

CURRICULUM VITAE ABREVIADO (CVA)

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

Part A. PERSONAL INFORMATION

First name	José Manuel		
Family name	Fernández Babarro		
Gender (*)	male	Birth date	(20/06/1968)
Social Security, Passport, ID number	NIF. 34974325L		
e-mail	jbabarro@iim.csic.es	URL Web	https://www.iim.csic.es
Open Researcher and Contributor ID (ORCID) (*)	0000-0001-6352-1944		

(*) Mandatory

A.1. Current position

Position	Senior Scientist		
Initial date	July 2007		
Institution	CSIC		
Department/Center	Biotechnology and Aquaculture	Marine Research Institute IIM-CSIC	
Country	Spain	Teleph. number	605474002
Key words	Bivalve Molluscs; Ecophysiology; Global Change; Biomaterials		

A.2. Previous positions (research activity interruptions, indicate total months)

Period	Position/Institution/Country/Interruption cause
2007-present	Senior Scientist at IIM-CSIC
2002-2007	Postdoctoral contracts (I3P and Ramón y Cajal) at IIM-CSIC
1999-2002	Postdoctoral Fellowship (Spanish Government) for The Netherlands (NIOO-CEMO, Netherlands Institute of Ecology)
1993-1998	Research Fellowship (Diputación de Pontevedra) and the Doctoral Thesis project

A.3. Education

PhD, Licensed, Graduate	University/Country	Year
Biological Sciences Bachelor	University of Santiago de Compostela	1991
Ph.D. in Biological Sciences	University of Santiago de Compostela	1998

(Include all the necessary rows)

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

Scientific background. I defended my Ph.D. Thesis in December 1998 on the energetic physiology of two mussel seeds originating from very different habitats and commonly used by farmers for mussel cultivation in Galicia (NW Spain). The ecophysiological aspects investigated for both mussel seed in Galicia represented a significant advance for the understanding of the metabolic processes that the organisms carry out in their natural environment of cultivation. Such a basic knowledge acquired during the thesis would be crucial for the present project proposal since established the importance of the ecological memory of very different mussels' populations to be cultivated under raft system, a baseline of knowledge to be used for exploring the actual impact of climate change scenario and new labour actions carried out by the farmers actually. These tasks allowed me to establish continue interaction with the aquaculture sector in Galicia through consecutive actions/projects always with the



focus of mussel performance under cultivation or laboratory-programmed scenarios. During the postdoctoral stays in the Netherlands and considering the impact of new environmental scenarios associated with ecosystem eutrophication, I have delved into the set of responses that marine organisms activate in stress situations to enhance their survival capacity. These research tasks led to a significant series of publications in high-impact journals, of great interest to the sector regarding the resilience of populations in the face of environmental hypoxia/anoxia scenarios. More recently, in collaboration with a network of researchers, especially in North America (USA and Canada), I have also delved into how the climate change scenario puts pressure on the protective structures of the shell and byssal filaments, which are primary structures for the life cycle of organisms and their own cultivation. All research actions developed personally have been funded by different research agencies with a total volume of 1.4 10⁶ € (source: CSIC Intranet). Besides, I have participated in numerous international projects, as member of the working team, led by foreign researchers through which I have been able to expand my expertise in technologies and methods relevant to my actual research lines.

General indicators:

- Web of Science: 60 publications (Scopus) / citations: 1209 / H-index: 22
- Research Gate: 71 documents / 1520 citations / H-index: 24

Contributions to society.

Most of the activities developed for the interests of the society or general public are focused on the production sector in Galicia and associated sectors. This fact is endorsed with the prolonged interaction with main actors of the sector (mussel producers in rafts, Consello Regulador do Mexillón de Galicia, OPMEGA etc.) that justifies the importance of the projects developed. Specific talks-colloquia have been carried out together with the sector for the dissemination of the knowledge generated, especially on the importance of global change for the impact on organisms and their resilience in the Rías Baixas ecosystem. For the general public, I am regular disseminator of scientific information in primary and high schools of Galicia through programs like Exper-i-Ciencia (CSIC), Faro na Escola etc.

Contributions to the training of young researchers.

