Universidad de Alcalá

ELENA GARCÍA BARRIOCANAL

CATEDRÁTICA DE UNIVERSIDAD

RESUMEN DE LOS PRINCIPALES MÉRITOS

Dpto: Ciencias de la Computación.

Área de Conocimiento: Lenguajes y Sistemas Informáticos.

Tramos de investigación reconocidos: 3 investigación (2000-2005, 2006-2011, 2012-2017) + 1 transferencia (2005-2010)

Tramos de docencia reconocidos: 3 (feb2000-feb2005, feb2005-feb2010, feb2010-feb2015)

1. MÉRITOS DE INVESTIGACIÓN

Listado de artículos publicados en revistas indexadas en Journal of Citation Report

PUBLICACION	JCR EDITION	FACTOR IMPACTO	CUARTO
Sicilia, M.A., García-Barriocanal, E., Díaz, P., Aedo, I. and Díaz, P. (2003) A Literature Based Approach to the Annotation and Browsing of Domain-Specific Web Resources. Information Research 8(2)	ISI JCR Social Sciences Edition 2004	Information Science & Library Science. (0.841)	2
Sicilia, M.A. and García-Barriocanal, E. (2003). On the Concepts of Usability and Reusability of Learning Objects. International Review of Research in Open and Distance Learning, 4(2).	ISI JCR Social Science Edition 2011	Education & educational research (0.687)	2
Sicilia, M. A., García-Barriocanal, E. and Calvo,.T. (2004) An Inquiry-Based Method for Choquet Integral-Based Aggregation of Interface Usability Parameters. Kybernetika, 39(5), 159-164	ISI JCR Science Edition 2004	Cybernetics (0.224)	3
Sicilia, M.A., Cuadrado, J.J., Crespo, J., García, E. (2005) Software Cost Estimation with Fuzzy Inputs: Fuzzy Modelling And Aggregation Of Cost Drivers. Kybernetika 41(2), 249-264	ISI JCR Science Edition 2005	Cybernetics (0.343)	3
García, E, Sicilia, M.A., Sánchez, S. (2005) Usability evaluation of ontology editors. Knowledge Organization 32(1),1-9.	ISI JCR Social Sciences Edition 2005	Information Science & Library Science. (0.533)	2
Sicilia, M. A., Lytras. M., Rodríguez, E. García, E. (2006) Integrating Descriptions of Knowledge Management Learning Activities into Large Ontological Structures: A case Study. Data and Knowledge Engineering 57(2), 111-121	ISI JCR Science Edition 2006	Information Science and Library Science (1,367)	2
Sánchez-Alonso, S. and García, E. (2006) Making use of upper ontologies to foster interoperability between SKOS concept schemes. Online Information Review, 30, (3), 263-277.	ISI JCR Social Sciences Edition 2006	Information Science and Library Science (0,750)	2
Sicilia, M.A., García, E. González-Sotos, L. (2006). Introducing fuzziness in object models and database interfaces through aspects. International Journal of Intelligent Systems 21(12), 1199 – 1216	ISI JCR Science Edition 2006	Artificial Intelligence (0.429)	3
Sicilia, M.A. and García-Barriocanal, E. (2006). Extending Object Database Interfaces with Fuzziness through Aspect-Oriented Design. ACM SIGMOD Record 35(2), 4-9.	ISI JCR Science Edition 2006	Software Engineering (1.455)	1
García, E., Sicilia, M.A. (2007) Representing Evidence about Interpersonal Relationships of Public People in the Semantic Web. Aslib Proceedings 59(6), 550564	ISI JCR Science Edition 2007	Information Systems (0.413)	4
García, E., Sicilia, M.A., Lytras, M. (2007) Pedagogical clasification frameworks for learning objects: A case study. Computers in Human Behaviour 23(6), 2641-2655	ISI JCR Social Science 2007	Psychology: Multidisciplinary (1.344)	1
Sicilia, M.A., García, E., Sanchez, S. (2008) Empirical assessment of a collaborative filtering algorithm based on OWA operators. International Journal on Intelligent Systems 23(12), pp.1251-1263	ISI JCR Science Edition 2008	Artificial Intelligence (0.860)	3
Aroba, J., Cuadrado, JJ., Sicilia, M.A., Ramos, I., García Barriocanal, E. (2008) Segmented software cost estimation models based on fuzzy clustering. The journal of systems and software 81(11), pp. 1944-1950	ISI JCR Science Edition 2008	Software Engineering (1.241)	2
Sicilia, J.J., Sicilia, M.A., Sánchez-Alonso, S., García-Barriocanal, E. and Pontikaki, M. (2009) Knowledge Representation Issues in Ontology-based Clinical Knowledge Management Systems. International Journal of Technology Management 47(1-3), 191-206	ISI JCR Science Edition 2008	Engineering: Multidiciplinary (0.526)	3
Sicilia, M.A. García-Barriocanal, E. Sánchez-Alonso, S. Rodríguez-García, D. (2009) Ontologies of engineering knowledge: general structure and the case of Software Engineering. Knowledge Engineering Review 24(3), 309-326.	ISI JCR Science Edition 2009	Artificial Intelligence (1,588)	2
Sicilia, M.A., Sánchez-Alonso, S., García-Barriocanal, E. and Zapata, M. (2011) Modeling instructional-design theories with ontologies: using methods to check, generate and search learning designs. Computers and Human Behavior, 27(4), pp. 1389-1398	ISI JCR Social Science 2010	Psychology: Multidisciplinary (1,865)	1

