

CURRICULUM VITAE (CVA)

Part A. PERSONAL INFORMATION

CV date	10/02/2025
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First name	Ana		
Family name	González Marcos		
Gender (*)	Female	Birth date (dd/mm/yyyy)	
Social Security, Passport, ID number			
e-mail		URL Web:	
Open Research and Contributor ID (ORCID)		0000-0003-4684-659X	

A.1. Current position

Position	Catedrática de Universidad		
Initial date	28/10/2024		
Institution	Universidad de La Rioja		
Department/Center	Ingeniería Mecánica		
Country	Spain	Teleph. number	
Key words	Machine Learning, Artificial Intelligence, Quantum Computing, Plasma Applications		

A.2. Previous positions (research activity interruptions, art. 45.2.b))

Period	Position/Institution/Country/Interruption cause
2011-2024	Titular de Universidad / Universidad de La Rioja / Spain
2010-2011	Profesora Contratado Doctor / Universidad de La Rioja / Spain
2007-2010	Ayudante Doctor / Universidad de La Rioja / Spain
2007	Profesora interina / Universidad de La Rioja / Spain
2003-2007	Ayudante / Universidad de León / Spain
2002-2003	Beca FPU del MECED / Universidad de La Rioja / Spain

A.3. Education

PhD, Licensed, Graduate	University/Country	Year
Industrial Engineering	Universidad de La Rioja / Spain	2001
Ph.D.	Universidad de La Rioja / Spain	2006

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

Ana González-Marcos is the head of the "Projects, Plasma, and Machine Learning" research group at the University of La Rioja. With three six-year research periods (the last one awarded in 2020), her research activity is mainly focused on two areas: data science and cold atmospheric plasma applications. Therefore, her main scientific contributions are linked to applications of machine learning and artificial intelligence in various fields (industrial processes, astrophysics, higher education, etc.) and applications of cold atmospheric plasma in different fields (industrial, food, biomedical). Her main merits and contributions include:

Scientific Contributions:

- Co-author of more than 60 indexed scientific publications.
- Co-author of more than 80 presentations at international scientific congresses.
- Principal Investigator (PI) in national projects (PID2019-105367RB-C21, PDC2022-133242-I00) and regional projects.
- Participation in 4 European projects (RFS-CR-03012, RFS-CR-04023, RFSR-CT-2008-00034, NoPest -FETOPEN-) and 6 national projects (RTC-2017-6552, AYA2014-55216, AYA2011-24052, DPI2007-61090, DPI2004-07264-C02-01, DPI2001-1408).
- Visiting researcher at international universities for a total of 13 months, including McGill University (Canada), Helsinki University of Technology (Finland), University of Massachusetts (USA), and Stockholm University (Sweden).

Contributions to the Society:

- Co-inventor of 7 patents (ES2720026, ES2424568, ES2336185, ES2325349, ES2326769, ES2247919, ES2246651): 4 with prior examination (B2), 2 licensed, and 1 triadic (granted in Japan, JP5976962; USA, US10322557; and EU, EP2949440).
- Principal Investigator (PI) and participant in OTRI contracts with companies from various sectors, including industrial and food industries.

Contributions to the Training of Young Researchers:

- Supervised theses over the last 10 years: 15
- Provided guidance to postdoctoral personnel: 1
- Mentored personnel in training (FPI): 1
- Mentored collaboration grants for students in university departments and grants for research initiation: 7

Other Relevant Contributions:

- 2 awards for research papers presented at congresses (2005 and 2021).
- 2 research awards in the categories of knowledge transfer (2008) and innovation (2010).
- 1 teaching innovation award (2013).
- Extraordinary doctoral award (2008).
- End-of-degree awards for the best academy record in the promotion: Industrial Technical Engineering (1999) and Industrial Engineering (2002).
- Reviewer for international indexed journals since 2006.
- Member of technical committees for 4 international congresses: *International Conference on Data Analytics (DATA ANALYTICS)* (2018 – present), *International Conference on Big Data, Small Data, Linked Data and Open Data (ALLDATA)* (2018 – 2019), *International Conference on Advances in Databases, Knowledge, and Data Applications (DBKDA)* (2019 – present), *International Symposium on Computer Supported Education (CSEDU)* (2014 – present).