The research actions have allowed to supervise and guide:

- 1 Doctoral Thesis co-directed with the University of Carthage in Tunisia through ICOOP Program (CSIC).
- 1 Doctoral Thesis in course within ThinkInAzul-Planes Complementarios of Galicia Project.
- Supervision of 5 Master Thesis (TFMs).
- Supervision of foreign students associated to GAME project through GEOMAR action (Germany) for exchanging Germany-Spain collaborators
- Supervision of student from The University of Plymouth and University of Vigo

Other activities.

I am a regular evaluator of projects for the National Plan of the State Research Agency, ANEP and other international funding sources such as FONDECYT. I participate, as an invited member, in the development of the activities of the RAQ platform for the study of aquatic resources through the University of Rimouski (Quebec, Canada) <http://raq.uqar.ca/fr/>. Member of the Working Group as representative of CSIC in the cluster "Integral Management of the coastal zone" of the Campus do Mar. November 2012-March 2013. Head of the Biotechnology and Aquaculture Department of the Marine Research Institute IIM-CSIC from September 2011 to September 2015. Deputy Director of Organization of IIM-CSIC from July 2021 to December 2023.

Part C. RELEVANT MERITS

C.1. Publications (see instructions)

1. JMF Babarro, A Velo, LG Peteiro, S Darriba, D Broullón, FF Pérez 2023. Taphonomy and dissolution rates of the razor clam *Ensis magnus* shells: Current status and projected acidification scenarios. *Estuarine Coastal and Shelf Science* 289.
2. R Lavaud, G Durier, JB Nadalini, R Filfueira, LA Comeau, JMF Babarro, S Michaud, M Scarratt, R Tremblay (2021) Effects of the toxic dinoflagellate *Alexandrium catenella* on the behaviour and physiology of the blue mussel *Mytilus edulis*. *Harmful Algae*, 2021, 108, 102097



3. JMF Babarro, R Filgueira, XA Padín, MA Longa Portabales (2020) A Novel Index of the Performance of *Mytilus galloprovincialis* to Improve Commercial Exploitation in Aquaculture. *Frontiers in Marine Science* 7: 719
4. JMF Babarro, Padin XA, Filgueira R, El Morabet H, Longa Portabales A, (2019) The impact of the sea anemone *Actinotroa sphyrodeta* on *Mytilus galloprovincialis* mussel cultivation (Galicia, Spain). *Biofouling* 34(10):1-12.
5. JMF Babarro, MJ Abad, I Gestoso, E Silva, C Olabarria, (2018) Susceptibility of two co-existing mytilid species to simulated predation under projected climate change conditions. *Hydrobiologia* 807(1), pp. 247–261.
6. JMF Babarro, E Vázquez, C Olabarria (2016) Importance of phenotypic plastic traits on invasion success: Response of *Xenostrobus securis* to the predatory dogwhelk *Nucella lapillus*. *Marine Ecology Progress Series*, 2016, 560, pp. 185–198
7. AJ Martín-Rodríguez, JMF Babarro, F Lahoz, M Sansón, VS Martín, M Norte, JJ Fernández (2015) From broad-spectrum biocides to quorum sensing disruptors and mussel repellents: Antifouling profile of alkyl triphenylphosphonium salts. *PLoS ONE*, 2015, 10(4), e0123652
8. JMF Babarro, LA Comeau (2014) Byssus attachment strength of two mytilids in mono-specific and mixed-species mussel beds. *Biofouling* 30(8), pp. 975–985
9. JMF Babarro, E Carrington (2013) Attachment strength of the mussel *Mytilus galloprovincialis*: Effect of habitat and body size. *Journal of Experimental Marine Biology and Ecology*, 2013, 443, pp. 188–196
10. JMF Babarro, MJ Abad (2013) Co-existence of two mytilid species in a heterogeneous environment: Mortality, growth and strength of shell and byssus attachment. *Marine Ecology Progress Series*, 2013, 476, pp. 115–128

C.2. Congress, indicating the modality of their participation (invited conference, oral presentation, poster)