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Sanchez-Alonso, S., Sicilia, M.A., Garcia-Barriocanal, E., Pages-Arevalo, C., Lezcano, L. (2010) Social models in open learning object repositories: A simulation approach for sustainable collections, Simulation Modelling Practice and Theory, 19(1), pp. 110-120.	ISI JCR Science Edition 2010	Software Engineering (0,736)	3
Rodríguez, D., García, E., Sánchez, S., Rodríguez-Solano, C. (2010) Defining software process model constraints with rules using OWL and SWRL. International Journal of Software Engineering and Knowledge Engineering 20(4), 533-548 http://dx.doi.org/10.1142/S0218194010004876	ISI JCR Science Edition 2010	Software Engineering (0,248)	4
Rodríguez, D., Sicilia, M.A., Sanchez-Alonso, S., Lezcano, L. and García-Barriocanal, E. (2011) Exploring affiliation network models as a collaborative filtering mechanism in e-learning. International Journal of Interactive Learning Environments, Interactive Learning Environments, 19(4), pp. 317-331	ISI JCR Social Science 2010	Education and Ed. Research (0,707)	2
García, E., Sanchez, S., Rodríguez, D., (2011) Devising instruction from empirical findings on student errors: a case in usability engineering education. International Journal on Engineering Education 27(1), pp. 1-7	JCR Science Edition 2008	Engineering Multidisciplinary (0,552)	3
Sicilia, M.A., Sánchez-Alonso, S. and García-Barriocanal, E. (2011). Comparing impact factors from two different citation databases: the case of computer science. Journal of Informetrics, 5(4), 698-704. https://doi.org/10.1016/j.joi.2011.01.007	ISI JCR Social Science Edition 2011	Information Science and Library Science (4.229)	1
Segura, A., Sánchez, S., García, E., Prieto, M. (2011) An empirical analysis of ontology-based query expansion for learning resource searches using MERLOT and the Gene ontology. Knowledge-Based Systems, 24(1), 119-133. http://dx.doi.org/10.1016/j.knosys.2010.07.012	ISI JCR Science Edition 2011	Artificial Intelligence (2,422)	1
Cechinel, C., García, E., Sánchez, S., (2011) Statistical Profiles of Highly-Rated Learning Objects. Computers & Education, 57(1), 1255-1269. http://dx.doi.org/10.1016/j.compedu.2011.01.012	ISI JCR Science Edition 2011	interdisplinary applications (2,621)	1
García-Barriocanal, E., Sicilia, M.A., Sánchez-Alonso, S. and Lytras, M. (2011). Semantic annotation of video fragments as learning objects: a case study with YouTube videos and the Gene Ontology. Interactive Learning Environments 19(1), 22-44. https://doi.org/10.1080/10494820.2011.528879	ISI JCR Social Science 2011	Education and Ed. Reearch (1.163)	1
Pavlis, M., García, E. (2008) Development of personalized learning objects for training adult educators of special groups, Journal of Knowledge Management, 12(6), 89-101 https://doi.org/10.1108/13673270810913649	ISI JCR Social Science Edition 2011	Information Science and Library Science (1.248)	2
Valiente, M.C., García, E. and Sicilia, M.A. (2012) Applying ontology-based models for supporting integrated software development and IT service processes IEEE Transactions on Systems, Man and Cybernetics Part C, 42(1), 61-74. http://dx.doi.org/10.1109/TSMCC.2011.2132717	ISI JCR Science Edition 2012	Artificial intelligence (2.548)	1
Korfiatis, N., García, E, Sanchez, S. (2012) Evaluating content quality and helpfulness of online product reviews: The interplay of review helpfulness vs. review content. Electronic Commerce Research and Applications 11(3), 205-217. http://dx.doi.org/10.1016/j.elerap.2011.10.003	ISI JCR Science Edition 2012	Artificial intelligence (1,480)	2
Samaras, L, García, E., Sicilia, M.A (2012) Syndromic surveillance models using Web data: the case of scarlet fever in the UK. Informatics for Health and Social Care 37(2), 106-124. http://dx.doi.org/10.3109/ 17538157.2011.647934	ISI JCR Science Edition 2012	Health care and informatics (1,273)	4
Valiente, MC, Sicilia, M.A., García, E. (2012) Applying an Ontology Approach to IT Service Management for Business-IT Integration. Knowledge-Based Systems, 28, 76-87. http://dx.doi.org/10.1016/j.knosys.2011.12.003	ISI JCR Science Edition 2012	Artificial intelligence (4.104)	1
Sicilia, M.A., Rodríguez, D., Garcia, E., Harrison , R (2012) Empirical findings on the effect of team size and productivity in software development. Journal of Systems and Software, 85(3), 562-570. http://dx.doi.org/10.1016/j.jss.2011.09.009	ISI JCR Science Edition 20012	Software Engineering (1.135)	2
Sicilia, M.A., Rodríguez, D., García, E., Sánchez, S. (2012) Empirical Findings on Ontology Metrics. Expert Systems with Applications 39(8), 6706-6711. http://dx.doi.org/10.1016/j.eswa.2011.11.094	ISI JCR Science Edition 2012	Software Engineering (1,854)	2
García, E., Sicilia, M.A., Sánchez-Alonso, S. (2012) Computing with competencies: modelling organizational capacities. Expert Systems with Applications, 39(16), 12310-12318. http://dx.doi.org/10.1016/j.eswa.2012.02.194	ISI JCR Science Edition 2012	Software Engineering (1,854)	2
Lezcano, L., García, E. Sicilia, M.A. (2012) Bridging informal tagging and formal semantics via hybrid navigation. Journal of Information Science 38(2) 140–155. http://dx.doi.org/10.1177/0165551511435882	ISI JCR Science Edition 2012	Information Systems (1.238)	2
García, E., Sicilia, M.A., Sánchez, S. (2012) Social network-aware interfaces as facilitators of innovation Journal of Computer Science and Technology, 27(6), 12111221. http://dx.doi.org/10.1007/s11390-012-1297-x	ISI JCR Science Edition 2012	Software Engineering (0.477)	4
Joerg, B., Ruiz-Rube, I., Sicilia, M.A., Dvořák, J., Jeffery, K., Hoellrigl, T., Rasmussen, H.A., Engfer, A., Vestdam, T., Garcia, E. (2012) Connecting closed world research information systems through the linked open data web. International Journal of Software Engineering and Knowledge Engineering, 22(3), 345-364. http://dx.doi.org/10.1142/S0218194012400074	ISI JCR Science Edition 2012	Artificial Intelligence (0,295)	4
Garre, M., García, E. ,Siakas, K., Sicilia, M.A.,Koinig, S., Messnarz, R., Clarke, A. (2012) Analyzing the Corporate Responsibility Web Pages of Consumer Electronics Companies: implications for process improvement IET Software 6(5), 451-460. http://dx.doi.org/10.1049/iet-sen.2011.0207	ISI JCR Science Edition 2012	Software Engineering (0.658)	3

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García-Barriocanal, E., Sicilia, M.A., Sánchez-Alonso, S. (2013). Providing semantic metadata to on-line learning resources on sustainable agriculture and farming: combining values and technical knowledge. Interactive Learning Environments 21(3), 301-318. Publicado primero online nov 2011 https://doi.org/10.1080/10494820.2011.559170	ISI JCR Social Science 2011	Education and Ed. Reearch (1.163)	1
Cechinel, C., Sanchez, S., García, E., Sicilia, M.A. (2013) Evaluating Collaborative Filtering Recommendations inside Large Learning Object Repositories. Information Processing & Management 49(1), 34-50. http://dx.doi.org/10.1016/j.ipm.2012.07.004	ISI JCR Science Edition 2013	Information Systems (1.069)	3
Lezcano, L., Santos, L., García, E. (2013) Semantic integration of sensor data and disaster management systems - The Emergency Archetype approach. International Journal of Distributed Sensor Networks, 9(5), 1-11. http://dx.doi.org/10.1155/2013/424821	ISI JCR Science Edition 2013	Telecommunications (0.923)	3
Messnarz, R., Sicilia, M.A. Biro, M., García-Barriocanal, E., Garre-Rubio, M., Siakas, K., Clarke, A. (2013) Social responsibility aspects supporting the success of SPI. Journal Of Software Maintenance And Evolution-Research And Practice, 26(3), 284-294 http://dx.doi.org/10.1002/smr.1586	ISI JCR Science Edition 2013	Software Engineering (1.320)	2
Rius, A., Conesa, J., García, E. Sicilia, M.A. (2013) Specifying Patterns of Educational Settings by means of Ontologies. Journal of Universal Computer Science, 19(3), 353-382. http://dx.doi.org/10.3217/jucs-019-03-0353	ISI JCR Science Edition 2013	Software Engineering (0.401)	4
Rius, A., Conesa, J., García, E. Sicilia, M.A (2014) Automating educational processes implementation by means of an ontological framework. Computer Standards & Interfaces, 36(2), 335-348. http://dx.doi.org/10.1016/j.csi.2013.08.003	ISI JCR Science Edition 2014	Software Engineering (0,879)	3
Valiente, M.A., Sicilia, M.A., Garcia-Barriocanal, E., Rajabi, E. (2015) Adopting the metadata approach to improve the search and analysis of educational resources for online learning. Computers in Human Behavior, 51, 1134-1141	ISI JCR Social Science Edition 2015	Social Science: Multidisciplinary (2.880)	1
Martin, D., Sanchez, S., Sicilia, M.A., García, E. (2015) Evaluating the degree of domain specificity of terms in large terminologies: the case of AGROVOC. Online Information review, 39(3), 326 – 345. http://dx.doi.org/10.1108/OIR-02-2015-0052	SI JCR Science Edition 2015	Information Systems (1.152)	3
Martin, D., Sanchez, S., Sicilia, M.A., García, E. (2015) Evaluating the practical applicability of thesaurus-based keyphrase extraction in the agricultural domain: A pilot exploratory study in the VOA3R Project. Knowledge Organization, 42(2), 76-89	ISI JCR Social Science Edition 2016	Social Science: Information Science & Library Science (0.522)	3
Nogales, A., Sicilia, M.A., García E., Sánchez, S. (2016) Linking from Schema.org microdata to the Web of Linked Data: an empirical assessment. Computer Standards & Interfaces, 45, 90-99. http://dx.doi.org/10.1016/j.csi.2015.12.003	ISI JCR Science Edition 2016	Software Engineering (1.366)	2
Nogales, A., Sicilia, M. A., García-Barriocanal, E. (2017) Measuring vocabulary use in the Linked Data Cloud. Online Information Review 41(2), 252-271. https://doi.org/10.1108/OIR-06-2015-0183	ISI JCR Science Edition 2016	Information Systems (1.534)	3
Rius, A., Conesa, J., García-Barriocanal, E., Sicilia, M.A. (2017) An ontology-driven framework for specifying, adapting and implementing educational settings. Applied Ontology,12(1), 33-58. https://doi.org/10.3233/AO-170176	ISI JCR Science Edition 2016	Artificial Intelligence (1.296)	3
Martin, D., García, E., Sicilia, M-A, Stracke, C. M. (2017). Evaluating the concept specialization distance from an end-user perspective: The case of AGROVOC. Online Information Review, 41(6), 860-876. https://doi.org/10.1108/OIR-03-2016-0094	ISI JCR Science Edition 2016	Information Systems (0.918)	3
Samaras, L., García, E., Sicilia, M.A. (2017) Syndromic Surveillance Models Using Web Data: The Case of Influenza in Greece and Italy Using Google Trends. Journal of Medical Internet Research (Public Health Surveillance) 3(4). http://dx.doi.org/10.2196/publichealth.8015	ISI JCR Science Edition 2016	Medical Informatics (5.175)	1
Nogales, A. Sicilia,M.A., Garcia, E. (2018) On the graph structure of the Web of Linked Data. International Journal on Semantic Web and Information Systems, 14(2), 70-85. http://dx.doi.org/10.4018/IJSWIS.2018040104	ISI JCR Science Edition 2018	Artificial Intelligence (1.833)	3
Santos, L., Sicilia, M.A., García, E. (2019) Ontology-Based Modeling of Effect-Based Knowledge in Disaster Response. International Journal on Semantic Web and Information Systems, 15(1), 102-118 https://doi.org/10.4018/IJSWIS.2019010105.	ISI JCR Science Edition 2019	Artificial Intelligence (1,742)	3
Mora, M., Sanchez, S. García, E. (2019) A systematic literature review on Wikidata. Data Technologies and Applications, 53(3), 250-268. https://doi.org/10.1108/DTA-12-2018-0110.	ISI JCR Science Edition 2019	Information systems (0,704)	4
Mora, M., Sicilia, M.A., García, E., Sanchez, S.(2020) Evolution and prospects of the Comprehensive R Archive Network (CRAN) package ecosystem. Journal of Software: Evolution and Process. DOI: 10.1002/smr.2270	ISI JCR Science Edition 2017	Software Engineering (1,178)	3
Samaras, L., García, E., Sicilia, M.A. (2020) Comparing Social media and Google to detect and predict severe epidemics. Scientific Reports, 10(4747). https://doi.org/10.1038/s41598-020-61686-9	ISI JCR Science Edition 2019	Multidisciplinary Science (3.998)	1
Mora, M. Sánchez, S., García, E., Sicilia, M.A. (2020) Authority-based flexible conversation tracking in Twitter: an unattended methodological approach. Applied Sciences 10(9), 3273. https://doi.org/10.3390/app10093273	ISI JCR Science Edition 2019	Multidisciplinary Science (2.474)	2

