

## 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	Águeda		
Family name	Vázquez López-Escobar		
e-mail	Agueda.vazquez@uca.es	URL Web	
Open Researcher and Contributor ID (ORCID) (*)		0000-0002-5636-2604	

(\*) Mandatory

#### A.1. Current position

Position	Full professor of University		
Initial date	16/11/2017		
Institution	University of Cadiz		
Department/Center	Applied Physic	Applied Physic	
Country	Spain	Teleph. number	956013322
Key words	Physical Oceanography. Techniques of analysis of time and spatial variables, biological response to hydrodynamic processes, atmosphere-ocean interaction, mixing Internal waves. Gulf of Cadiz, Strait of Gibraltar, Alborán Sea.		

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

Period	Position/Institution/Country/Interruption cause
2001-2002	OTRI project Scholarship/University of Cadiz/Spain
2002-2006	Government PhD sholarship/University of Cadiz/Spain
2006-2008	Project contract /University of de Cadiz/Spain
2008-2009	Goverment post-PhD <i>Juan de la Cierva</i> /Univ. of Malaga/Spain
2009-2011	Interim substitute profesor/University of Cadiz/Spain
2009 (5 months)	Interruption due to baby birth
2011-2013	Assistant Professor/University of Cadiz/Spain
2012 (5 months)	Interruption due to baby birth
2013-2017	Contract professor/University of Cadiz/Spain
2017-present	Full professor/University of Cadiz/Spain

#### A.3. Education

PhD, Licensed, Graduate	University/Country	Year
European PhD Marine Science	Cádiz	2006
B. Sc. Marine Science	Cádiz	1999

(Include all the necessary rows)

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

*I am currently a Full Professor in the area of Applied Physics at the School of Engineering of the University of Cadiz (UCA), with 4 five-year teaching periods, three six-year research periods and member of the organising committee of the PEvAU-Physics of Andalusia. My path began with the Degree in Marine Sciences and the subsequent Diploma of Advanced Studies in Marine Sciences at the UCA. In 2002 I obtained an FPI grant and shortly after finishing my PhD I obtained a "Juan de la Cierva" Postdoctoral contract. A few months later I returned to the UCA to work as a substitute lecturer in the Faculty of Marine and Environmental Sciences. In 2011 my teaching*

*career took an important turn when I obtained a position as Assistant Professor at the School of Engineering of the University of Cadiz. Since then, I have combined teaching at the School of Engineering with research in Marine Sciences. My work experience grew until I got a position as Full Professor at the University in 2017. During this time I have had two periods of interruption (in 2009 and 2012) due to the birth of babies.*

*Professionally, I have always belonged to the RMN 205: Physical Oceanography research group and I have received most of my training at the UCA. However, I have carried out 6 research stays in centres of recognised prestige, among which two stays at the Mississippi Naval Research Laboratory, belonging to the NASA Stennis Space Center and one stay at the Spanish Antarctic Base Gabriel de Castilla, in Antarctica, stand out for the personal and professional experience they entailed. Regarding the quality of my results, I can emphasise that practically all of my publications (63, which 27 are JCR) and conferences (62) deal with the hydrodynamic processes that govern the Gulf of Cadiz, Strait of Gibraltar and Alboran Sea, their dependence on atmospheric processes and their influence on primary production in the area. The importance of these articles lies not only in the detailed study of highly complex processes (generation and propagation of internal waves with their associated mixing effects, eddies, Atlantic jet dynamics...) but also in the wide variety of measurements used in each study: data from oceanographic campaigns, moored equipment, high frequency radar maps, drifting buoy trajectories, satellite images and numerical model outputs. Most of the field data have been collected during oceanographic surveys in which I have participated (20). On the other hand, almost all the projects in which I have participated (24), both national and international, have had the same line of research. It is worth mentioning that I have led two research projects (one of the National Plan and a project of excellence of the Andalusian Regional Government) and a scientific equipment project, obtaining a total funding of 618,000 €. Thanks to the research projects I led, I had the opportunity to direct two Ph.D. students and thus contribute to the training of two young researchers who are now employed as professors at the UCA with the accreditation of Associate Professor by the ANECA (Spanish National Agency for Quality Assurance and Accreditation).*

## **Part C. RELEVANT MERITS**

### **C.1. Publications.**

1. Gomiz-Pascual J. J. (AC), Bolado-Penagos M., González C.J., [...] & Bruno M. (4/11) (2021). The fate of Guadalquivir River discharges in the coastal strip of the Gulf of Cádiz. A study based on the linking of watershed catchment and hydrodynamic models. *Science of the total environment*, 795, 148740. <https://doi.org/10.1016/j.scitotenv.2021.148740>
2. Romero-Cózar J., Chioua J., Bolado-Penagos M., Reyes-Pérez J., Gómiz-Pascual J. J., **Vázquez A.**, Sirviente S. & Bruno M. (2021). Tidally-induced submesoscale features in the atlantic jet and Western Alboran Gyre. A study based on HF radar and satellite images. *Estuarine, Coastal and Shelf Science*, 250, 107122. <https://doi.org/10.1016/j.ecss.2020.107122>
3. Bolado-Penagos M., Sala I., Gomiz-Pascual J. J., Romero-Cózar J., González-Fernández D., Reyes-Pérez J., **Vázquez A.** & Bruno M. (2021). Revising the Effects of Local and Remote Atmospheric Forcing on the Atlantic Jet and Western Alboran Gyre Dynamics. *Journal of Geophysical Research: Oceans*, 126, e2020JC016173. <https://doi.org/10.1029/2020JC016173>

