



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

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|---------|------------|
| CV date | 09/01/2023 |
|---------|------------|

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|--|-------------------------|-------------|----------------------------------|
| First name | María Dolores | | |
| Family name | Pérez Hernández | | |
| Gender (*) | Female | Birth date: | 24/05/1986 |
| ID number | 44719051-J | | |
| e-mail | mdolores.perez@ulpgc.es | URL Web: | https://mdoloresperez.weebly.com |
| Open Researcher and Contributor ID (ORCID) (*) | 0000-0001-7293-9584 | | |

(*) Mandatory

A.1. Current position

| | | | |
|-------------------|---|----------------|--------------|
| Position | Profesor Contratado Doctor | | |
| Initial date | 01/06/2021 | | |
| Institution | Universidad de Las Palmas de Gran Canaria | | |
| Department/Center | Instituto Universitario de Oceanografía y Cambio Global (IOCAG) | | |
| Country | Spain | Teleph. number | 928 45 44 91 |
| Key words | Physical Oceanography, large-scale circulation, water masses, ocean variability, boundary currents. | | |

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

| Period | Position/Institution/Country/Interruption cause |
|-------------------------|---|
| 1/06/2021 to present | Profesor Contratado Doctor, Universidad de Las Palmas de Gran Canaria (ULPGC) |
| 26/05/2018 to present | Long-term Guest investigator, Woods Hole Oceanographic Institution (WHOI), U.S.A. |
| 29/05/2021 – 22/10/2021 | Maternity leave |
| 12/04/2021 – 28/05/2021 | Leave due to risk for the pregnancy |
| 15/03/2021 – 31/05/2021 | Prestige Doctors contract Viera y Clavijo, ULPGC |
| 16/10/2019 – 14/03/2021 | Postdoctoral investigator of the ULPGC program |
| 01/08/2017 – 01/10/2019 | Researcher, Marine and Freshwater Research Institute, Iceland |
| 15/05/2015 – 26/05/2018 | Postdoctoral Investigator, WHOI |
| 01/05/2013 – 30/11/2013 | Visiting Graduate Student, National Oceanography Centre (NOC), Southampton, U.K. |
| 01/04/2012 – 30/06/2012 | Visiting Graduate Student, Scripps Institution of Oceanography, University of California San Diego, U.S.A. |
| 01/09/2011 – 30/11/2011 | Guest investigator, WHOI |
| 09/02/2011 – 24/0/2015 | Ph.D. Student (Becaria de la Agencia Canaria de Investigación, Innovación, y Sociedad de La Información, ACIISI), ULPGC |

A.3. Education

| PhD, Licensed, Graduate | University/Country | Year |
|---|--|------|
| Ph.D. in Physical Oceanography | Universidad de Las Palmas de Gran Canaria, Spain | 2015 |
| Master in Oceanography | Universidad de Las Palmas de Gran Canaria, Spain | 2011 |
| Bachelor in Marine Science (Licenciada en Ciencias del Mar) | Universidad de Las Palmas de Gran Canaria, Spain | 2009 |



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

Scientific Contributions: I have developed extensive skills including sea-going experience (>350 days at sea), data processing and analysis (**24 articles, 343 citations, h-index 14**), teamwork (participated in 16 research projects; 1 European, 8 national), capacity for disseminating research (**24 talks at scientific meetings; 7 as invited speaker** and 14 at international meetings), and critical peer-reviewing skills (reviewer for 5 journals and the AR6 **IPCC report**). My competence (**1 sexenio**) has been recognized by international awards including: the [Kostas Nittis Medal from EUROGOOS](#) in 2019; a Complementary [EGU](#) membership in 2017, and an invitation to the NASA Goddard Space Flight Center as an awardee of the [NASA-MPOWIR Speaker Series](#) in 2015.

