

CV Date	05/02/2021
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## Part A. PERSONAL INFORMATION

First Name	Hector		
Family Name	Perea Manera		
Sex	Not Specified	Date of Birth	
ID number Social Security, Passport			
URL Web	<a href="https://sites.google.com/site/hectorperea/home">https://sites.google.com/site/hectorperea/home</a>		
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Open Researcher and Contributor ID (ORCID)	0000-0002-2842-7060		

### A.1. Current position

Job Title	"Atracción de Talento - Modalidad 1" Postdoctoral Fellow		
Starting date	2019		
Institution	Universidad Complutense de Madrid		
Department / Centre	Geodinámica, Estratigrafía y Paleontología / Facultad de Ciencias Geológicas		
Country		Phone Number	
Keywords	Geology; Geomorphology		

### A.3. Education

Degree/Master/PhD	University / Country	Year
Mención de Doctor Europeo / European PhD Mention	Universitat de Barcelona / Spain	2007
PhD in Geology (Programa Oficial de Doctorado en Ciencias de la Tierra)	Universitat de Barcelona / Spain	2006
BSc in Geology (Licenciado en Geología)	Universitat de Barcelona / Spain	1999

## Part B. CV SUMMARY

The occurrence of large earthquakes and, sometimes, associated tsunamis or large landslides (e.g. Sumatra 2004, Japan 2011 or Italy 2016) has brought into sharp focus the need to understand better these geohazards, as stated by the Sendai Framework for Disaster Risk Reduction 2015-2030. Along my scientific career, the identification and study of faults that could produce large earthquakes and their seismogenic characterization has been the main aim of my research. As a PhD student and postdoctoral researcher, I have been part of different research groups in several institutions from different countries and I have lead four research projects (1 European and 3 national among them one Plan Nacional I+D+i 2019) and participated in fifteen research (3 European and 12 national from Spain, Portugal and Mexico) and three industrial projects. I have also been awarded with fellowships funded by scientific excellence calls, as the Juan de la Cierva Fellowship (2011-2014), the Marie Skłodowska-Curie Global Fellowship (2016-2019) and the "Atracción de Talento-Modalidad 1" Fellowship for experienced researchers (2019-2023). All these experiences have resulted in the learning of the scientific discipline, the importance of teamwork and discussion; the need to provide new ideas and disseminate them and be receptive and respectful about others' ideas; and produce a rigorous scientific work. Being the principal investigator of different research projects and participating in industrial projects with different coordination responsibilities have strengthened my independent thinking and leadership qualities.

As a result of the research carried on along my scientific career, I am author of 31 papers in SCI journals, 2 book chapters and 2 geological maps. These articles have been cited 557/574/1059 times, accounting for an H-index of 14/15/17 (Publons/Scopus/Google Scholar; February 2021). In addition, I have been invited to give 18 seminars in national and international

institutions, author of 45 non-SCI publications with external review and 148 abstracts in national and international meetings. Furthermore, I have been part of the organizing and scientific committees of the 2010, 2014 and 2018 IBERFAULT congresses and convener of two EGU sessions (2020 and 2021). My participation in an industrial project have resulted in the delivery of different technical reports.

As an expert in active faults in the Iberian Peninsula and in seismic hazard assessment, I have been consulted by the Catalan Parliament. In addition, I have been part of the different expert panels that have discussed new seismic zonations for seismic code purposes and one of the scientific editors of the Quaternary Active Faults Database of Iberia. I have also had teaching responsibilities at undergraduate and master levels at different universities and I have taught specializations courses in active tectonics, paleoseismology and seismic hazard. Currently, I am supervising a PhD student and, in the last years, I have supervised two master and one undergraduate student. I have also participated in different outreach activities in the research centers where I have been working, I maintain a Facebook page (Paleoseisquake) devoted to explain active tectonics, paleoseismology and earthquakes in general to Spanish speaking non-scientific audiences and I have appeared in public media (TV, radio and newspapers) as an expert in active faults and earthquakes.