4. Bolado-Penagos M., González C.J., Chioua J., Sala I. Gomiz-Pascual J. J. **Vázquez A.** & Bruno M. (2020). Submesoscale processes in the coastal margins of the Strait of Gibraltar. The Trafalgar – Alboran connection. *Progress in Oceanography*, 181, 102219. <https://doi.org/10.1016/j.pocean.2019.102219>
5. Navarro G., Vicent J., Caballero I, [...] & **Vázquez A.** (2018). Improving the analysis of biogeochemical patterns associated with internal waves in the strait of Gibraltar using remote sensing images. *Estuarine, Coastal and Shelf Science*, 2014, 1-13. <https://doi.org/10.1016/j.ecss.2018.02.009>
6. Bruno M., Chioua J. Romero J., **Vázquez A.**, [...] & J., García C.M. (2013), The importance of sub-mesoscale processes for the exchange of properties through the Strait of Gibraltar. *Progress in Oceanography*, Vol. 116, 66-79. <http://dx.doi.org/10.1016/j.pocean.2013.06.006>
7. Navarro G., Caballero I., Prieto L., **Vázquez A.**, Flecha S., Huertas E., & Ruiz J. (2012). Seasonal-to-interannual variability of chlorophyll-a bloom timing associated with physical forcing in the Gulf of Cádiz. *Advances in Space Research*, 50(8), 1164-1172. <https://doi.org/10.1016/J.ASR.2011.11.034>
8. Bruno M., Macías D., González-Vida J., & **Vázquez A.** (2010). Analyzing the tidal-related origin of subinertial flows through the Strait of Gibraltar. *Journal of Geophysical Research: Oceans*, 115(12). <https://doi.org/10.1029/2010JC006499>
9. **Vázquez A.**, Flecha S., Bruno M., Macías D., & Navarro G. (2009). Internal waves and short-scale distribution patterns of chlorophyll in the Strait of Gibraltar and Alborán Sea. *Geophysical Research Letters*, 36(23). <https://doi.org/10.1029/2009GL040959>
10. **Vázquez, A.**, Bruno, M., Izquierdo, A., Macías, D., & Ruiz-Cañavate, A. (2008). Meteorologically forced subinertial flows and internal wave generation at the main sill of the Strait of Gibraltar. *Deep-Sea Research Part I: Oceanographic Research Papers*, 55(10), 1277-1283. <https://doi.org/10.1016/J.DSR.2008.05.008>

## C.2. Congress.

1. Bolado-Penagos M., Sirviente S., Sala I., **Vázquez, A.** & M. Bruno. Dynamic of the north-western Alboran Sea upwelling from local and remote observations. ISMS 2020. 2020. Barcelona (Spain). Speaking.
2. Bolado-Penagos M., Sala I., **Vázquez, A.** & M. Bruno. Study of submesoscale processes in Cape Trafalgar. II Congreso Jóvenes Investigadores del Mar. 2019. Málaga (Spain). Speaking.
3. Bolado-Penagos M., Gomiz-Pascual J., González C.J., Sala I., Arruda R., Caldeira, R.M., **Vázquez, A.** & M. Bruno. Submesoscale transport patterns along the eastern Strait of Gibraltar coastal margin. ISMS – EOF 2018. 2018. Vigo (Spain). Speaking.
4. Bolado-Penagos M., Gomiz-Pascual J., **Vázquez A.**, Bruno M., Arruda R., Calil P. & R.M. Caldeira. Microstructure turbulence profiles at the Gibraltar Strait. 49th International Liège Colloquium on Ocean on Ocean Dynamics. 2017. Liège – Belgium. Poster.
5. Navarro G., Caballero I., Bruno M. & **Vázquez A.** Sentinel-2A captures high amplitude internal waves in the Strait of Gibraltar. Ocean Optics XXIII, 2016 Victoria (Canada). Poster.
6. Navarro G., Caballero I, Sala I., **Vázquez. A.** Phytoplankton functional types in Alboran Sea through remote sensing images. CLEO – Colour and light in the ocean from EO. 2016. Frascati, (Italy). Poster.
7. Gomiz-Pascual J., Bolado-Penagos M., **Vázquez A.**, [...] & A. Caballero. Development of a new methodology to try to qualitatively evaluate the physicchemistry and socio-economical consequences due to climate change on the mouth of the Guadalquivir estuary. V Simposio Internacional de Ciencias del Mar. 2016. Alicante (Spain). Poster.
8. Bolado-Penagos M., Gomiz-Pascual J.J., Reyes M., **Vázquez A.**, Navarro G. & Bruno M. A methodology to asses the role of the river discharges to the Gulf of Cadiz on the nutrient supply to the Alboran Sea. International SWAT Conference. 2015. Sardinia (Italy). Speaking.
9. Navarro G., Vicent J., Caballero I., Morris E., Sabater N., Bruno M. & **Vázquez A.** Hyperspectral imaging of internal waves in the Strait of Gibraltar. Aquatic Sciences Meeting (ASLO). 2015. Granada (Spain). Poster.