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Mora, M., Sicilia, M.A., García, E., Sanchez, S.(2020) A complex network analysis of the Comprehensive R Archive Network (CRAN) package ecosystem. Journal of Systems and Software, 170, 110744. https://doi.org/10.1016/j.jss.2020.110744	ISI JCR Science Edition 2019	Software Engineering (2.450)	2
Samaras, L., Sicilia, MA. & García-Barriocanal, E. (2021) Predicting epidemics using search engine data: a comparative study on measles in the largest countries of Europe BMC Public Health 21, 100 (2021). https://doi.org/10.1186/s12889-020-10106-8	ISI JCR Science Edition 2019	Public, environmental & occupational health (2,521)	2
Puentes, J., Sanchez, S., Sicilia, MA, García, E. (2021) Predicting length of stay across hospital departments. IEEE Access, 9, 44671-44680. https://doi.org/10.1109/ACCESS.2021.3066562	ISI JCR Science Edition 2019	Information systems (3.745)	1

Listado de proyectos de financiación pública competitiva como investigadora principal

Nombre	Referencia	Cuantía subvención	Duración
MARIA: Medición y Análisis de Recursos para el acceso a la Información y el Aprendizaje	CAM+ UAH (CCG08-UAH/TIC4178)	17.400,00 €	2009
INTEGRA: Fusión y explotación de datos para el control de fronteras no vigiladas	CDTI (CENIT-2008: 1018)	540.033,08 €	2008-2011
eCultura: Desarrollo de una Plataforma Semántica para la Preservación y Explotación de Contenido Cultural	PROFIT Ministerio de Industria (TSI020501-2008-53)	129.887,00 €	2008-2010
SOCIRES: Development of Social Responsibility Training and Certification	EUROPEAN UNION (510098-2010-LLPSI-LEONARDOLMP)	49.285,00 €	2011-2013
VOA³Rr: Virtual Open Access Agriculture & Aquaculture Repository: Sharing Scientific and Scholarly Research related to Agriculture, Food, and Environment	European Union (CIP-ICTPSP.2009.2.4: 250525 - VOA3R)	400.000,00 €	01/06/2010 31/05/2013
Organic.Balkanet: Developing the skills of Organic agricultural for the Balkans	European Union (2009-1-RO1LEO05-03584/LLP-LdV-TOI-2009-RO008)	59.162,00 €	10/12/2009 09/12/2011
agINFRA: A data infrastructure to support agricultural scientific communities Promoting data sharing and development of trust in agricultural sciences	European Union (FP7-2011-2283770	610.000,00 €	01/10/2011 30/09/2014
HEDECAMA: Modelo semántico y algoritmos de Data Mining aplicados al tratamiento del Cáncer de Mama en centros de Atención Especializada	Ministerio de Ciencia e Innovación (IPT2011-1126-900000)	98.135,00 €	01/10/2011 31/03/2014
SLROUTE (Spanish Language Route): Plataforma tecnológica de gestión, soporte y administración de contenidos digitales focalizados a videojuegos educativos tipos NMOG	Ministerio de Industria, Turismo y Comercio (TSI090302-2011-22)	90.062,00 €	01/10/2011 31/03/2014
SemAGROw: Data Intensive Techniques to Boost the Real-Time Performance of Global Agricultural Data Infrastructures	European Union (FP7-318497)	462.981,00 €	01/11/2012 01/11/2015

Listado de contratos como investigadora principal

Nombre	Empresa	Cuantía subvención	Duración
Diseño plataforma de intercambio de información de sistemas de Historia Clínica Electrónica	Alamo Consulting en convocatoria pública PIE de la CAM	56.000,00 €	2009-2010
eAvatar: Búsqueda semántica y análisis del lenguaje natural	Mnemon Consultores	15.000,00 €	26/7/2010 25/7/2011
Desarrollo de un entorno de interoperabilidad semántica para el mando y control militar	Instituto Tecnológico Militar de la Marañosa	32.220,00 €	01/12/2012 30/3/2014
Creación del modelo de expresión de necesidades del proyecto atas (adquisición de talento mediante objetos de aprendizaje semánticos)	XIMDEX	3.630,00 €	11/03/2015 10/12/2015
Mailtrack: intelligent mail delivery	Mailtrack	48.400,00 €	01/12/2014 30/11/2017
Búsqueda semántica y análisis del lenguaje natural	Inneria	17.700,00 €	28/07/2010 27/04/2011

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2. MÉRITOS DE DOCENCIA

- Investigadora principal del Proyecto Erasmus+, KA3 Initiatives for policy innovation "PBL3.0: Integrating Learning Analytics and Semantics in Problem Based Learning". 2016-2018 (79.584,0 €)
- Co-investigadora principal del Proyecto Erasmus+, Knowledge Alliances "SME ClusterGrowth". 2021-2023 (84.500,0 €)
- Investigadora de los proyectos Erasmus+, KA2:
    - "Digital Skills Accelerator" (Miguel A. Sicilia, IP). 2017-2019
    - "Heal+: Master in Health Informatics" (Salvador Sánchez, IP). 2016-2018
    - "Data Set – Data skills for business" (Miguel A. Sicilia, IP) 2018-2020
    - "Digital Wellbeing educators" (Miguel A. Sicilia, IP) 2018-2020
    - "BEGIN - Blockhain Enabling Growth in New Enterprises" (Miguel A. Sicilia, IP) 2020-2022
    - "TrustAI - Trustworthy AI" (Marçal Mora, IP) 2020-2022
- Evaluación docente *Muy Favorable* en programa DOCENTIA (2011/12 – 2014/15) y (2015/16-2019-20)

3. MÉRITOS DE GESTIÓN ACADÉMICA

- Cargos unipersonales de gestión:

  11/2008 – 10/2016: Secretaria del departamento de Ciencias de la Computación

  11/2016 – 12/2017: Subdirectora del departamento de Ciencias de la Computación

  02/2015 - : Directora académica de la Oficina de Proyectos Europeos, Vicerrectorado de Investigación y Transferencia
- Coordinación académica:

  2017/18 – 2019/20: Directora del M.U. Analítica del Negocio y Grandes Volúmenes de Datos.