1. 8th Shellfish Conference, Deltapark, The Netherlands, 18-19 January 2024. JMF Babarro Invited Conference: Mussel farming in Galicia (NW Spain): new perspectives in a global change scenario.
2. Martech 2023, 10th Marine International Workshop on Marine Technology. Arduino controlled valvometry equipment for mussel raft monitoring. M Gilcoto, W Redondo-Caride, E Silva Caride, A Velo Lanchas, LA Comeau, R Filgueira, JMF Babarro. 19-20 June 2023 Castellón de la Plana, España. Oral.
3. 115th NSA Annual Meeting, Baltimore, Maryland. March 26 – 30th 2023. Two talks: Mussel farming in Galicia (NW Iberian Peninsula): new perspectives in a global change scenario. JMF Babarro, E Silva, XA Padín, M Gilcoto
Mechanisms of mortality in *Crassostrea virginica* during severe hypoxia: effects of endogenous and exogenous bacteria, and temperature. Steeves L et al.
4. Aquaculture Canada and WAS North America. August 15-18, St. John's, Newfoundland, Canada. <https://www.was.org/meeting/code/wana2021>. K Osterheld, J Davidson, LA Comeau, T Hori, I Marcotte, C Pellerin, JMF Babarro, R Tremblay. (2022). Triploid mussels for aquaculture could lead to better production yield with higher survival rate. Oral
5. VIII International Symposium on Marine Sciences 2022 (ISMS), Las Palmas de Gran Canarias (España), 6-8 July 2022. N Villaceros-Robineau, S Darriba, C López, D Iglesias, F Febrero, L Rodríguez, P Montero, JMF Babarro, M Gilcoto. Interannual wave climate variability explains massive mortality events of *Politapes rhomboides* clams in a Galician Ría. Poster
6. VIII International Symposium on Marine Sciences 2022 (ISMS), Las Palmas de Gran Canarias (España), 6-8 July 2022. JMF Babarro, LA Comeau, S Dios, N Villaceros-Robineau, MM Costa, C Gestal, S Darriba, E Silva, L Nieto, H Feio, J Pérez, M Gilcoto. Sediment mobilization and seawater warming as interactive drivers for ecophysiological responses of the clam *Politapes rhomboides*. Póster
7. 4th Congress of the International Society of fish & shellfish immunology, 12-15 December 2022. MM Costa, C Gestal, JMF Babarro, M Gilcoto, N Villaceros-Robineau, LA Comeau. S Darriba, E Silva, L Nieto, H Feio, J Pérez, S Dios. Immune and physiological responses of clams (*Politapes rhomboides*) under sediment mobilization and seawater warming conditions. Póster
8. Conferencia sobre los Sistemas de Afloramiento de Borde Oriental (EBUS): Pasado, Presente y Futuro & 2^a Conferencia Internacional sobre el Sistema de Corrientes de Humboldt,



19-23 September 2022, Lima (Perú). N Villacieros-Robineau, S Darriba, C López, D Iglesias, F Febrero, L Rodríguez, P Montero, JMF Babarro, M Gilcoto. Impact of wave climate on massive mortality events of *Polittapes rhomboides* clams in an upwelling-driven bay. Oral

9. Martech 2021, 9th Marine International Workshop on Marine Technology. Arduino controlled valvometry equipment for laboratory monitoring. M Gilcoto, W Redondo-Caride, E Silva Caride, A Velo Lanchas, LA Comeau, R Filgueira, JMF Babarro. 16-18 June 2021 (virtual) Oral.

10. Physiomar 21. Dislodgement events of the mussel *Mytilus galloprovincialis* under raft cultivation: mussel tenacity versus anemone *Actinotrocha sphyrodeta* blooms. JMF Babarro, XA Padín Álvarez, A Longa Portabales, E Silva. 7-9 September 2021, New Zealand. Oral

C.3. Research projects, indicating your personal contribution. In the case of young researchers, indicate lines of research for which they have been responsible.