10. Caballero I., Martí A., **Vázquez A.**, García R. & Navarro G. Use of new high-resolution DEIMOS-1 satellite imagery to study coastal processes in the Guadalquivir estuary. Coast Colour User Consultation Meeting, Lisboa (Portugal), octubre 2011. Poster

### C.3. Research projects.

1. RTI2018-100865-B-C22, *Circulación y procesos de transporte en los estuarios del golfo de Cádiz: situación actual y proyecciones de futuros escenarios de cambio climático*. Ministerio de Ciencia, Innovación y Universidades. 2018-102/PN/PE-RETOS/PR. Miguel Bruno Mejías. (Universidad de Cádiz). 01/01/2019- 31/12/2021. 121.000 €. Researcher.
2. EQC2018-004800-P, *Refuerzo de la investigación oceanográfica interdisciplinar del INMAR*. Ministerio de Ciencia, Innovación y Universidades. Ayudas para la adquisición de Equipamiento Científico-Técnico 2018. Águeda Vázquez. (INMAR). 01/01/2019-31/12/2020. 366.742,5 €. **Researcher Head**.
3. OCASO, *Observatorio costero ambiental del sur-oeste*. Unión Europea. 2017-041/PE/POCTEP-2014/2020-1. Miguel Bruno Mejías. (Universidad de Cádiz). 14/06/2017-31/12/2019. 262.386,78 €. Researcher.
4. AGUAMOD, *Desarrollo de una plataforma de gestión de recursos hídricos durante el estiaje en el territorio SUDOE*. Unión Europea. 2016-049/PE/INTERREG/ V SUDOE/PR. Rafael Mañanes Salinas. (Universidad de Cádiz). 01/07/2016- 30/06/2019. 180.000 €. Researcher.
5. CTM2013-49048-C2-2-R, *Conexión de patrones hidrodinámicos de meso y submesoescala entre el golfo de Cádiz y el mar de Alborán*. Ministerio de Economía y Competitividad. 2013-042/PN/PE-RETOS/PR. Miguel Bruno Mejías y Águeda Vázquez. (Universidad de Cádiz). 01/01/2014-31/12/2017. 110.109,99 €. **Researcher Co-Head**.
6. P11-RNM-07722, *Conexión de la hidrodinámica superficial entre el golfo de Cádiz y el mar de Alborán, su relación con procesos meteorológicos y respuesta de los productores primarios*. Consejería de Innovación, Ciencia y Empresa - Junta de Andalucía. 2011-009/PAI/EXCEL7PR. Águeda Vázquez. (Universidad de Cádiz). 27/12/2012-31/03/2018. 141.550,05 €. **Researcher Head**.
7. 0419\_TRADE\_5\_E, *Sistema de observación Interreg radar para protección del medio ambiente*. Europe. 2011-092/PC/IC-IIINTERREG IV ESP-PORTUGAL/P. Miguel Bruno Mejías. (Universidad de Cádiz). 18/03/2011-30/06/2014. 101.362,5 €. Researcher.
8. ARCOPOLPLUS 2011-1/150, *Improving maritime safety and pollution response through technology transfer, training and innovation*. Europe. 2017-028/PE/INTERREG IV Arco Atlantico 2011/PR. Óscar Álvarez Esteban. (Universidad de Cádiz). 01/01/2012- 31/12/2013. 106.665 €. Researcher.
9. CTM2007-60408/MAR, *Modelado de los procesos hidrodinámicos y de transporte bajo la interacción conjunta de la marea, oleaje y sedimento. una nueva aproximación 3D*. Ministerio de Ciencia e Innovación. 2006-294/PN/PG/PR. Óscar Álvarez Esteban. (Universidad de Cádiz). 01/10/2007-30/09/2010. 232.000 €. Researcher.
10. P06-RNM-01443, *Modelado de los procesos dinámicos y evolución del litoral andaluz: hidrodinámica de marea-oleaje y transporte de sustancias*. Ministerio de Ciencia e Innovación. Proyecto de excelencia de la Junta de Andalucía 2006-026/PAI/EXCEL/PR. Óscar Álvarez Esteban. (Universidad de Cádiz). 11/04/2007-11/04/2010. 200.877 €. Researcher.

### C.4. Contracts, technological or transfer merits.

1. OT2011/058. *Implementación de modelos de simulación hidrodinámica con forzamiento de marea y meteorológico para la predicción de corrientes marinas en el umbral principal del estrecho de Gibraltar*. SECEGSA. Miguel Bruno Mejías y Águeda Vázquez. 31/07/2011 - 01/03/2012. **Researcher Co-Head**.