## Part C. RELEVANT ACCOMPLISHMENTS

### C.1. Most important publications in national or international peer-reviewed journals, books and conferences

AC: corresponding author. (n° x / n° y): position / total authors. If applicable, indicate the number of citations

- 1 **Scientific paper.** Cristina S. Serra; Sara Martínez-Loriente; Eulàlia Gràcia; et al; Nevio Zitellini. 2020. Tectonic evolution, geomorphology and influence of bottom currents along a large submarine canyon system: The São Vicente Canyon (SW Iberian margin). *Marine Geology*. 426, pp.106219. ISSN 00253227. WOS (1), SCOPUS (1) <https://doi.org/10.1016/j.margeo.2020.106219>
- 2 **Scientific paper.** Eulàlia Gràcia; Ingo Grevemeyer; Rafael Bartolomé; et al; Cesar R. Ranero. 2019. Earthquake crisis unveils the growth of an incipient continental fault system. *Nature Communications*. 10-3482. WOS (4), SCOPUS (5) <https://doi.org/10.1038/s41467-019-11064-5>
- 3 **Scientific paper.** Ortuño, María; Corominas, Ona; Villamor, Pilar; et al; Teresa Ramírez-Herrera, María. 2019. Evidence of recent ruptures in the central faults of the Acambay Graben (central Mexico). *Geomorphology*. 326, pp.17-37. ISSN 0169-555X. WOS (7), SCOPUS (6) <https://doi.org/10.1016/j.geomorph.2018.07.010>
- 4 **Scientific paper.** Yuval Levy; Thomas Rockwell; John Shaw; Andreas Plesch; Neal Driscoll; Hector Perea. 2019. Structural Modeling of the Western Transverse Ranges: An Imbricated Thrust Ramp Architecture. *Lithosphere*. 11, pp.868-883. WOS (0), SCOPUS (1) <https://doi.org/10.1130/L1124.1>
- 5 **Scientific paper.** Eulàlia Masana; Ximena Moreno; Eulàlia Gràcia; et al; Giorgi Khazaradze. 2018. First evidence of paleoearthquakes along the Carboneras Fault Zone (SE Iberian Peninsula): Los Trances Site. *Geologica Acta*. 16, pp.461-476. WOS (3), SCOPUS (3) <https://doi.org/10.1344/GeologicaActa2018.16.4.8>
- 6 **Scientific paper.** Pierre Lacan; María Ortuño; Laurence Audin; Hector Perea; Stephane Baize; Gerardo Aguirre; Ramon Zuñiga. 2018. Historic and prehistoric earthquakes recorded along the Venta de Bravo Fault System, Acambay Graben (Central Mexico). *Sedimentary Geology*. 365, pp.62-77. WOS (10), SCOPUS (9) <https://doi.org/10.1016/j.sedgeo.2017.12.008>
- 7 **Scientific paper.** Hector Perea; Eulàlia Gràcia; Sara Martínez-Loriente; et al; Juan José Dañobeitia. 2018. Kinematic analysis of secondary faults within a distributed shear-zone reveals fault linkage and increased seismic hazard. *Marine Geology*. 399, pp.23-33. WOS (3), SCOPUS (3) <https://doi.org/10.1016/j.margeo.2018.02.002>