1.- IP: XA Padín Álvarez/Antón Velo Lanchas (IIM-CSIC) Proyecto: Investigación, desarrollo e innovación de una red de observación costera en la Ría de Arousa, Proyecto REDEIRA (Ref.: TED2021-132188B-I00). Ministerio de Ciencia e Innovación. Financiación: 250.414€. 2022-2024

2.- IP: JMF Babarro (IIM-CSIC) Proyecto de REDES TEMÁTICAS. Ref.: RED2022-134186-T. Red para el Estudio y la Promoción de los Servicios Ecosistémicos de Bivalvos, BIVALNET. 18.300€. 2023-2025

3.- IP: JMF Babarro / Miguel Gil-Coto (IIM-CSIC) Ref.: PID2019-106008RB-C21. Title: Effects of waves in the upwelling system of Rías Baixas: superficial Dynamic in specific biological study cases. Funding: Ministerio de Ciencia e Innovación. Programa: I+D+i. 221.000€. Time: junio 2020-junio 2024

4.- IP: JMF Babarro (IIM-CSIC) Ref.: CTM2016-76146-C3-2-R
Title: Acidification in the Rías and Iberian oceanic platform: biology and chemical speciation. Funding: Ministerio de Economía y Competitividad. Programa: I+D+i "Retos". 110.110€. Time: diciembre 2016-diciembre 2019

5.- IP: Fran Saborido / Laura G Peteiro (IIM-CSIC). Reference: 0755_ATLAZUL_6_E
Title: ATLAZUL-Impulso de la alianza atlántica para el crecimiento azul. Funding: Interreg-POPTC (FEDER). 300.000€ IIM-CSIC (5.548.504,00€ total). Time: junio 2020-junio2023

6.- IP: JMF Babarro (IIM-CSIC)/Ángeles Longa Portabales (Consello Regulafor do Mexillón de Galicia). Ref: PID2019-106008RB-C21. Title: ACUIECO-Acuicultura Sostenible y Economía Circular. Funding: Fondos FEMP. 3.650€ para IIM-CSIC (73.000€ total). Time: 2019-2001

7.- Coordinador: JMF Babarro (IIM-CSIC). Paquete de trabajo PT7.
Ref.: PRTR-C17.I1. Title: Marine Science programme (ThinkInAzul) supported by. Planes Complementarios de Ciencias Marinas en Galicia. Financiación: Ministerio de Ciencia e Innovación and Xunta de Galicia with funding from European Union Next Generation EU (PRTR-C17.I1) and European Maritime and Fisheries Fund. 118.500€. Duración: octubre 2022-octubre 2025

8.- IP: JMF Babarro (IIM-CSIC) / Xosé Anton Padín Álvarez (CIIM-CSIC). Ref.: AGL2013-45945-R. Título: Riesgos biológicos y ambientales en el cultivo de mejillón *Mytilus galloprovincialis* en el marco del cambio climático. Financiación: 157.300€. Duración: enero 2014-diciembre 2016

C.4. Contracts, technological or transfer merits, Include patents and other industrial or intellectual property activities (contracts, licenses, agreements, etc.) in which you have collaborated. Indicate: a) the order of signature of authors; b) reference; c) title; d) priority countries; e) date; f) Entity and companies that exploit the patent or similar information, if any The transfer of technology and/or knowledge generated based on invited seminars, workshops or deliveries (book chapters):

- 1- Ciclo: Acuicultura sostenible y circular (Acuieco FEMP). Título: Nuevos factores condicionantes de la producción de mejillón. 9 junio 2021. Lugar: Auditorio del Consello Regulador do Mexillón de Galicia. Investigador: JMF Babarro
- 2- Conferencia invitada: Filamentos de mejillón: facilidades para su cultivo y amenazas para su éxito. JMF Babarro. Lugar: Instituto Universitario de Bio-orgánica Antonio González (Universidad de La Laguna, Tenerife). 27 marzo 2015.
- 3- Libro: Recursos Mariños e da Acuicultura das Rías Galegas 22. Eds. Rey-Méndez M, Fernández Casal J, Lastres MA, Padín XA. Título: Nuevos retos de la acuicultura del mejillón. Autor: JMF Babarro. Foro Rec. Mar. Ac. Rías Gal. 22: 257-264. ISBN: 978-84-09-19360-8 978-84-09-19360-8