



CURRICULUM VITAE (CVA)

IMPORTANT – The Curriculum Vitae cannot exceed 4 pages. Instructions to fill this document are available in the website.

Part A. PERSONAL INFORMATION

CV date 24/01/2025

First name	MARÍA-ISABEL		
Family name	GONZÁLEZ-SISO		
Gender (*)	FEMALE	Birth date (dd/mm/yyyy)	
Social Security, Passport, ID number			
e-mail		URL Web	https://pdi.udc.es/es/File/Pdi/EW69E
Open Researcher and Contributor ID (ORCID) (*)	0000-0001-9538-4841		

(*) Mandatory

A.1. Current position

Position	Full Professor of Biochemistry and Molecular Biology		
Initial date	28/12/2010		
Institution	University of A Coruña (UDC)		
Department/Center	Department of Biology/ Science Faculty	CICA (Interdisciplinary Center for Chemistry and Biology)	
Country	Spain	Teleph. number	881012056
Key words	Protein expression and engineering, thermozyme, metagenomics, microbiome, prebiotic oligosaccharides		

A.2. Previous positions (research activity interruptions, art. 14.2.b))

Period	Position/Institution/Country/Interruption cause
	Research fellow Diputación A Coruña/ University of Santiago de Compostela, Pharmacy Faculty/ Spain
	Predoc fellow Caixa Vigo/ Marine Research Institute, CSIC/ Spain
	Predoc fellow FPI (Ministry of Education and Science) / Marine Research Institute-CSIC/ Spain
	Postdoc fellow Caixa Vigo/ Marine Research Institute, CSIC/ Spain
	Postdoctoral fellow CSIC/ Marine Research Institute, CSIC/ Spain
	Assistant Professor/University of A Coruña, Science Faculty/ Spain
	Associate Lecturer/ University of A Coruña, Science Faculty/ Spain
	Lecturer/ University of A Coruña, Science Faculty/ Spain
	Senior Lecturer/ University of A Coruña, Science Faculty / Spain

A.3. Education

PhD, Licensed, Graduate	University/Country	Year
Licensed, Biology	University of Santiago de Compostela / Spain	
PhD, Biology	University of Santiago de Compostela / Spain	

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

Dr. González-Siso defended her PhD in July 1989 obtaining the maximum qualification *cum laude*, then she was postdoc at the CSIC until her incorporation at the University of A Coruña (UDC) in November 1990. She did research stays at INSA (Toulouse, France) as predoc, UMIST (Manchester, UK) and CNRS (Orsay, France) as postdoc. At present she continues at the UDC, being Full Professor of Biochemistry and Molecular Biology.

Scientific contributions: Since her incorporation to the UDC, from 1990 to now, Dr. González-Siso has been actively collaborating in the basic research line about transcriptional regulation of the EXPRELA group, and she has been the responsible of the biotechnological

line from its beginning, focused on the valuation of food industry subproducts and enzymatic biotechnology, and that has been evolving in parallel to the inclusion of the techniques of metabolic and protein engineering, and the “omics”, until her main interests became centered in metagenomics of thermophiles and recombinant protein production, with the aim to develop novel thermostable enzymes. During the most recent period, she is focused on prebiotics, microbiome and obesity. She has got 5/5 6-year term (research) positively evaluated (last year 2018), all the possible.

Dr. González-Siso has uninterruptedly participated, being PI in a part of them, in more than 40 research projects funded by the Spanish ministry, the Galician agency or the European Union. Within the framework of a European project that she was PI, she was visiting researcher (2015-2016) in three companies: DropTech (UK) about microfluidics for screening metagenomic and directed evolution libraries, Galchimia (Spain) about biocatalysis in organic chemistry, and Novozymes (Denmark) about industrial production and applications of enzymes. Dr. González-Siso maintains collaborations with researchers from Brazil, Portugal, USA, Algeria, etc. as can be seen in her publications. She has supervised visiting predocs and postdocs from some of these countries.

