MINISTERIO DE CIENCIA E INNOVACIÓN

CURRICULUM VITAE

AGENCIA ESTATAL DE INVESTIGACIÓN

CV date	12/12/2021

Part A. PERSONAL INFORMATION

First and Family name	Miriam Gómez Paccard	
[redacted]		
Researcher codes	Open Researcher and Contributor ID (ORCID**)	0000-0002-9339-3047
	SCOPUS Author ID (*)	23976050300
	WoS Researcher ID (*)	I-4077-2015

A.1. Current position

Name of University/Institution	Consejo Superior de Investigaciones Científicas		
Department	Instituto de Geociencias IGEO (CSIC, UCM)		
Address and Country	Doctor Severo Ochoa, 7, 28040, Madrid, España		
Phone number	91 394 7874	E-mail	mgomezpaccard@csic.es
Current position	Científica Titular CSIC	From	08/07/2020
Key words	Geophysics, Geomagnetism and magnetic exploration, Paleomagnetism		

A.2. Education

PhD, Licensed, Graduate	University	Year
Licenciada en CC. Físicas	Universidad Complutense de Madrid	2000
Doctora en CC. de la Tierra	Université de Rennes/ UCM	2006

A.3. General indicators of quality of scientific production

Total SCI publications = 37
1st or 2nd author in 27 SCI publications (about 75% of the total). 23 Q1 SCI articles
h-index = 18; Sum of times cited = 866, Average citations per ítem = 22.8.
Number of "Sexenios": Two.
Supervision of 3 PhD candidates (M. Rivero, R. Bonilla, J. del Río).

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

I am a permanent researcher at the Institute of Geociences IGEO (CSIC, UCM) since July 2020. Since my doctorate graduation in 2006 (France), I have been focusing on studying the past behaviour of the geomagnetic field over the last millennia, motivated primarily by geophysical problems and applications to Climatic and Environmental Sciences. I tackle this problem by field campaigns, high-quality laboratory experiments and advanced mathematical modelling in a synergistic manner in collaboration with a number of researchers in Europe. My expertise in paleomagnetism derives from my Marie Curie PhD conducted at the CNRS (France) within the framework of the European Research Network AARCH (2003-2006) devoted to obtain high-resolution geomagnetic field reconstructions using the paleomagnetic and archeomagnetic techniques. Since my thesis, I have been able to conduct my research through funding obtained in individual competitive grants: Juan de la Cierva (Universitat de Barcelona, 2007-2009), JAE-Doc (CSIC, 2009-2013), Marie Curie IEF-2012 (Université de Rennes 1, March 2013 to August 2015) and Ramón y Cajal post-doctoral position (2015-2020). Thanks to my experience and collaborations gained during my extended mobility abroad, I have been involved in 34 projects, including three European (PALEOCLACK project, AARCH and MAGNET networks) and four international funded projects (ANR, INSU and PICS French and CNR Italian projects). I was the principal coordinator of the PALEOCLACK project associated to my Marie Curie Fellow and funded by the EU and the SUMATE and GEOMED project funded by the Spanish national plan projects. My primary interest lies in the fields of paleomagnetism but my research has provided not only new data for regions and periods of time in which data were solely lacking (as the first secular variation curve for Iberia, Gómez-Paccard et al., 2006 in GGG) but also new geophysical (as the maximum variability of geomagnetic field intensity, Gómez-Paccard et al., 2016 published in EPSL) or climatic constraints (as the evidence of a progressive and not abrupt 8.2 ka climatic event in southwestern Europe, Gómez-Paccard et al., 2012, published in Catena) that improve our knowledge on both the dynamics of the geomagnetic field and on past climate changes. Nowadays, I am particularly specialized on high-quality geomagnetic field reconstructions from the study of archeological materials from different periods and regions. I am leading different rock-magnetic and archeomagnetic studies of materials from several Mediterranean countries (Spain, Italy and Greece), but also from Argentina, Guatemala, Perú, Iran and Uzbekistan thanks to the development of new collaborations with different archeologists from different institutions. Currently, I am the principal investigator of one international cooperation project and one national project, both focused on geomagnetic field changes in South America.