Part C. RELEVANT MERITS

C.1. Most important publications in journals with "peer review".

1. Rocío del Campo-Pedrosa, Alfonso Martín-Carnicero, Ana González-Marcos, Alfredo Martínez (2024). New model to predict survival in advanced pancreatic ductal adenocarcinoma patients by measuring GGT and LDH levels and monocyte count. **Frontiers in Oncology**, 14:1411096. <https://doi.org/10.3389/fonc.2024.1411096>
2. I. López-Alfaro, R. Escribano-Viana, A. González-Marcos, A. Sainz-García, R. Múgica-Vidal, I. Muro-Fraguas, F. Alba-Elías, E. Sainz-García, P. Santamaría, C. Olarte, L. González-Arenzana (2024). Wine quality implications of the treatment of oak wood with Plasma Activated Water (PAW): a preliminary study. **LWT – Food Science and Technology**, 116494. <https://doi.org/10.1016/j.lwt.2024.116494>
3. P. Mas-Buitrago, A. González-Marcos, E. Solano, V. M. Passegger, M. Cortés-Contreras, J. Ordieres-Meré, A. Bello-García, J. A. Caballero, A. Schweitzer, H. M. Tabernero, D. Montes, C. Cifuentes (2024). Using autoencoders and deep transfer learning to determine the stellar parameters of 286 CARMENES M dwarfs. **Astronomy & Astrophysics**, 687, A205. <https://doi.org/10.1051/0004-6361/202449865>
4. Ana Sainz-García, Ana González-Marcos, Ignacio Muro-Fraguas, Rodolfo Múgica-Vidal, Félix Gallarta-González, Lucía González-Arenzana, Isabel López-Alfaro, Pilar Santamaría, Rocío Escribano-Viana, Fernando Alba-Elías, Elisa Sainz-García (2024). Plasma activated water for wine barrels disinfection. **LWT – Food Science and Technology**, 198, 116024. <https://doi.org/10.1016/j.lwt.2024.116024>
5. A. Bello-García, V. M. Passegger, J. Ordieres-Meré, A. Schweitzer, J. A. Caballero, A. González-Marcos, I. Ribas, A. Reiners, A. Quirrenbach, P. J. Amado, et al. (6/20) (2023). The CARMENES search for exoplanets around M dwarfs. A deep transfer learning method to determine Teff and [M/H] of target stars. **Astronomy & Astrophysics**, 673, A105. <https://doi.org/10.1051/0004-6361/202243934>