- 8 **Scientific paper.** Sara Martínez-Loriente; Eulàlia Gràcia; Rafael Bartolomé; et al; D. G. Masson. 2018. Morphostructure, tectono-sedimentary evolution and seismic potential of the Horseshoe Fault, SW Iberian Margin. *Basin Research*. 30, pp.382-400. WOS (9), SCOPUS (10) <https://doi.org/10.1111/bre.12225>
- 9 **Scientific paper.** Marta Ferrater; María Ortuño; Eulàlia Masana; et al; Ramon Arrowsmith. 2017. Lateral slip rate of Alhama de Murcia fault (SE Iberian Peninsula) based on morphotectonic analysis: Comparison with paleoseismological data. *Quaternary International*. 451, pp.87-100. WOS (10), SCOPUS (9) <https://doi.org/10.1016/j.quaint.2017.02.018>
- 10 **Scientific paper.** Ignacio Barranco; Vicenç Garcia; Joan Pau Sierra; Hector Perea; Xavier Gironella. 2017. Tsunami hazards in the Catalan Coast, a low-intensity seismic activity area. *Natural Hazards*. 88, pp.382-400. WOS (1), SCOPUS (1) <https://doi.org/10.1007/s11069-017-2918-z>
- 11 **Scientific paper.** Marta Ferrater; Maria Ortuño; Eulàlia Masana; et al; Edward J. Rhodes. 2016. Refining seismic parameters in low seismicity areas by 3D trenching: the Alhama de Murcia fault, SE Iberia. *Tectonophysics*. 680, pp.122-128. WOS (5), SCOPUS (7) <https://doi.org/10.1016/j.tecto.2016.05.020>
- 12 **Scientific paper.** Ximena Moreno; Eulàlia Gràcia; Rafael Bartolomé; et al; Juan José Dañobeitia. 2016. Seismostratigraphy and tectonic architecture of the Carboneras Fault offshore based on multiscale seismic imaging: Implications for the Neogene evolution of the NE Alboran Sea. *Tectonophysics*. 689, pp.115-132. WOS (8), SCOPUS (7) <https://doi.org/10.1016/j.tecto.2016.02.018>
- 13 **Scientific paper.** Hensen, C.; Scholz, F.; Nuzzo, M.; et al; Lackschewitz, K. 2015. Strike-slip faults mediate the rise of crustal-derived fluids and mud volcanism in the deep sea. *Geology*. 43-4, pp.1-4. WOS (33), SCOPUS (34) <https://doi.org/10.1130/G36359.1>
- 14 **Book chapter.** Claudio Lo Iacono; Jordi Grinyó; Suzzane Conlon; et al; Eulàlia Gràcia. 2020. Near-pristine benthic habitats on the Francesc Pagès Bank, Alboran Sea, western Mediterranean. *Seafloor Geomorphology as Benthic Habitat: GeoHab Atlas of Seafloor Geomorphic Features and Benthic Habitats (Second Edition)* (Harris, P.T. and Baker, E.; eds). Elsevier. ISBN 978-0-12-814960-7. <https://doi.org/10.1016/B978-0-12-814960-7.00055-5>
- 15 **Book chapter.** Perea, H.; Masana, E.; Simón, J.L. 2020. Slow active faults along the extensional northeastern margin of the Iberian Peninsula. *The Geology of Iberia: A geodynamic approach. Volume 5: Active Processes: Seismicity, Active Faulting and Relief* (Quesada, C. and Oliveira, J.T.; eds.). Springer International Publishing. ISSN 2364-6438, ISBN 978-3-030-10930-1. <https://doi.org/10.1007/978-3-030-10931-8>

### C.3. Research projects and contracts

- 1 **Project.** PID2019-104668RB-I00, STRENGTH: Structure, seismicity and growth of active faults in the Alboran Sea through very-high resolution technologies and related hazard. Ministerio de Ciencia e Innovación (Spain). Eulàlia Gràcia Mont. (Consejo Superior de Investigaciones Científicas). 2020-2023.
- 2 **Project.** Project 2018-T1/AMB-11039, UNrIDDLE: Unveiling the deep structure and recent deformation history on long strike-slip faults: From geological data to seismic hazard. Comunidad de Madrid. Hector Perea Manera. (Universidad Complutense de Madrid). 2019-2023. 391.000 €.
- 3 **Project.** CGL2011-30005-C02-02, INSIGHT: Imaging large seismogenic and tsunamigenic structures of the Gulf of Cadiz with ultra-high resolution technologies. Ministerio de Economía y Competitividad (Spain). Roger Urgeles Esclasans. (Consejo Superior de Investigaciones Científicas). 2016-2020.
- 4 **Project.** Project 657769 H2020-MSCA-IF-2014, PALEOSEISQUAKE: New approaches in subaqueous PALEOseismology using high-resolution SIESmics to derive single net paleoearthQUAKEs displacement and to characterize the seismic cycle on active faults. European Commission. Hector Perea Manera. (Instituto de Ciencias del Mar-CSIC/Scripps Institution of Oceanography-UCSD). 2016-2019. 239.191,2 €.