Part C. RELEVANT MERITS

C.1. Publications *(only the 10 most relevant, 5 last years)*

1. Bonilla-Alba, R., Gómez-Paccard, M., Pavón-Carrasco, F.J., del Río, J., Beamud, E., Martínez-Ferreras, V., Gurt-Esparraguera, J.M., Ariño-Gil, E., Palencia-Ortas, Martín-Hernánez, F., Chauvin, A., Osete, M.L., *Rapid intensity decrease during the second half of the first millennium BCE in Central Asia and global implications,* **J. Geophys. Research: Solid Earth,** 126, e2021JB022011, doi:10.1029/2021JB022011, **2021.**
2. Pavón-Carrasco, F.J., Campuzano, S.A., Rivero-Montero, M., **Gómez-Paccard, M.**, Osete, M.L. *SCHA.DIF.4k: 4000 years of paleomagnetic reconstruction for Europe and its application for dating,* **J. Geophys. Research: Solid Earth**, **2021.**
3. Rivero-Montero, M., Gómez-Paccard, M., Pavón-Carrasco, F.J., Cau-Ontiveros, M.A., Fantuzzi, L., Martín-Hernández, F., Palencia-Ortas, A., Aidona, E., Tema, E., Konopoulou, D., Mas-Florit, C., Ramon-Torres, J., *Refining geomagnetic field intensity changes in Europe between 200 CE and 1800 CE. New data from the Mediterranean region,* **Phys. Earth Planet. Int.,** 317, 106749, doi:10.1016/j.pepi.2021.106749, **2021.**
4. Rivero-Montero, M., Gómez-Paccard, M., Kondopoulou, D., Tema, E., Pavón-Carrasco, F.J., Aidona, E., Campuzano, S.A., Molina-Cardín, A., Osete, M.L., Palencia-Ortas, A., Martín-Hernández, F., Rubat-Borel, F., Venturino, M. *Geomagnetic field intensity changes in the Central Mediterranean between 1500 BCE and 150 CE: implications for the Levantine Iron Age Anomaly evolution,* **Earth Planet. Sci. Lett.,** 557, 116732, **2021.**
5. Osete, M.L., Molina-Cardín, A., Campuzano, S.A., Aguilella-Arzo, G., Barrachina-Ibañez, A., Falomir-Granell, F., Oliver-Foix, A., Gómez-Paccard, M., Martín-Hernández, F., Palencia-Ortas, A., Pavón-Carrasco, F.J., Rivero-Montero, M. *Two archeomagnetic intensity maxima and rapid directional variation rates during the Early Iron Age observed at Iberian coordinates: implications on the evolution of the Levantine Iron Age Anomaly,* **Earth Planet. Sci. Lett.,** 533, 116047,116047, **2020.**
6. Gómez-Paccard, M., Rivero, M., Chauvin, A., García-Rubert, D., Palencia-Ortas, A., *Revisiting the chronology of the Early Iron Age in the north-eastern Iberian Peninsula.* **Archaeol. Anthropol. Sci.,** doi:10.1007/s12520-019-00812-9, **2019.**
7. Gómez-Paccard, M., Chauvin, A., Albeck, M.E., Zarbulín, M.A., Basso, D.M., Pavón-Carrasco, F.J., Osete, M.L., Campuzano, S.A. *New archeointensity data from NW*

Argentina (1300-1500 AD). **Phys. Earth Planet. Int.,** 286, 92-100, **2019.**

8. Campuzano, S.A., Gómez-Paccard, M.**,** Pavón-Carrasco, F.J., Osete, M.L. *Emergence and evolution of the South Atlantic Anomaly revealed by a new global field paleomagnetic reconstruction,* **Earth Planet. Sci. Lett,** 512, 17-26**, 2019.**

9. Pavón-Carrasco, F.J., Gómez-Paccard, M.**,** Campuzano, S.A., González-Rouco, J.F., Osete, M.L. *Multi-centennial fluctuations of radionuclide production rates are modulated by the Earth's magnetic field.* **Sci. Rep.***,* 8, 9820, 1-13, **2018.**

10. Gómez-Paccard, M.**,** Osete, M.L., Chauvin, A., Pavón-Carrasco, F.J., Pérez, M., Jiménez, P., Lanos, P. *New constraints on the **maximum rate of change** of **past** geomagnetic field intensity in Western Europe for the last two millennia: A non-dipolar origin?.* **Earth Planet. Sci. Lett**, 454, 55-64, **2016.**

C.2. Research projects (only the most relevant for this proposal, 5 last years)

1. Title: América del Sur: región clave para modelar el pasado del campo magnético terrestre en el Hemisferio Sur (SÚMATE, PID2020-113316GB-100*).* Role: Principal Investigator. Duration: 01/09/2021-31/08/2023. Coordinators: M. Gómez-Paccard (CSIC) and F.J. Pavón-Carrasco (UCM). Project funded by the Spanish National Plan. Total amount: 72.6 k€.

2. Title: Alianza estratégica para el Desarrollo del arqueomagnetismo en el Noroeste de Argentina y Perú. Role: Principal Investigator. Duration: 01/01/2021-31/12/2022. Coordinator: M. Gómez-Paccard (CSIC). Project funded under the programme i-COOP (International Projects for Scientific Cooperation) by CSIC (Spain). Total amount: 23.9 k€.

3. Title: Rapid geomagnetic field intensity events in the Mediterranean: trends from Late Bronze settlements and Late Roman fine wares. GEOMED (CGL2015-63888-R). Role: Principal Investigator. Duration: 01/01/2016-31/08/2020. Coordinator: M. Gómez-Paccard (CSIC). Project funded by Ministerio de Economia y Competitividad (Spain). Total amount: 60.5 k€.