  2014/15: Coordinadora del programa de doctorado Ingeniería de la Información y del Conocimiento.
- Coordinación en investigación:

  2010 - : Journal on Information Science and Engineering (factor de impacto: 0.541)
  2013 - : Journal of Universal Computer Science (factor de impacto: 0. 701)
  2007 - 2021 : Coordinación del grupo de investigación Information Engineering Research Group

Curriculum Vitae: Manuel Hernández-Pajares

Section A: Curriculum vitae in a nutshell

Manuel Hernandez-Pajares was born in Leganes, Badajoz (Spain) in 1962. He got his Ph.D. in Physics and Astronomy in 1990 at "Universitat de Barcelona" (UB). He is presently a **Full Professor at the "Universitat Politècnica de Catalunya"** (UPC), Barcelona, Spain, with 5 **six-years research periods assessed and approved by the Spanish research ministry, until 2018 the most recent one**. He is **working on Global Navigation Satellite Systems (GNSS) since 1989**, at the Cartographic Institute of Catalonia, ICC, at such a time. Since 1994 he has focused in new algorithms for precise ionospheric sounding and GNSS navigation. He **has been the chair and product coordinator of the International GNSS Service (IGS) Ionosphere WG** since 2002 until 2007, and the **Principal Investigator of three dozens of international scientific projects** won in competitive calls, among participating in few tens of additional projects. He has **published more than 100 papers in peer reviewed international journals, most of them in first and second quartiles of impact factor**; and he is co-authoring **2 national and 3 international patents presented in several countries with activity in Space** and **two GPS processing books**. Up to September 2019 his publications have received **about 6000 citations, with h- and i10- indices of 36 and 97, respectively**[*]. He has been advisor or **co-advisor in 10 Ph.D. Thesis dissertations**. He has been **associate editor in IEEE-TGARS, Radio Science, Space Weather and Journal of Geodesy**. He has **co-organized the International Beacon Satellite Symposium meeting in 2010 at Barcelona** and he has been **Expert Advisor of the European Space Agency in the GNSS Scientific Advisory Group (GSAC)** since 2012 to 2017. He has been **invited lecturer in post-graduate international courses** on GNSS Ionospheric Mapping (**UCAR-Univ.Colorado**, 2004), Space Weather (**German Space Agency, DLR**, Germany, 2016), Real-time Ionospheric Determination, Precise Agriculture and Seismic-Tsunami signatures on the School of **SIRGAS Geocentric Reference System for the Americas (Argentina**, 2018), on **Presidente Prudente Univ., and on INPE, (both in Brazil**, 2018) and on **National Centre for Physics (NCP, Pakistan**, 2018). He created the new research group, UPC-IonSAT, in Nov. 2013.

[*]https://scholar.google.es/citations?user=Tm-DcsMAAAAJ&hl=en

Section B: Curriculum vitae summarized in 2 pages

PERSONAL INFORMATION

Family name, First name: Hernández-Pajares, Manuel

Researcher unique identifier(s) (such as ORCID, Research ID, etc. ...): ORCID 0000-0002-9687-5850, RID: O-5338-2017

Date of birth: 12-Nov-1962

Nationality: Spaniard

URL for web site: https://scholar.google.es/citations?user=Tm-DcsMAAAAJ&hl=en

- **EDUCATION**

1990 PhD in Astronomy:"Contribution to the study of the stellar kinematics with spherical

harmonics", Physics Faculty, Department of Astronomy, University of Barcelona (UB), Spain

1986 Master in Astronomy: "Absolute Stellar Photometry: Multi-night technique" Physics Faculty, Department of Astronomy, UB, Barcelona, Spain.

1985 Degree in Physics, UB, Barcelona, Spain.

- **CURRENT POSITION(S)**

2010– Full Professor in Mathematics and Satellite Geodesy
Department of Mathematics, Universitat Politècnica de Catalunya (UPC), Barcelona, Spain

2013– Head of Research Group IOnospheric determination and Navigation based on Satellite And Terrestrial systems (UPC-IonSAT), UPC, Barcelona, Spain.

- **PREVIOUS POSITIONS**

1989 – 1991 Technical expert in Satellite Based Geodesy (Global Positioning System, GPS)
Cartographic Institute of Catalonia (ICC), Barcelona, Spain

1990 – 1991 Associate Part Time Professor
School of Telecommunication Engineering (ETSETB), UPC, Barcelona, Spain

1991 – 2010 Full Time Associate Professor
School of Telecommunication Engineering (ETSETB), UPC, Barcelona, Spain

- **FELLOWSHIPS AND AWARDS**

1980 – 1985 Special scholarship "Promotion of university education", Ministry of Education and Science, Madrid, Spain

1986 – 1989 Ph.D. scholarship "Forming researchers", Ministry of Education and Science, Madrid, Spain.

1988 – 1989 Part-time scholarship on Minor Planets and Comets, Fabra Observatory, Barcelona, Spain

1999 Best paper award, (Resolving carrier-phase ambiguities on-the-fly, at more than 100Km from the nearest reference site, with the help of ionospheric tomography"), Institute of Navigation (ION), USA.

2004 Best paper award ("Wide Area Real Time Kinematics with Galileo and GPS Signals"), ION, USA.

2006 Best paper award ("The Stanford - ESA Integrity Diagram: Focusing on SBAS Integrity"), ION, USA.

2000 – 2002 FULBRIGH Scholarship on "International Reference Ionosphere update with GPS data" NASA – UPC, funded by FULBRIGH Spain-USA Commission.

- **SUPERVISION OF GRADUATE STUDENTS AND POSTDOCTORAL FELLOWS**

1993 – Supervisor of 9 Ph.D. students and 4 Master Students, UPC, Barcelona, Spain

- **TEACHING ACTIVITIES (if applicable)**

1986 – 1990 Ph.D. fellow with part-time teaching duties on "General Physics" and "Observational Astronomy", UB, Spain

1990 – Part-time, full-time associate professor and full time full professor with teaching duties on "Linear Algebra", "Vector Analysis", "Probability and Random Processes", "GPS and Galileo data processing", "Navigation", UPC, Barcelona, Spain.

- **ORGANISATION OF SCIENTIFIC MEETINGS (if applicable)**

2010 Local organizer of the Beacon Satellite Symposium 2010, Barcelona, Spain.

1999– 2019 Member of the scientific committee and co-chairman of about 40 international meetings of Global Navigation Satellite Systems for ionospheric sounding and precise positioning.

- **INSTITUTIONAL RESPONSIBILITIES (if applicable)**

1998 – 2019 UPC Principal Investigator (PI) of more than 30 international projects, being Consortium PI in more than 10 of them.

2002 – 2007 Chairman and Product Coordinator of the International GNSS Service (IGS) ionospheric working group.

2012 – 2017 Expert Advisor of the European Space Agency in the GNSS Scientific Advisory Group (GSAC).

- **REVIEWING ACTIVITIES (if applicable)**

2006 – 2019 Member of the Editorial Board, as Associate Editor, in four journals: IEEE-TGARS, Radio Science, Space Weather and Journal of Geodesy.