My research topics are: North Atlantic Ocean Subtropical Gyre and Atlantic Water at high latitudes, and the South Atlantic and Indian Oceans. The wide scope of my research has helped me forge important collaborations with peers from Europe and the U.S.A. and has led me to participate in international cruises from four nations, international projects and to conduct research at several leading institutes. At the North Atlantic Subtropical Gyre my main contributions have been to develop [a 16-point index to describe the meridional shifts of the Gulf Stream](#) (collaboration with WHOI), to unveil [the source of the Canary Current](#) by using an inverse box model on the eastern basin, and to [link the seasonal cycle of the AMOC to that of the Canary basin](#) (collaboration with NOC). In this area I also collaborated in several other manuscripts to describe [the interannual variability of western boundary currents](#), [the Azores Current system](#), [a wind-driven model for the seasonal cycle of the AMOC and Canary basin](#), [the AMOC transports between 7.5-24.5°N for the years 1992-93 and 2010-2011](#), [the recirculation of the Canary Current](#) and [its seasonal transports](#), and, the [upwelling trends](#) and [intermediate flows](#) along the African coast. Working with Atlantic Water North of Svalbard my main contributions have been to: [provide with the first view of the current](#) and with [a one-year long time series to describe the seasonality of the boundary current](#) (collaboration with WHOI). To further understand this area, I collaborated with researchers from Norway on [including heat fluxes to our description](#) and with researchers the university of la Sorbonne using a model to disclose the [areas where convection was taking place interannually](#) and the [new circulation routes of Atlantic Water North of Svalbard](#). Later, I collaborated with researchers from many different countries on understanding similar processes on the [Nordic Seas](#) and [around Iceland](#). My contributions on the Indian Ocean and south Atlantic have helped to understand the [cross-equatorial circulation in the Indian Ocean](#), the [changes in the Subantarctic and polar fronts](#) and to describe an [Agulhas ring](#). In addition, I participated in a [full-Atlantic study to understand decadal changes of the AMOC](#). I want to highlight also two interdisciplinary studies focussed in [carbon](#) and [nitrogen fixation](#).

Outreach: I maintain a [blog](#) and a [twitter](#) with my latest research news. I am part of the [Mujeres Científicas Canarias](#) project, a project that brings female researchers to public schools and high schools to communicate about their career and field. Even though I am no longer in the U.S.A. I am still involved in the [National Network for Ocean and Climate Change Interpretation](#) which is formed by scientists, interpreters from zoos, aquariums and national parks and language communication experts to transmit the effects of climate change to the public on an efficient way. During my Ph.D. I created the [Ciencia Compartida seminars](#) where the studies carried out by researchers at the university were disseminated throughout the university and eventually visiting high schools. I am also involved in the different transfer activities existing within the ULPGC that are managed by the [office of research results transfer \(OTRI\)](#) such as the outreach in seminars that take place in museums and aquariums or interacting with the media, or the open doors days.

Contributions to the new generations: I have been involved in [mentoring](#) 4 undergrad students on their final projects, and 4 Master students (all graded higher than 8). I have also been part of a defense committee at the University of la Sorbonne. I have taught a total of 608 hours taught in the several Engineering Degrees (Physics I and II), the DOYCAG-ULPGC Ph.D. program (Matlab & R), the Master in Oceanography (Physical Processes) and the Marine Science Degree (Introduction to Matlab). Currently I'm mentoring two Master students. In addition, created and taught a course for all ULPGC Ph.D. students named "[Preparing ourselves for the postdoctoral stage](#)" which aims to teach students how the application process is carried in teaching, research and industry. This course was very successful in 2022 and will take place again this year.



Part C. RELEVANT MERITS (sorted by typology)

C.1. Publications (since 2018, *Publications from students I have mentored.)