- 5 Project.** CGL2011-30005-C02-02, SHAKE: Searching the record of past earthquakes in south Iberia: Advanced technologies in terrestrial and marine paleoseismology. Ministerio de Ciencia e Innovación (Spain). Eulàlia Masana Closa. (Universitat de Barcelona). 2012-2016.
- 6 Project.** EF2-EE-003, IRIS: In situ ROV characterization of seismogenic faults in the Alboran Sea. European Commission. Eulàlia Gràcia Mont. (Instituto de Ciencias del Mar). 2015-2015.
- 7 Project.** JCI-2010-07502, Development and integration of new technologies in submarine paleoseismology: Application to the offshore Eastern Betic Shear Zone and southern Alboran Sea. Ministerio de Ciencia e Innovación. Hector Perea Manera. (Instituto de Ciencias del Mar-CSIC). 2011-2014.
- 8 Project.** 129010 Basic Call CB-2009-01, Caracterización de fallas sismogénicas en el centro del cinturón volcánico mexicano: Implicaciones para la peligrosidad sísmica y la inestabilidad de laderas. Consejo Nacional para la Ciencia y la Tecnología (México). Fco. Ramón Zuñiga Davila Madrid. (Universidad Autónoma de México). 2011-2013.
- 9 Project.** PTDC/CTE-GIX/113866/2009, Fault investigation with LIDAR for earthquake assessment (FINDER). Fundação para a Ciência e a Tecnologia (Portugal). Glenda M. Besana-Ostman. (Instituto Superior Técnico). 2011-2013.
- 10 Project.** Caracterização das estruturas neotectónicas (Miocénico superior-Actualidade) do bordo sul do Sistema Central (fronteira entre Portugal e Espanha). Acção integrada Luso-Espanhola. João Lopes Cardoso Cabral. (Universidade de Lisboa). 2009-2011.
- 11 Project.** CGL2008-03463, Morfología tectónica de la cuenca fluvial del Guadiana. Interacción entre la deformación cortical y la red de drenaje. Ministerio de Ciencia e Innovación (Spain). Rosa María Tejero López. (Universidad Complutense de Madrid). 2009-2011.
- 12 Project.** PTDC/CTE-GIN/66283/2006, Pelsosismological study of active faults in Mainland Portugal (PALEOSISPOR). Fundação para a Ciência e a Tecnologia (Portugal). João Lopes Cardoso Cabral. (Universidade de Lisboa). 2009-2011.
- 13 Project.** CGL2006-12861-C02-02, Integración de nuevas tecnologías en paleosismología: Caracterización de fallas generadoras de terremotos y tsunamis en el sur de Iberia (EVENT). Ministerio de Educación y Ciencia (Spain). Eulàlia Masana Closa. (Universitat de Barcelona). 2006-2010.
- 14 Project.** CGL2004-20214-E, Caracterización del potencial sísmico de la falla de Carboneras (Almería) mediante trincheras. Dirección General de Investigación (Spain). Eulàlia Masana Closa. (Universitat de Barcelona). 2005-2006.
- 15 Project.** HP2004-0028, Métodos de identificación y estudio de fallas de baja actividad en la Península Ibérica. Interés de los resultados para la seguridad de instalaciones críticas (embalses, centrales nucleares,...). Acción Integrada Hispano-Portuguesa. Pere Santanach Prat. (Universitat de Barcelona). 2005-2006.
- 16 Project.** REN 2003-05996/MAR, Estudio paleosismológico integrado de estructuras activas en el margen sur de Iberia (IMPULS). Programa Nacional de Recursos Naturales (Spain). Eulàlia Gràcia Mont. (UNIDAD DE TECNOLOGIA MARINA). 2003-2006.
- 17 Project.** EVG1-CT-2000-00023, Slow active faults in Europe. Assessing fundamental input for seismic risk in regions of low seismicity (SAFE). European Union. Pere Santanach Prat. (Universitat de Barcelona). 2001-2004.
- 18 Project.** ENV4-CT97-0578, Faults as a seismologists tool. From Faults on the field to Faults Model and Seismic Hazard (FAUST). European Union. Pere Santanach Prat. (Universitat de Barcelona). 1998-2000.