2006 – 2019 Reviewer for more than 100 manuscripts submitted to the international peer-reviewed journals in the GNSS and Ionosphere studies field (Radio Science, Journal of Geophysical Research – Space Physics, Journal of Geodesy, Remote Sensing, IEEE TGARS, GPS Solutions, Earth and Space Solutions, ASR, Sensors, Acta Geophysica, EOS, Space Weather, Navigation, Studia Geophysica et Geodaetica among others).

2008 – 2019 Evaluator of scientific projects in the Science systems of the European Space Agency, Germany, Belgium,Spain, Poland, Cyprus and Czech Republic

- **MEMBERSHIPS OF SCIENTIFIC SOCIETIES (if applicable)**

1985 – 2019 Member of several scientific societies in my fields of work such as the American Geophysical Union (AGU), European Geophysical Union (EGU), IGS, URSI, IRI WG and International Astronomical Union (IAU).

- **MAJOR COLLABORATIONS (if applicable)**

Oscar L. Colombo, in precise GNSS positioning supported by ionospheric tomography, GSFC/NASA, Greenbelt, Maryland, USA

Dieter Bilitza, in update of the International Reference Ionosphere (IRI) with GNSS measurements, GSFC/NASA, Greenbelt, Maryland, USA

Pawel Wielgosz, in comprehensive ionospheric modelling and applications to precise positioning, University of Warmia-Mazzury, UWM, Poland

Raul Orus-Pérez, in new approaches for ionospheric modelling from GNSS measurements, European Space Agency (ESA), Noordwijk, The Netherlands.

Fionn Murtagh, in classification of stellar populations of the Milky Way, University of Belfast, North Ireland.

Section C: Ten years track-record in 2 pages

10 most important publications during the 10 years track-record, 2009-2019, in decreasing order of number of citations (on 13 Aug 2019):

P1: Hernández-Pajares, M., Juan, J. M., Sanz, J., Orus, R., Garcia-Rigo, A., Feltens, J., ... & Krankowski, A. (2009). The IGS VTEC maps: a reliable source of ionospheric information since 1998. Journal of Geodesy, 83(3-4), 263-275, https://doi.org/10.1007/s00190-008-0266-1
External citations: **519** (from 554)

P2: Hernández-Pajares, M., Juan, J. M., Sanz, J., Aragón-Àngel, À., García-Rigo, A., Salazar, D., & Escudero, M. (2011). The ionosphere: effects, GPS modeling and the benefits for space geodetic techniques. Journal of Geodesy, 85(12), 887-907, https://doi.org/10.1007/s00190-011-0508-5
External citations: **103** (from 126)

P3: Hernández-Pajares, M., Juan, J. M., Sanz, J., & Aragón-Àngel, A. (2012). Propagation of medium scale traveling ionospheric disturbances at different latitudes and solar cycle conditions. Radio Science, 47(6), https://doi.org/10.1029/2011RS004951
External citations: **41** (from 53)

P4: Hernández-Pajares, M., Roma-Dollase, D., Krankowski, A., García-Rigo, A., & Orús-Pérez, R. (2017). Methodology and consistency of slant and vertical assessments for ionospheric electron content models. Journal of Geodesy, 91(12), 1405-1414, http://dx.doi.org/10.1007/s00190-017-1032-z
External citations: **28** (from 36)

P5: Hernández-Pajares, M., Aragón-Ángel, À., Defraigne, P., Bergeot, N., Prieto-Cerdeira, R., & García-Rigo, A. (2014). Distribution and mitigation of higher-order ionospheric effects on precise GNSS processing. Journal of Geophysical Research: Solid Earth, 119(4), 3823-3837, https://doi.org/10.1002/2013JB010568
External citations: **18** (from 27)

P6: Hernández-Pajares, M., García-Rigo, A., Juan, J. M., Sanz, J., Monte, E., & Aragón-Àngel, A. (2012). GNSS measurement of EUV photons flux rate during strong and mid solar flares. Space Weather, 10(12), 1-16, https://doi.org/10.1029/2012SW000826
External citations: **14** (from 27)

P7: Hernández-Pajares, M., Juan, J.M., Sanz, A., Aragon-Angel, A., Ramos-Bosch, P., Samson, J., Tossaint, M., Albertazzi, M., Odijk, D., Teunissen, P.J.G., de Bakker, P., Verhagen, S., van der Marel, H. (2010). Wide-Area RTK: high precision positioning on a continental scale. Inside GNSS, 5(2), 35-46, https://insidegnss.com/wp-content/uploads/2018/01/marapr10-hernandez.pdf
External citations: **10** (from 17)

P8: Hernández-Pajares, M., Wielgosz, P., Paziewski, J., Krypiak-Gregorczyk, A., Krukowska, M., Stepniak, K., ... & Orus-Perez, R. (2017). Direct MSTID mitigation in precise GPS processing. Radio Science, 52(3), 321-337, https://doi.org/10.1002/2016RS006159
External citations: **4** (from 7)

P9: Hernández-Pajares, M., Roma-Dollase, D., Garcia-Fernàndez, M., Orus-Perez, R., & García-Rigo, A. (2018). Precise ionospheric electron content monitoring from single-frequency GPS receivers. GPS Solutions, 22(4), 102, http://dx.doi.org/10.1007/s10291-018-0767-1
External citations: **2** (from 5)

P10: Hernández-Pajares, M., Garcia-Fernàndez, M., Rius, A., Notarpietro, R., von Engeln, A., Olivares-Pulido, G., ... & García-Rigo, A. (2017). Electron density extrapolation above F2 peak by the linear Vary-Chap model supporting new Global Navigation Satellite Systems-LEO occultation missions. Journal of Geophysical Research: Space Physics, 122(8), 9003-9014, http://dx.doi.org/10.1002/2017JA023876
External citations: **1** (from 8)

Additional selected contributions **during the ten-year track record** are:

7 patent active registrations: Hernández-Pajares, M., Zornoza, J. M. J., Subirana, J. S., Samson, J., & Tossaint, M. M. M. (2011). Method, apparatus, and system for determining a position of an object having a global navigation satellite system receiver by processing undifferenced data like carrier-phase measurements and external products like ionosphere data. registered in the patent and trademark offices of Europe (EP2689268B1), USA (US9494693B2), China (CN103502844B), Russia (RU2565386C2), Brazil (BR112013022706A2), Spain (ES2576875T3) and in the remaining countries (WO2012130252A1): https://patents.google.com/patent/US20140070992A1/en?inventor=Hernandez-Pajares&oq=Hernandez-Pajares
WO2012130252A1: https://patentimages.storage.googleapis.com/79/a9/87/ffa57da7f7110c/WO2012130252A1.pdf
EP2689268B1, https://patentimages.storage.googleapis.com/7e/83/6e/a2a25ad70c9912/EP2689268B1.pdf
US9494693B2, https://patentimages.storage.googleapis.com/90/15/5c/e56afc50ac3815/US9494693.pdf
RU2565386C2, https://patentimages.storage.googleapis.com/e3/dc/34/0326852d689694/RU2565386C2.pdf
CN103502844B: https://patentimages.storage.googleapis.com/d1/73/35/ea764cde0f9527/CN103502844B.pdf
BR112013022706A2, https://patents.google.com/patent/BR112013022706A2/en?inventor=Hernandez-Pajares&oq=Hernandez-Pajares
ES2576875T3, https://patentimages.storage.googleapis.com/18/8f/d8/278c53fde7f463/ES2576875T3.pdf
External citations from other patents: **4**

Parte A. DATOS PERSONALES

Fecha del CVA	20/05/2020

Nombre y apellidos	Mª Isabel Pérez Grande		
DNI/NIE/pasaporte		Edad	
Núm. identificación del investigador	Researcher ID	L-2243-2014	
	Código Orcid	0000-0002-7145-2835	

A.1. Situación profesional actual

Organismo	Universidad Politécnica de Madrid			
Dpto./Centro	Instituto de Microgravedad Ignacio Da Riva/ETSI Aeronáuticos			
Dirección	Pza Cardenal Cisneros 3, 28040 Madrid			
Teléfono	913366353	correo electrónico	isabel.perez.grande@upm.es	
Categoría profesional	Catedrática de Universidad		Fecha inicio	31/03/2016
Espec. cód. UNESCO	2213, 3324			
Palabras clave	termodinámica; transferencia de calor; control térmico espacial			