4. Title: Relevant features of the past Earth´s magnetic field from magnetic studies. ARCHMAG. Role: Principal Investigator. Duration: 01/01/2017-31/12/2019. Coordinator: M. Gómez-Paccard (CSIC) and A. Chauvin (CNRS). Project funded under the programme PICS (International Projects for Scientific Cooperation) by CNRS (France) and CSIC (Spain). Total amount: 25.0 k€.

5. Title: Archeointensity in Western Europe over the last 2 kyrs. ARCHEOINT. Duration: 01/09/2015-31/12/2019. Role: Principal Investigator. Coordinator: M. Gómez-Paccard (CSIC). Project funded by Ministerio de Economia y Competitividad (Spain) associated to my Ramón y Cajal Fellowship. Total amount: 40.0 k€.

C.3. Contracts, technological or transfer merits

I am the scientific co-director of the service "Magnetismo de Rocas" at the IGEO (CSIC). In the last year I have been responsible of 2 contracts for technological support activities signed with the Casa de Velázquez and the university of Salamanca. During my career, I have also been involved in 13 R&D&I contracts funded by different private or public companies or institutions (Casa Velazquez, Universidad de Salamanca, General Electric Plastics, Fábrica Nacional de Moneda y Timbre, Actium Patrimoni Cultural, Arqueociencia Serveis Culturals, Atics SL, Museu d´Historia de la Ciutat de Barcelona, Universitat de Barcelona, Hades, Janus S.L., Instituto Geológico y Minero de España

C.4. Mentoring

Principal supervisor of the PhD "Rapid geomagnetic field intensity events in the

Mediterranean" by M. Rivero at the Universidad Complutense de Madrid (2017-2021). Co-director: F.J. Pavón-Carrasco.

Principal supervisor of the PhD "Past Geomagnetic field changes in Eurasia" by R. Bonilla at the Universidad Complutense de Madrid (2019-2022). Co-director: M.L. Osete

Co-supervisor of the PhD "procesos de formación del registro arqueológico en el nivel R (CA. 60.000 ka BP) del Abric Romaní (Capedalles, Barcelona). Una aproximación desde el arqueomagnetismo" by R Judit del Río at the University of Burgos and funded by the Spanish National FPU program (2021-2024). Director: A. Carrancho Alonso

Supervisor of 1 Ayudante de Investigación contract (2019-2021, Judit del Río) funded by the CAM PROGRAM and 2 JAE-Intro contracts of Paula Ortega (2021) and Judit del Río (2019) at the IGEO (CSIC) and funded by the CSIC.

Supervisor of a Postdoctoral contract "Modeling the past variation of the geomagnetic field in Europe thorough the R-SCHA technique" by F.J. Pavón-Carrasco at the IGEO (CSIC).

Supervisor of 3 Master Research Projects related to rock-magnetism, archeomagnetism, and paleointensity studies (R. Bonilla, J. Marchamalo, V. Borruel) and 5 Final Degree Projects (TFG) at the Universidad Complutense de Madrid (from 2011 to 2020).

C.5. Meeting organization and administration

Over the last years, I have been promoting international scientific discussions on the experimental characterization of magnetic rocks and on reconstructing past geomagnetic field behaviour, through the organization of scientific sessions at different national and international conferences

2018-21 Organization of the oral and poster sessions "Geomagnetic field variations in ancient times: new paleo/archeomagnetic data and models" at the European Geosciences Union meeting 2018/2019/2020 (EGU), Viena, Austria.

2017 Primary convener of the oral and poster sessions "Secular variation of the geomagnetic field over the Holocene: data, methods and applications" at the American Geophysical Union 2017 (AGU), New Orleans, USA.

2017 Organization of the oral and poster sessions "Geomagnetic field variations in ancient times: new paleo/archeomagnetic data and models" at the European Geosciences Union meeting 2017 (EGU), Viena, Austria

2016 Organization of the oral and poster sessions "Geomagnetic field variations in ancient times: new paleo/archeomagnetic data and models" at the European Geosciences Union meeting 2016 (EGU), Viena, Austria

2016 Member of the scientific committee of the VIII Spanish Geological Congress, Huelva, Spain

2014 Organization on sessions on "Past geomagnetic field recorders: new data, methodologies and applications" at the European Geosciences Union meeting 2014 (EGU), Viena, Austria

2013 Organization on sessions on "Late Quaternary Geomagnetic Field Variations" at the Fall Meeting of the American Geophysical Union 2013 (AGU), San Francisco, USA

2013 Member of the scientific committee of the VII Spanish Geological Congress, Oviedo, Spain

2010 Co-organizer of the Spanish Paleomagnetic Symposium, Puigcerdà, Spain