2015. Characterization of Cavities Using the GPR, LIDAR and GNSS Techniques. - *Pure Applied Geophysics*, Vol 172(11) 3123-3137 doi: 10.1007/s00024-014-0985-6
13. **Scientific paper.** Smets, B., d'Oreye, N., Kervyn, F., ..., Yalire, M.M. (23/29). 2014. Detailed multidisciplinary monitoring reveals pre-and co-eruptive signals at Nyamulagira volcano (North Kivu, Democratic Republic of Congo). *Bulletin of Volcanology*, 76(1) 787. doi:10.1007/s00445-013-0787-1

C.2. Participation in R&D and Innovation projects (only last ten years).

1. Ref: H2019/HUM-5692. Project: LABPA-CM Contemporary criteria, methods and techniques for the knowledge and conservation of landscapes. R & D & i activities programs in social sciences and humanities of the Community of Madrid (Spain). IP: Francisco Arqués Soler and Tomas Ramon Herrero Tejedor (UPM). From 2020 to 2022. Participation as researcher.
2. Ref: RTI2018-093874-B-I00. Project: Estudio del sistema de alimentación magmático profundo usando nuevos métodos geodésicos y geofísicos. Ministerio de Ciencia, Innovación y Universidades (Spain). Convocatoria Retos, 2018. Principal Investigators: IP1: J. Fernández (CSIC), IP2: I. Vigo (U. Alicante). From 01/01/2019 to 31/12/2021. . Participation as researcher.
3. Ref: CGL2016-81965-REDT. Project: Red Temática "EPOS ESPAÑA". Ministerio de Economía y Competitividad, España. Convocatoria de Redes de Excelencia 2016. IP J. Fernández (CSIC). From 01/07/2017 to 31/12/2019. . Participation as researcher.
4. Ref: M162028001. Project: Cultural landscapes of Madrid: knowledge and intervention from an integrative approach. Community of Madrid (Spain). Programs of R&D activities in social sciences and humanities of the Community of Madrid. IP Javier Ruiz (UPM). From 2016 to 2018. Support 183,298 €. Participation as researcher.
5. Ref: UCMA15-EE-3294. Project: Clúster de cálculo y servicio en remoto del nodo español de EPOS Espacio. Ministerio de Economía y Competitividad, España. Convocatoria de Infraestructura Científico Tecnológica 2015. PI J. Fernández (CSIC). From 01/01/2016 to 30/06/2018. . Participation as researcher.
6. Ref: GA-676564-EPOS IP. Project: EPOS Implementation Phase (EPOS IP). EU VII Framework Program, ESFRI. Convocatoria INFRADEV-3-2015: Individual implementation and operation of ESFRI projects. IP M. Cocco (INGV, Italia). From 01/10/2015 to 30/09/2019. . Participation as researcher.
7. Ref: RTC-2014-1922-5. Project: Observación radar multisatélite y multifrecuencia para vigilancia de infraestructuras hidráulicas críticas. (mufSARem). Ministerio de Economía y Competitividad, España. Convocatoria Retos-Colaboración 2014. IP A. Morales (Euroestudios S.L.). From 01/09/2014 to 30/06/2018. . Participation as researcher.

8. Ref: ESP2013-47780-C2-1,2-R. Project: Estudio de Riesgos Geológico-Geotécnicos por Explotación de Acuíferos Mediante Técnicas Espaciales y Terrestres. (AQUARISK). Ministerio de Economía y Competitividad, España. Convocatoria Retos, 2013. IP José Fernández (IGEO-CSIC). From 01/01/2014 to 30/06/2018. Participation as researcher.
9. Ref: IPT-2011-1234-310000. Project: Desarrollo de nuevas técnicas de control de deslizamientos mediante la integración de de observaciones terrestres y espaciales. (EOSLIDE). Ministerio de Ciencia e Innovación, España. Call: INNPACTO-2011. IP A. Morales (Euroestudios S.L. From 04/05/2011 to 31/12/2014. Participation as researcher.

C.3. Participation in R&D and Innovation contracts *(only last ten years)*.

1. Ref: pcd1912570307. Project: “Control of vegetation in comprehensive road conservation by merging information with multi-hyperspectral sensors”. Funding organization: AUDECA SL. IP Serafin López-Cuervo Medina (UPM). From 2019 to 2022. Participation as researcher.
2. Project: “Desarrollo de un Sistema Radargramétrico (SRPAZ) para la identificación y generación de PUNTOS de CONTROL TERRESTRE (PCT) a partir de productos estéreo-SAR procedentes del satélite PAZ”. Funding organization: HISDESAT, S.A. IP Íñigo Molina (UPM). From 2018 to 2021. Participation as researcher.
3. Ref: PON0007886629. Project: Research and Development of the Transformation Algorithm between National Maps Coordinates and GPS Coordinates for the Dominican Republic. Funding organization: World Bank Group, Energy and Extractives (EEUU). IP **J. F. Prieto** (UPM, España). Duration: 8/2015-7/2016.
4. Ref: 021/PAGSEM/11/2014. Project: Révision du Réseau Géodésique de la République de Guinée. Funding organization: Ministère d'État des Mines et de l'Energie (République de Guinée), IDA (EEUU), Projet d'Appui a la Gouvernance dans le Secteur Minier (Conakry, Guinea). IP **J. F. Prieto** (UPM, España). Duration: 8/2015-7/2016.
5. Ref: 26/00/02/03/80/2014/00023MME/SG/PADSEM. Project: Nouveau Réseau Géodésique et Détermination des Paramètres de Transformation entre Réseau des Bornes Astronomiques et Système ITRF2008 du Burkina Faso. Funding organization: Ministère des Mines et de l'Énergie (République de Burkina Faso), IDA (EEUU), Projet d'Appui au Développement du Secteur Minier (Ouagadougou, Burkina Faso). IP **J. F. Prieto** (UPM, España). Duration: 8/2014-7/2015.
6. Ref: SMRP/CON/B.3/05/12. Project: Revision of the Geodetic Network and the Completion of the Cartographic Coverage. Funding organization: Ministry of Mines and Steel Development, Federal Republic of Nigeria, Sustainable Management Mineral Project (Abuja, Nigeria). IP **J. F. Prieto** (UPM, España). Duration: 8/2012-7/2014.