A.2. Formación académica *(título, institución, fecha)*

Licenciatura/Grado/Doctorado	Universidad	Año
Ingeniero Aeronáutico	Universidad Politécnica de Madrid	1993
Doctor Ingeniero Aeronáutico	Universidad Politécnica de Madrid	2001

A.3. Indicadores generales de calidad de la producción científica *(véanse instrucciones)*
Número de sexenios de investigación: 3 (fecha último concedido 01/01/2016)
Número de sexenios de transferencia: 1 (fecha último concedido 01/01/2019)
Número de tesis doctorales dirigidas: 7 completadas, 3 en curso
Citas totales (web of science): 725 (663 sin citas propias)
Promedio de citas/año: 40.3
Número de registros en Web of Science: 74
Artículos en revistas internacionales incluidas en JCR: 42 (20 Q1)
Índice h: 13

Parte B. RESUMEN LIBRE DEL CURRÍCULUM *(máximo 3500 caracteres, incluyendo espacios en blanco)*

La candidata comenzó sus actividades de investigación en 1993, cuando obtuvo su título de Ingeniero Aeronáutico. Desde sus comienzos ha estado involucrada en actividades relacionadas con diseño térmico y optimización.

Posición actual:

- Catedrática de Universidad, Dpto. Mecánica de Fluidos y Propulsión Aeroespacial, ETSI Aeronáutica y del Espacio, UPM, desde marzo de 2016.
- Responsable del Grupo de Investigación 'Desarrollo y Ensayos Aeroespaciales'. Inst. de Microgravedad Ignacio Da Riva, UPM, desde 2005.
- Subdirectora de Investigación y Doctorado de la Escuela Técnica Superior de Ingeniería Aeronáutica y del Espacio desde enero de 2020.
- Chair del Physical Sciences Working Group, PSWG, de la Agencia Espacial Europea (ESA), (miembro desde abril de 2013, chair desde abril de 2015).
- Miembro del Human Spaceflight and Exploration Science Advisory Committee (HESAC), de la Agencia Espacial Europea (ESA), desde abril de 2015.

Posee experiencia relevante en:

Diseño y análisis térmicos de sistemas espaciales

- Diseño y ensayos térmicos del microsatéllite UPM-Sat1, desarrollado en la Universidad Politécnica de Madrid, lanzado el 7 de julio de 1995 con el lanzador Ariane 4.

- Modelos térmicos del calentamiento de muestras en hornos para crecimiento de cristales por medio del método de la zona flotante para ser aplicados a los experimentos AO-99-034 y AO-99-067 en la Estación Espacial Internacional (ISS).
- Estudio de viabilidad térmica de la etapa superior del lanzador Aldebaran.
- Control térmico de los telescopios SUNRISE y SUNRISE 2, embarcados en globos estratosféricos, lanzados el 8 de junio de 2009 y el 12 de junio de 2013 desde Esrange (Swedish Space Corporation) con un globo de NASA CSBF.
- Ingeniero térmico de sistemas de Solar Orbiter PHI, ESA.
- Control Térmico del instrumento NOMAD, en Exo Mars 2016, ESA.
- Estudios térmicos para Exomars 2018, Rover Raman SPU & iOH, ESA.

Publicaciones:

- Co-autora de 25 artículos publicados en revistas internacionales.
- Co-autora de 36 comunicaciones en congresos nacionales e internacionales.
- Co-autora de 1 libro internacional sobre control térmico espacial.
- Co-autora de 1 capítulo sobre control térmico espacial en un libro internacional sobre tecnología espacial.

Participación en proyectos de investigación:

- Participación en 17 proyectos financiados en convocatorias públicas, en 8 de ellos como investigador principal.
- Participación en 11 contratos con empresas o administraciones.

Parte C. MÉRITOS MÁS RELEVANTES *(ordenados por tipología)*

C.1. Publicaciones

Artículos:

- Pérez-Grande, I., Rivas, D., Pablo, V., A global thermal analysis of multizone resistance furnaces with specular and diffuse samples, Journal of Crystal Growth 246(1-2), p. 37–54, 2002
- Rivas, D., de Pablo, V., Pérez-Grande, I., Analysis of the temperature field in compound samples heated in multizone resistance furnaces, Advances in Space Research 32(2), p. 251–257, 2003
- Pérez-Grande, I., Sanz-Andrés, A., Bezdenejnykh, N., Barthol, P., Transient thermal analysis during the ascent phase of a balloon-borne payload. Comparison with SUNRISE test flight measurements, Applied Thermal Engineering 29, p. 1507–1513, 2009.
- Pérez-Grande, I., Sanz-Andrés, A., Guerra, C., Alonso, G., Analytical study of the thermal behaviour and stability of a small satellite, Applied Thermal Engineering, 29, p. 2567-2573, 2009.
- Gaite, J., Sanz-Andrés, A., Pérez-Grande, I., Nonlinear analysis of a simple model of temperature evolution in a satellite, Nonlinear Dynamics 58, p. 405–415, 2009.
- P. Barthol et al. (entre ellos I. Pérez Grande), The Sunrise Mission, Solar Physics, 268, p. 1-34, 2011.
- I. Perez-Grande, A. Sanz-Andres, N. Bezdenejnykh, A. Farrahi, P. Barthol, R. Meller, Thermal control of SUNRISE, a balloon-borne solar telescope, Proceedings of the Institution of Mechanical Engineers, Part G, Journal of Aerospace Engineering, 225(G9), p. 1037-1049, 2011.
- P. Prado-Montes, D. Mishkinis, A. Kulakov, A. Torres, I. Pérez-Grande, Effects of Non Condensable Gas in an Ammonia Loop Heat Pipe Operating up to 125 °C, Applied Thermal Engineering, 66, p. 474-484, 2014.
- Eddy Neefs et al (entre ellos I. Pérez Grande), ExoMars trace gas orbiter mission: part 1—design, manufacturing and testing of the infrared channels, Applied Optics 54(28), p. 8494-8520, 2015.

- G. Fernández-Rico, I. Pérez-Grande, A. Sanz-Andres, I. Torralbo, J. Woch, Quasi-autonomous thermal model reduction for steady-state problems in space systems, Applied Thermal Engineering, In Press, Available online 21 March 2016.

Libros y Capítulos de libros

- J. Meseguer, I. Pérez-Grande, A. Sanz-Andrés, Spacecraft Thermal Control, Woodhead Publishing, Cambridge, UK, 2012.
- J. Meseguer, I. Pérez-Grande, A. Sanz-Andrés and G. Alonso, Capítulo 13: "Thermal Systems" en The International Handbook of Space Technology, Springer, 2014, ISBN 978-3-642-41100-7