Being author or co-author of 24 book chapters (international editorials), 2 books, 122 articles in JCR journals, and more than 150 congress communications, including invited lectures and member of scientific committees, Dr. González-Siso is included in the Stanford's rank (PLoS Biol 2019 17(8): e3000384; <https://acortar.link/J3vPfE>) **among the 2% of most cited scientific authors in the world.**

Contributions to society: Dr. González-Siso has been active in applied research and transfer to enterprises, being coauthor of 10 patents (one of them licensed for industrial exploitation) and having participated in 7 research contracts with private companies, being PI in two of them. She has got the 1/1 6-year term (transference) positively evaluated.

Moreover, she is active in scientific dissemination to the socio-economic environment, participating in specialized forums with enterprises and transfer events, and collaborating with the Scientific Dissemination Units of the UDC and the CICA-Interdisciplinary Center for Chemistry and Biology. Since 2019, she tutors projects of Service-Learning, an educational modality that combines learning processes with community services, and she has participated in the CIRCLE LAB project of the Erasmus+ call of the European Union (2020-23); she is participating in the Incrust@te project funded by FECYT.

Contributions to training, editorial and evaluation: Dr. González-Siso has supervised 11 doctoral thesis (4 extraordinary awards, seven international) with >5 published JCR- articles per PhD student. The doctors she has trained have now varied jobs, as university professors (PIs), in pharmaceutical and food companies, hospitals, biomedical research institutes, and secondary school teaching. Co-supervisor of a MSCA fellow (2022-24).

Regarding evaluation activities, she has been reviewer of manuscripts for more than 50 JCR-journals, referee of research projects for national and international agencies, jury of PhD thesis in national and international universities, jury in competitions for researcher and university professor positions (national and international), etc. Since 2021, she is member of the ANECA committee of the University Teaching Staff Evaluation Program for hiring, since 2024 of the ACSUG committee for academic research groups evaluation.

Dr. González-Siso has been editor of 4 books, she is member of the editorial board of Scientific Reports (Nature), Microorganisms (MDPI) and Frontiers in Microbiology (Frontiers), having edited one collection and three thematic issues.

Other contributions: She has held research management positions such as Manager of the Food Technology Sector Program (Dirección Xeral de I+D+I da Xunta de Galicia) (03/10/2011 to 01/01/2014), Secretary of the Cell and Molecular Biology Department of the University of A Coruña (25/02/2010 to 05/04/2017) and, from 20/11/2019 to present, Deputy Director of the CICA, Research Center of the University of A Coruña.

Part C. RELEVANT MERITS (*sorted by typology*)

C.1. Publications (*maximum 10 in the last 10 years*)

1. Adjerdoud, M., Kecha, M., Escuder-Rodríguez, JJ., Becerra, M. & **González-Siso, MI.** (CA). AMWEst, a new thermostable and detergent-tolerant esterase retrieved from the Albian aquifer. Applied Microbiology and Biotechnology 108, 1–17 (2024).