6. Ana Sainz-García, Ana González-Marcos, Rodolfo Múgica-Vidal, Ignacio Muro-Fraguas, Félix Gallarta-González, Lucía González-Arenzana, Isabel López-Alfaro, Pilar Santamaría, Rocío Escribano-Viana, Elisa Sainz-García, Fernando Alba-Elías (2023). Wine corks decontamination using plasma activated water. **Current Research in Food Science**, 7, 100639. <https://doi.org/10.1016/j.crfs.2023.100639>
7. Mihaela Colhon; Monica Tilea; Ana Gonzalez-Marcos; Alina Resceanu; Florentin Smarandache; Fermin Navaridas-Nalda (2023). A neutrosophic decision-making model for determining young people's active engagement. **International Journal of Information Technology & Decision Making**, 2350038. <https://doi.org/10.1142/S0219622023500384>
8. F. Navaridas-Nalda, A. González-Marcos, E. Raya-Díez, A. María Vega-Gutiérrez (2023). Mindchanger identification, analysis and recognition: youth perceptions. **International Journal of Adolescence and Youth**, 28:1. DOI: [10.1080/02673843.2023.2281415](https://doi.org/10.1080/02673843.2023.2281415)
9. P. Mas-Buitrago, E. Solano, A. González-Marcos, C. Rodrigo, E. L. Martín, J. A. Caballero, F. Jiménez-Esteban, P. Cruz, A. Ederoclite, J. Ordieres-Meré, A. Bello-García, et al. (3/23) (2022). J-PLUS: Discovery and characterisation of ultracool dwarfs using Virtual Observatory tools. II. Second data release and machine learning methodology. **Astronomy & Astrophysics**, 666, A147. <https://doi.org/10.1051/0004-6361/202243895>
10. Javier Villaba-Diez; Ana González-Marcos; Joaquín Ordieres-Meré (2022). Quantum cyber-physical systems. **Scientific Reports**, 12, 7964. <https://doi.org/10.1038/s41598-022-11691-x>
11. J. Villaba-Diez; A. González-Marcos; J. Ordieres-Meré (2022). Improvement of Quantum Approximate Optimization Algorithm for Max–Cut Problems. **Sensors**, 22, 244. <https://doi.org/10.3390/s22010244>
12. Javier Villalba-Diez, Juan Carlos Losada, Rosa María Benito, Ana González-Marcos (2021). Industry 4.0 Quantum Strategic Organizational Design Configurations. The Case of 3 Qubits: One Reports to Two. **Entropy**, 23(3), 374. <https://doi.org/10.3390/e23030374>
13. Ana Sainz-García, Ana González-Marcos, Rodolfo Múgica-Vidal, Elisa Sainz-García (2/9) (2021). Application of atmospheric pressure cold plasma to sanitize oak wine barrels. **LWT – Food Science and Technology**, 139: 110509. <https://doi.org/10.1016/j.lwt.2020.110509>
14. V. M. Passegger, A. Bello-García, J. Ordieres-Meré, J. A. Caballero, A. Schweitzer, A. González-Marcos, I. Ribas, A. Reiners, A. Quirrenbach, P. J. Amado, et al. (6/29) (2020). The CARMENES search for exoplanets around M dwarfs. A deep learning approach to determine fundamental parameters of target stars. **Astronomy & Astrophysics**. 642, A22. <https://doi.org/10.1051/0004-6361/202038787>
15. Cristina Ramírez-Aragón, Fernando Alba-Elías, Ana González-Marcos, Joaquín Ordieres-Meré (2020). Improving the feeder shoe design of an eccentric tablet press machine. **Powder Technology**, 372, 542 – 562. <https://doi.org/10.1016/j.powtec.2020.05.104>
16. L. M. Sarro, J. Ordieres-Meré, A. Bello-García, A. González-Marcos, E. Solano (2018). Estimates of the atmospheric parameters of M-type stars: A machine-learning perspective. **Monthly Notices of the Royal Astronomical Society**, 476, 1120–1139. <https://doi.org/10.1093/mnras/sty165>
17. Cristina Ramírez-Aragón; Fernando Alba-Elías; Ana González-Marcos; Joaquín Ordieres-Meré (2018). Segregation in the tank of a rotary tablet press machine using experimental and discrete element methods. **Powder Technology**, 328, 452 – 469. <https://doi.org/10.1016/j.powtec.2018.01.054>
18. A. González-Marcos, L. M. Sarro, J. Ordieres-Meré, A. Bello-García (2017). Evaluation of data compression techniques for the inference of stellar atmospheric parameters from high-resolution spectra. **Monthly Notices of the Royal Astronomical Society**, 465, 4556–4571. <https://doi.org/10.1093/mnras/stw3031>
19. Gaia Collaboration, A.G.A. Brown, A. Vallenari, T. Prusti, J. de Bruijne, F. Mignard, R. Drimmel, et al. (590/254) (2016). Gaia Data Release 1. Summary of the astrometric, photometric, and survey properties. **Astronomy & Astrophysics**. 595, A2. <https://doi.org/10.1051/0004-6361/201629512>

20. Gaia Collaboration, T. Prusti, J. H. J. de Bruijne, A. G. A. Brown, A. Vallenari, C. Babusiaux, et al. (624/262) (2016). The Gaia mission. *Astronomy & Astrophysics*. 595, A1. <https://doi.org/10.1051/0004-6361/201629272>

C.2. Congress.