C.2. Proyectos

- Título: Actividades Preparatorias del IDR/UPM en el proyecto VIM/Solar Orbiter
  Entidad financiadora: Ministerio de Educación y Ciencia (ESP2006-26363-E/)
  Investigador principal: Isabel Pérez Grande
  Cuantía de la subvención: 3.435,00 €.
  Duración: desde 2006 hasta 2006
- Título: Participación del IDR/UPM en el proyecto: Integración y vuelo de SUNRISE/IMaX. Fase conceptual de Solar Orbiter/VIM.
  Entidad financiadora: Ministerio de Educación y Ciencia (ESP2006-13030-C06-05)
  Investigador principal: Isabel Pérez Grande
  Cuantía de la subvención: 256.520,00 €.
  Duración: desde 2006 hasta 2009
- Título: Estudio paramétrico de la transferencia de calor en configuraciones de aplicación en el diseño de sistemas espaciales
  Entidad financiadora: Comunidad de Madrid-Universidad Politécnica de Madrid (M0700204131, CCG06-UPM/IME-237).
  Investigador principal: Isabel Pérez Grande
  Cuantía de la subvención: 21.100,00 €.
  Duración: desde 2007 hasta 2007
- Título: Diseño preliminar de SO/PHI. Explotación científica de SUNRISE.
  Entidad financiadora: Ministerio de Ciencia e Innovación (AYA2009-14105-C06-02)
  Investigador principal: Isabel Pérez Grande
  Cuantía de la subvención: 148.300 €.
  Duración: desde 2010 hasta 2011
- Título: Diseño detallado de Solar Orbiter/PHI.
  Entidad financiadora: Ministerio de Ciencia e Innovación (AYA2011-29833-C06-02).
  Investigador principal: Isabel Pérez Grande
  Cuantía de la subvención: 274.670 €.
  Duración: desde enero 2012 hasta diciembre 2012
- Título: Diseño detallado, fabricación e integración de SO/PHI.
  Entidad financiadora: Ministerio de Economía y Competitividad (AYA2012-39636-C06-04).
  Investigador principal: Isabel Pérez Grande
  Cuantía de la subvención: 324.090 €.
  Duración: desde enero 2013 hasta diciembre 2013
- Título: Participación de IDR/UPM en Solar Orbiter: fabricación, integración y verificación de PHI; contribución a ingeniería de sistemas de EPD.
  Entidad financiadora: M. de Economía y Competitividad (ESP2013-47349-C6-4-R).
  Investigador principal: Isabel Pérez Grande
  Cuantía de la subvención: 292.000 €.
  Duración: desde enero 2014 hasta diciembre 2014

- Título: Participación de IDR/UPM en: fabricación e integración de los modelos QM, FM y FS de Solar Orbiter SO/PHI. Contribución a Ingeniería de Sistemas de Solar Orbiter EPD.
  Entidad financiadora: M. de Economía y Competitividad (ESP2014-56169-C6-6-R).
  Investigador principal: Isabel Pérez Grande
  Cuantía de la subvención: 326.700 €.
  Duración: desde enero 2015 hasta diciembre 2016

C.3. Contratos, méritos tecnológicos o de transferencia

- Título del proyecto: Aldebaran. Estudios térmicos. Phase 1. Loop 3.
  Empresa/Administración financiadora: EADS Casa Espacio.
  Investigador responsable: José Meseguer
  Duración: desde febrero de 2009 hasta mayo de 2009.
  Presupuesto total del proyecto: 15.000 €.
- Título del proyecto: SMM and TMM models development for EPD STEIN instrument in Solar Orbiter Satellite issue 2.
  Entidad financiadora: Christian-Albrechts-Universität zu Kiel (Alemania).
  Investigador responsable: Ángel Sanz Andrés
  Duración: desde septiembre 2010 hasta marzo de 2011.
  Presupuesto total del proyecto: 18.000 €.
- Título del proyecto: Diseño Térmico Preliminar del SPU – Instrumento RAMAN.
  Entidad financiadora: Instituto Nacional de Técnica Aeroespacial (INTA)-Ministerio de Defensa (Expediente: 500083108899).
  Investigador principal: Isabel Pérez Grande
  Duración: desde junio 2013 hasta diciembre 2013
  Presupuesto total del proyecto: 21.538 €.
- Título del proyecto: Diseño Termomecánico preliminar del iOH.
  Entidad financiadora: Instituto Nacional de Técnica Aeroespacial (INTA)-Ministerio de Defensa (Expediente: 500083107300).
  Investigador principal: Gustavo Alonso Rodrigo
  Cuantía del contrato: 199.650 €.
  Duración: desde septiembre 2013 hasta marzo 2014
- Título del proyecto: Euclid Spacecraft Thermal Control Subsystem.
  Entidad financiadora: Airbus Defence & Space
  Investigador principal: Isabel Pérez Grande
  Duración: febrero 2015 hasta abril 2015
  Cuantía del contrato: 51.600 €.

C.4. Patentes

C.5, C.6, C.7…
Otros

Participación en comités internacionales:

- Miembro del Physical Sciences Working Group, PSWG, de la Agencia Espacial Europea (ESA), desde el 26 de marzo de 2013 por un periodo de 4 años. Chair del WG desde abril de 2015.
- Miembro del Human Spaceflight And Exploration Science Advisory Committee (HESAC), de la Agencia Espacial Europea desde abril de 2015.

MINISTERIO DE CIENCIA E INNOVACIÓN

CURRICULUM VITAE (maximum 4 pages)

AGENCIA ESTATAL DE INVESTIGACIÓN

Part A. PERSONAL INFORMATION

CV date	07/01/2021

First and Family name	**José Manuel Vaquero Martínez**		
Social Security, Passport, ID number	08858518F	Age	**47**
Researcher codes	WoS Researcher ID (*)	**B-8017-2010**	
	SCOPUS Author ID (*)	**7103086283**	
	Open Researcher and Contributor ID (ORCID) **	**0000-0002-8754-1509**	

(*) At least one of these is mandatory
(**) Mandatory

A.1. Current position

Name of University/Institution	**Universidad de Extremadura**			
Department	**Departamento de Física (Área Física de la Tierra)**			
Address and Country	**Avda. Santa Teresa de Jornet, 38, 06800 Mérida (Badajoz), Spain**			
Phone number	**676618160**	E-mail	jvaquero@unex.es	
Current position	**Full Professor**		From	**16/10/2019**
Key words	**Reconstruction of solar activity, Reconstruction of Climate**			

A.2. Education

PhD Physics	University of Extremadura	2002
Master of Science	University of Extremadura	2001
Bachelor of Physics	University of Extremadura	1997

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

JCR Articles: I have published more than 250 research articles, including 197 articles indexed in JCR.

H-index: According to Google Scholar and WoS, my h-index is 28 and 23, respectively.

Number of doctoral theses supervised in the last 10 years: 6

Citations: According to Google Scholar and WoS, my total number of citations is 3942 and 2447, respectively.

Recognized research six-year periods ("sexenios"): Three research six-year periods (in the periods 1999-2004, 2005-2010 and 2011-2016), which are all possible six-year periods in this case.

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

José M. Vaquero (Badajoz, 1973) is currently Professor of Earth Physics at the University of the Physics Department of the University of Extremadura (UEx). His main lines of research focus on the reconstruction of the Earth's climate and solar activity during the last centuries from historical sources.
After finishing his undergraduate studies in Physics, he began his doctoral thesis on an episode in the history of physics in Spain. After a brief period working in the private company, he began his stage as a university professor in 2001. In the first months of work at the University, he took a radical turn in his initial lines of research, beginning to work on the reconstruction of space and terrestrial climate, new topics in the UEx. He soon achieved results of interest to the international scientific community, such as his series of sunspots observed with the naked eye over the last twenty-two centuries (GRL, 2002).
In 2006 he obtained his first project as principal investigator and a stage of development of his research lines began. In 2009, together with Manuel Vázquez, he published the book

"The Sun Recorded Through History" in Springer, the well-known scientific publisher, highlighting the enormous interest of historical documents to know the solar activity of the last centuries, the main external force not recent weather.
Thanks to the information contained in ancient manuscripts and printed matter, he has achieved some remarkable achievements for the knowledge of various natural phenomena. Two examples can be mentioned. On the one hand, José M. Vaquero's team has managed to establish some characteristics of the Maunder minimum (the period in which hardly any sunspots were seen on the Sun from 1645 to 1715), such as the abrupt transition from normal solar activity to great minimum (Vaquero et al., 2011, Astrophys. J. Lett.) or the presence of the solar cycle during this period (Vaquero et al., 2015, Astron. Astrophys.). On the other hand, nobody thought that a "hurricane" (a tropical system) could reach the Iberian Peninsula until Hurricane Vince 2005 did (already very weakened). Was Hurricane Vince 2005 an exception? José M. Vaquero's team found a clear historical analog of the 2005 Vince that occurred in 1842 (Vaquero et al, 2008, BAMS) and others that need to be confirmed. He has also led a line of research on the climate of the last centuries in the Extremadura region. It is worth highlighting the use of documentation from the old State of Feria that has allowed the establishment of temperature and precipitation indexes since 1750 (Fernández-Fernández, 2014, 2015, 2017).
The works of José M. Vaquero (197 articles in journals indexed in the SCI) have shown to what extent it is important to rescue the ancient observations made by scientists of the past. Some of his works have led the scientific community to promote a general review of the best-known solar activity index (Sunspot Number), in collaboration with several foreign institutions, which is having important implications for solar physics, solar-terrestrial physics and geosciences.