2. Goh, K.M., **González-Siso, M.I.** & Sani, R.K. Genomics of extreme environments: unveiling the secrets of survival. *Scientific Reports* 13, 21441 (2023).
3. Almudena Saavedra-Bouza, Juan-José Escuder-Rodríguez, María-Eugenia deCastro, Manuel Becerra, **María-Isabel González-Siso (CA)**, Xylanases from thermophilic archaea: a hidden treasure, *Current Research in Biotechnology*, 2023, 5: 100116
4. Escuder-Rodríguez J-J, DeCastro M-E, Saavedra-Bouza A, Becerra M, **González-Siso M-I. (CA)**. Insights on Microbial Communities Inhabiting Non-Volcanic Hot Springs. *International Journal of Molecular Sciences*. 2022; 23(20):12241
5. Juan-José Escuder-Rodríguez, María González-Suarez, María-Eugenia deCastro, Almudena Saavedra-Bouza, Manuel Becerra and **María-Isabel González-Siso (CA)**. Characterization of a novel thermophilic metagenomic GH5 endoglucanase heterologously expressed in *Escherichia coli* and *Saccharomyces cerevisiae*. *Biotechnology for Biofuels and Bioproducts* (2022) 15:76.
6. Escuder-Rodríguez, J.-J.; DeCastro, M.-E.; Saavedra-Bouza, A.; **González-Siso, M.-I. (CA)**; Becerra, M. Bioprospecting for Thermozyms and Characterization of a Novel Lipolytic Thermozyse Belonging to the SGNH/GDSL Family of Hydrolases. *International Journal of Molecular Sciences* 2022, 23, 5733
7. DeCastro M-E, Escuder-Rodríguez J-J, Becerra M, Rodríguez-Belmonte E, **González-Siso M-I (CA)** (2021) Comparative Metagenomic Analysis of Two Hot Springs from Ourense (Northwestern Spain) and Others Worldwide. *Frontiers in Microbiology* 12: 769065. doi: 10.3389/fmicb.2021.769065
8. V Miguel-Ruano, I Rivera, J Rajkovic, ..., **M-I González-Siso** (12/15), ..., JA Hermoso. Biochemical and Structural Characterization of a novel thermophilic esterase EstD11 provide catalytic insights for the HSL family. *Computational and Structural Biotechnology Journal*, 19: 1214-1232 (2021)
9. M-E DeCastro, MP Doane, EA Dinsdale, E Rodríguez-Belmonte, **M-I González-Siso (CA)**. Exploring the taxonomical and functional profile of As Burgas hot spring focusing on thermostable β -galactosidases. *Scientific Reports* 11: 101 (2021)
10. M-E Álvarez-Cao, ME Cerdán, **M-I González-Siso (CA)**, M Becerra. Optimization of *Saccharomyces cerevisiae* α -galactosidase production and application in the degradation of raffinose family oligosaccharides. *Microbial Cell Factories* 18(1): 172 (2019)

C.2. Congress

In the last 10 years, more than 30 posters, more than 10 oral communications, twice chair of session, plenary and keynote conferences, and member of scientific committee in 4 international congresses. One poster received the BBVA-SEBBM Foundation Young Researchers Award in 2024.

Keynote conference: Bioprospection and heterologous expression of thermophilic xylanases for prebiotics production. In First International Conference on Applied Microbiology and Biotechnology (ICAMB-2024). University of Bejaia (Algeria), 16 and 17 October 2024.

Keynote conference: Discovery of novel thermostable enzymes for food biotechnology. In WAIBIA 2021. 1st International Webinar on Innovative Applications of Biotechnology in the Food Industry: From the Laboratory to the Enterprise. 1-2/12/2021.

Plenary conference: Metagenomics of hot springs in Galicia (Spain): Microbial diversity and novel thermozyms. In 1st International Symposium of Extremophilic Prokaryotes: from diversity to Biotechnology (ISEP-2019), Tlemcem (Algeria). 23-24/11/2019.

C.3. Research projects (ONGOING)

1. Reference: PID2021-126194OB-C22. Title: MARINE MACROALGAE AS EMERGING SOURCES OF XYLOOLIGOSACCHARIDES AND STUDY OF THEIR PREBIOTIC EFFECTS (BLUE-XOS). Funding: MINISTERIO DE CIENCIA E INNOVACIÓN. Amount of subsidy: 93.170,00 €. PIs: **M^a Isabel González Siso** & Manuel Becerra. Affiliation: Universidade da Coruña. Dates: 01/09/2022 to 31/08/2025.
2. Reference: PDC2022-133820-I00. Title: SCALING AND VALORIZATION OF THE PROCESS DEVELOPED WITHIN THE PRODIXOS PROJECT FOR THE ENZYMATIC

GENERATION OF XOS FROM WHEAT STRAW FOR FOOD APPLICATIONS (BIG-PRODIXOS). Funding: MINISTERIO DE CIENCIA E INNOVACIÓN. PROJECTS «PROOF OF CONCEPT». Amount of subsidy: 146.395,00 €. PIS: M^a Luisa Rúa (UVigo) & **M^a Isabel González Siso** (UDC). Affiliation: Universidade de Vigo and Universidade da Coruña. Dates: 01-01-2023 to 30-06-2025.