1. Pedro Mas Buitrago; Ana González-Marcos, Enrique Solano. Using a sparse autoencoder and deep transfer learning to estimate the effective temperature of 286 CARMENES survey M dwarfs. European Astronomical Society Annual Meeting (EAS23). 2023. Online. Poster. Conference.
2. Javier Villalba-Díez; Joaquín Ordieres-Meré; Ana González-Marcos; Aintzane Soto Larzabal. Quantum Deep Learning for Steel Industry Computer Vision Quality Control. 14th IFAC Workshop on Intelligent Manufacturing Systems IMS 2022, International Federation of Automatic Control (IFAC). 2022. Israel. Participatory – oral communication. Conference.

C.3. Projects or research lines in which you have participated.

3. **Project**. Prototipo industrial generador de paw para la descontaminación de materiales de la industria enológica (Ref.: **PDC2022-133242-I00**) Ministerio de Ciencia e Innovación. Prueba de concepto. ANA GONZÁLEZ MARCOS, ISABEL LÓPEZ ALFARO (Universidad de La Rioja). 01/12/2022-30/11/2024. 149.500€.
4. **Project**. Optimización de la tecnología del plasma atmosférico frío (APCP) para reducir los microorganismos causantes del deterioro del vino en contacto con la madera de roble (PlasmaWOW) (Ref.: **PID2019-105367RB-C21**) MINECO. RETOS. ANA GONZÁLEZ MARCOS, ISABEL LÓPEZ ALFARO (Universidad de La Rioja). 01/06/2020-29/02/2024. 145.200€
5. **Project**. Novel Pesticides for a Sustainable Agriculture (NoPest) (Grant ID: **828940**). H2020-EU.1.2.1. - FET Open. European Commission. MANUEL JAVIER TARDÁGUILA LASO (Universidad de La Rioja). 2019-2023. 432.481,25 €.
6. **Project**. Nueva Tecnología de PAW para la Investigación de la Estabilización de Vegetales (NEW-PAWER) (Ref.: **RTC-2017-6552-2**). MINECO. RETOS Colaboración. FERNANDO ALBA ELÍAS (Universidad de La Rioja). 2018-2021. 184.505,80€.
7. **Project**. El Observatorio Virtual Español. Explotación científico-técnica de archivos astronómicos (Ref.: **AYA2014-55216**). Ministerio de Economía y Competitividad. ENRIQUE SOLANO MÁRQUEZ (Instituto Nacional de Técnica Aeroespacial Esteban Terradas MDE (INTA)). 01/01/2015 - 31/12/2017. 72.600 €.

C.4. Participation in technology/knowledge transfer activities and exploitation of results.

1. **Patent of invention**. Método de tratamiento con agua activada por plasma de materiales auxiliares de origen forestal para la conservación del vino y uso del agua activada por plasma. Inventors: Elisa Sainz-García, Lucía González-Arenzana, Ana Sainz-García, Isabel López-Alfaro, Rodolfo Múgica-Vidal, Ana Rosa Gutiérrez, Ignacio Muro-Fraguas, Rocío Escribano-Viana, Ana González-Marcos, Fernando Alba-Elías. Applicants: Universidad de La Rioja. Spain: **ES2958166B2** (2024). PRE-EXAM procedure.
2. **Patent of invention**. Recubrimiento PRO-biofilm, método para su producción y sustrato recubierto por el mismo. Inventors: Yolanda Sáenz Domínguez, Fernando Alba Elías, María López Martínez, Elisa Sainz García, Carmen Lozano Fernández, Rodolfo Múgica Vidal, Beatriz Rojo Bezares, Ana González Marcos, Paula Toledano Regalado, Ignacio Muro Fraguas. Applicants: Universidad de La Rioja (50%) and Fundación Rioja Salud (50%). **ES2720026B2** (2020), Japan: **JP007538809B2** (2024). PRE-EXAM procedure.
3. **Patent of invention**. Carro alimentador para máquina compresora y uso del mismo (Triadic Patent). Inventors: Fernando Alba Elías, Laura Martínez Martínez, Ana González Marcos, Joaquín Ordieres Meré. Applicants: Universidad de La Rioja (65%) and UPM (35%). Spain: **ES2424568B2** (2014), Japan: **JP5976962B2** (2016), USA: **US10322557B2** (2019) and EU: **EP2949440A4** (2020). PRE-EXAM procedure.