Part C. RELEVANT MERITS

C.1. Publications (selection)

1. A. Hernández, M. Cachão, P. Sousa, R.M. Trigo, J. Luterbacher, J.M. Vaquero, M.C. Freitas (2021) "External forcing mechanisms controlling the North Atlantic coastal upwelling regime during the mid-Holocene" Geology (accepted)
2. R. Arlt, J.M. Vaquero (2020) "Historical sunspot records" Living Reviews in Solar Physics 17, 1.
3. A. Muñoz-Jaramillo, J.M. Vaquero (2019) "Visualization of the challenges and limitations of the long-term sunspot number record" Nature Astronomy (doi: 10.1038/s41550-018-0638-2)
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C.2. Research projects and grants (selection)

1. "Avances en la reconstrucción de la actividad solar". Plan Nacional de I+D+I. (AYA2008-04864/AYA). 2009-2011. IP: José M. Vaquero
2. "Caracterización del clima de la península ibérica durante el periodo 1750-1850 (Salvá-Sinobas)" (Nº de Identificación del expediente: 200800050083542). Acción Estratégica del Ministerio de Medio ambiente y Medio Rural y Marino. 2008-2011. IP: Ricardo García Herrera (coordinado) y José M. Vaquero (Equipo UEx)
3. "Recuperación y análisis de datos para el estudio del Clima Espacial en los últimos siglos" Plan Nacional de I+D+I. (AYA2011-25945). 2012-2014. IP: José M. Vaquero
4. COST Action ES1005 TOSCA - Towards a more complete assessment of the impact of solar variability on the Earth's climate. Junio 2011 - Mayo 2015. Investigadores principales (Chairs) : T. Dudok de Wit, K. Matthes. Spanish MC members: José M. Vaquero (UEx) y Gabriel Chiodo (UCM)
5. "Grandes Eventos de Máximos y Mínimos de Actividad Solar" Plan Nacional de I+D+I. (AYA2014-57556-P). 2015-2017. Investigador Principal: José M. Vaquero
6. "Caracterización del clima del pasado reciente usando archivos y bibliotecas de Extremadura" Junta de Extremadura - FEDER (IB16127). Jun 2017- Jun 2020. IP: José M.Vaquero.
7. "Recalibration of the Sunspot Number Series" International Teams in Space Science. International Space Science Institute. 2018-2019. IP: F. Clette (Belgium) and M. Owens (UK).

C.3. Contracts

1.-Title of the contract: Creation and maintenance of a network for measuring ultraviolet solar radiation in Extremadura
Funding entity: Ministry of Health and Consumption of the Junta de Extremadura
Duration: 01/01/2007 - 12/31/2007 Responsible Researcher: Antonio Serrano Pérez
Number of researchers: 6 TOTAL PRICE OF THE PROJECT: 36,000 euros

2.- Contract title: Creation and maintenance of a network for measuring ultraviolet solar radiation in Extremadura
Funding entity: Extremadura Health Service of the Junta de Extremadura
Duration: 01/01/2008 - 12/31/2008 Responsible Researcher: Antonio Serrano Pérez
Number of researchers: 6 TOTAL PRICE OF THE PROJECT: 36,000 euros

3.- Contract title: Maintenance and monitoring of the ultraviolet solar radiation measurement network in Extremadura
Funding entity: Extremadura Health Service of the Junta de Extremadura
Duration: 01/01/2009 - 12/31/2009 Responsible Researcher: Antonio Serrano Pérez
Number of researchers: 6 TOTAL PRICE OF THE PROJECT: 36,000 euros

C.4. Patents

- "Device for measuring polar coordinates of sunspots from images of the solar disk" Inventor: José Manuel Vaquero Martínez; Application No.: U201231294; Priority country: Spain; Priority date: 12/04/2012; Holder entity: University of Extremadura.
- "Monocular glasses to observe eclipses" Inventors: V.M.S. Carrasco, F.J. Alonso Romero and J.M. Cowboy; Application No.: 201531413; Priority country: Spain; Priority date: 04/03/2017; Holder entity: University of Extremadura.

C.5. Scientific Awards

- Teaching Excellence Award from the University of Extremadura 2017.
- ADENEX 2008 Award to the AIRE Research Group, of which I have been a member since its constitution.

- IV Prize "Juan Jesús Morales" to young researchers granted by the Faculty of Sciences of the University of Extremadura in 2005.
- Cover of the year 2019 of the journal "Nature Astronomy"

C.6. Evaluator and editor activities

I have been the Guest Editor of a special issue of the journal "Solar Physics" (Volume 291, Issue 9, 2016) devoted to the topic "Sunspot Number Recalibration". In addition, I have reviewed 95 manuscripts from 45 different journals. I have been an evaluator of three agencies: ANEP (5 projects and 23 CVs), DEVA (31 CVs), and the Secretary of Higher Education, Science, Technology and Innovation of Ecuador (1 project).

C.7. Organization and management of R&D activities

- Convener of the Symposium HISTORICAL GEOPHYSICAL AND ASTRONOMICAL DATA (H-GAD) celebrated in the frame of the 4th International Conference of the European Society for the History of Science (Barcelona, 18-20 November 2010).
- Chair of the Local Organizer Committee of the "VI Reunión Española de Física Solar y Heliosférica" conference, Mérida (Spain), 2017.
- Representative of the UEx in the international Consortium CREDO (Cosmic Ray Extremely Distributed Observatory).
- Member of the AGU 2020 Ambassador Award Committee.

C.8. Invited talks

I was "Invited Speaker" in several scientific meeting, including:

- Symposium Climate Extremes During Recent Millennia and their Impact on Mediterranean Societies, National and Kapodistrian, University of Athens, Academy of Athens, Athens, Greece, 14-16 September 2008.
- XIX Encontro Nacional de Astronomía e Astrofísica, Aveiro, Portugal, 15-17 Julho 2009.
- Seminario de investigação "Applied History": Climas e Sismos. Universidade de Évora, 8 de Junho de 2010.
- Symposium Space Climate 4, Goa, India, January 16-21, 2011.
- 1st Sunspot Workshop, Sunspot, New Mexico, USA, 19-22 September 2011.
- 54º Reunión de la AAA, IX Reunión anual de la SOCHIAS, San Juan, Argentina, October 3, 2011.
- IAU Symposium 286, Mendoza, Argentina, 3-7 October 2011.
- Historia de la física en España (siglo XX): balance y perspectivas, Barcelona, 1-2 de diciembre 2011.
- 2nd Sunspot Workshop, Royal Observatory of Belgium, Brussels, 21-25 May 2012.
- 3rd Sunspot Workshop, Tucson, Arizona, USA, 22-25 January 2013.
- Symposium Space Climate 5, Under the Midnight Sun, Oulu, Finland, June 15-19, 2013.
- 4th Sunspot Workshop, Locarno, Switzerland, 19-23 May 2014.
- 26th General Assembly of the International Union of Geodesy and Geophysics (IUGG), Prague, Czech Republic, June 22 – July 2, 2015.
- Symposium Space Climate 6, Levi, Finnish Lapland, 4-7 April 2016.
- XII Reunión científica de la Sociedad Española de Astronomía, Bilbao, 18-22 July 2016.
- VIII Simposio Extremeño de Estudios Clásicos, Cáceres, 5-7 october 2017.
- EGU General Assembly, Vienna, 8-13 April 2018.
- XXXth General Assembly of the International Astronomical Union, Vienna, 20-31 August 2018.
- IMDROFLOOD: International Workshop on Hydroclimatic Extremes and Impacts at Catchment to Regional Scales. Lisbon, 18 June 2019.
- "XXXVII Reunión Bienal de la Real Sociedad Española de Física. Zaragoza, 15-19 July 2019.
- 4th Dynamo Thinkshop. Department of Physics of the Università degli Studi di Roma Tor Vergata, Italy. 25 - 26 November, 2019.