3. Reference: PLEC2023-010301. Title: New nanomaterials promoted through artificial intelligence and industrial biotechnology (NanomatlA). Funding: Proyectos Líneas Estratégicas, en el marco de la iniciativa Tansmisiones. PI: Manuel Becerra (UDC). Amount of subsidy: 219.087,5 €. Affiliation: Universidade da Coruña. 8 other entities participate, including 4 private companies. Dates: 01/01/2024 to 31/12/2027.

4. Reference: FEADER 2024/027B. Title: Refreshing vegetable drinks based on hops and aromatic species (Hop&Bot). Funding: Ayudas para la ejecución de proyectos de los grupos operativos de la asociación Europea de Innovación (AEI) (MR331B). Axencia Galega da Calidade Alimentaria. Xunta de Galicia. PI: Manuel Becerra (UDC). Amount of subsidy: 22200 €. Affiliation: Universidade da Coruña. 4 other entities participate, 3 private companies (Food sector) and one Foundation. Dates: 1/3/2024 to 31/07/ 2026

C.4. Contracts, technological or transfer merits (last 10 years)

1. Agreement Title: Estudio de la capacidad de multiplicación de diferentes variedades de levadura empleando bagazo cervecero como sustrato. Funding Company: Hijos de Rivera, S.A.U. Affiliation: Universidade da Coruña. PI: M Becerra. Amount of funding: 14.520 €. Dates: 1/12/2021 to 31/12/2022

2. Agreement Title: Empleo de modelos matemáticos en productos nutracéuticos a base de té y lúpulo (EXP n° FEADER 2021/026A). Funding Administration: Axencia Galega da Calidade Alimentaria. Affiliation: Universidade da Coruña, Estación Fitopatológica de Areeiro, Orballo, S. L, Lúpulo, S. C. G and Glecex S. L. PI: M Becerra (UDC partner). Amount of Funding: 187.075 € (23.292,5 € UDC partner). Dates: 1/04/2021 to 31/07/2023

1. Patent title: BETA-GALACTOSIDASA Y USOS DE LA MISMA. Authors: M-E DeCastro, **M-I González-Siso**, E Rodríguez-Belmonte, M Becerra, ME Cerdán.

Reference: P5349ES00. Date: 05/11/2020 (Priority). Holder entity: Universidade da Coruña.

2. Patent title: *THERMUS THERMOPHILUS* THERMOPHILIC ESTERASE. Authors: **M-I GONZÁLEZ-SISO**, M. E. CERDÁN, O. LÓPEZ-LÓPEZ, M. L. RÚA, L. PASTRANA, J. P. FUCIÑOS. Reference: ES2347398B1. Date awarded: 11-6-2008. Holder entities:

Universidade da Coruña (60%) and Universidade de Vigo (40%). International extension: PCT/ES2009/070215 (10/06/2009). Industrial exploitation: **License contract** (signed 2011) to Proteos Biotech S.L. (royalties 20.000€ received so far)

C.5. Other merits

The Research Group EXPRELA is accredited and financed as Competitive Reference Research Group by the Xunta de Galicia
(https://www.xunta.gal/dog/Publicados/2024/20240730/AnuncioG0761-190724-0001_es.html).

The Research Center CICA is accredited and financed as Excellence Research Center of the Galician University System (Rede CIGUS)
(https://www.xunta.gal/dog/Publicados/2024/20240430/AnuncioG0761-190424-0002_es.html).