- V. Caínzos*, A. Hernández-Guerra, G.D. McCarthy, E.L. McDonagh, M. Cubas Armas, & M.D. Pérez-Hernández, (2022). Thirty years of GOSHIP and WOCE data: Atlantic overturning of mass, heat, and freshwater transport. *Geophysical Research Letters*, 49, e2021GL096527. <https://doi.org/10.1029/2021GL096527>
- J.P. Siemer, F. Machín, A. González-Vega, (...), E. Fraile-Nuez (2021). Recent trends in SST, Chl-*a*, productivity and wind speed in upwelling and open ocean areas in the upper Eastern North Atlantic subtropical gyre. *Journal of Geophysical Research - Oceans*, 126, e2021JC017268. <https://doi.org/10.1029/2021JC017268>
- P. Vélez-Belchí, V. Caínzos, E. Romero, (...) A. Hernández-Guerra. The Canary intermediate poleward undercurrent: not another poleward undercurrent in an eastern boundary upwelling system (2021). *Journal of Physical Oceanography*, 51(9), 2973-2990. <https://doi.org/10.1175/JPO-D-20-0130.1>
- M. Athanase*, C. Provost, C. Artana, **M.D. Pérez-Hernández**, (...), P. Prandi (2020). Changes in atlantic water circulation patterns and volume transports north of svalbard over the last 12 years (2008-2020). *Journal of Geophysical Research: Oceans*, 126, e2020JC016825. <https://doi.org/10.1029/2020JC016825>
- M., Athanase, C., Provost, **M.D., Pérez-Hernández**, N., Sennéchaël, C., Bertosio, C., Artana, G., Garric and J.M. Lellouche (2020). Atlantic Water modification North of Svalbard in the Mercator Physical System from 2007 to 2020. *Journal of Geophysical Research: Oceans*, 125, e2020JC016463. <https://doi.org/10.1029/2020JC016463>
- M. Casanova-Masjoan*, **M.D. Pérez-Hernández**, R.S. Pickart, H. , (...), A. Hernández-Guerra (2020). Alongstream, seasonal and interannual variability of the North Icelandic Irminger Current and East Icelandic Current around Iceland. *Journal of Geophysical Research-Ocean*. 125, e2020JC016283. doi:10.1029/2020JC016283
- M. Casanova-Masjoan, **M.D. Pérez-Hernández**, P. Vélez-Belchí, L. Cana, A. Hernández-Guerra (2020). Variability of the Canary Current diagnosed by inverse box models. *Journal of Geophysical Research-Ocean*. 125, e2020JC016199. <https://doi.org/10.1029/2020JC016199>
- I.A. Renfrew, R.S. Pickart, K. Våge, (...), S. Zhou, (2019). The Iceland Greenland Seas Project. *Bulleting of the American Meteorological Society*, 100, 1795-1817. <https://doi.org/10.1175/BAMS-D-18-0217.1>
- M. D. Pérez-Hernández**, R. S. Pickart, D.J. Torres, (...), V. Pavlov (2019). Structure, transport and seasonality of the Atlantic Water Boundary Current north of Svalbard: Results from a year-long mooring array. *Journal of Geophysical Research-Ocean*. Vol. 124. doi: 10.1029/2018JC014759
- A. H. H. Renner, A. Sundfjord, M. A. Janout, R. B. Ingvaldsen, A. Beszczynska-Möller, R. S. Pickart, **M. D. Pérez-Hernández (2018)**. Variability and redistribution of heat in the Atlantic Water boundary current north of Svalbard. *Journal of Geophysical Research-Oceans*. Vol. 123, 9, pp. 6373-6391. Doi: 10.1029/2018JC013814
- M. Casanova-Masjoan, T.M. Joyce, **M. D. Pérez-Hernández**, P. Vélez-Belchí, A. Hernández-Guerra (2018). Changes across 66°W, the Caribbean Sea and the Western boundaries of the North Atlantic Subtropical Gyre. *Progress in Oceanography*. Vol.128, pp. 296-309. 10.1016/j.pocean.2018.09.013

C.2. Congress (since 2018)

Invited Speaker:

1. **Event:** kick-off meeting of the EuroSEA Horizon 2020. **Place and date:** Brussels, November 28th, 2020. **Title:** My research career. **Authors:** M. Dolores Pérez Hernández
2. **Event:** Seminar. **Place and date:** Cooperative Institute for Marine and Atmospheric Studies, Rosenstiel School of Marine and Atmospheric Science, University of Miami, August 8th, 2019. **Title:** Variability of the North Atlantic Subtropical Gyre and its contribution to the AMOC. **Authors:** M. Dolores Pérez Hernández

Talks at International meetings:

1. **Event:** Kick off meeting of the MAC-CLIMA project. **Place and date:** Las Palmas de Gran Canaria, June 8th, 2020. **Organizing entity:** Cabildo de Gran Canaria, Consejo Insular de energía. **Title:** *Sustained raise of the oceanic temperature on the Canary Basin.* **Authors:** M.D. Pérez-Hernández, P. Vélez-Belchí, A. Hernández-Guerra.
2. **Event:** Arctic and Subarctic Ocean Fluxes meeting. **Place and date:** Université de la Sorbonne. April 25th to 27th, 2018. **Organizing entity:** 2018-ASOF, Université de la Sorbonne. **Title:** Seasonal variability of the Svalbard branch. **Authors:** M. D. Pérez-Hernández, R. S. Pickart, D.J. Torres, (...), V. Pavlov
3. **Event:** Cooperation in the field of Arctic Council between Iceland and Norway. **Place and date:** Geophysical Institute, University of Bergen, Norway. January 23rd to 24th, 2018 and Marine and Freshwater Research Institute, Iceland. August 28th to 29th, 2018. **Organizing entity:** Icelandic Research council. **Title:** Seasonal variability of the Svalbard branch. **Authors:** M. D. Pérez-Hernández, R. S. Pickart, D.J. Torres, (...), V. Pavlov

Posters at International meetings:

1. **Event:** OceanObs'19. **Place and date:** Oahu, September 16th to the 20th, 2019. **Organizing entity:** Consortium of ocean leadership. **Title:** *The Atlantic Water boundary current north of Svalbard.* **Authors:** M. D. Pérez-Hernández, R. S. Pickart, V. Pavlov, (...), S. Y. Erofeeva.
2. **Event:** 27th IUGG General Assembly. **Place and date:** Montréal, Canada, July 8th to 18th, 2019. **Organizing entity:** IUGG, IAPSO. **Title:** Spatial, seasonal and interannual variability of the North Icelandic Irminger Current and East Icelandic Current around Iceland from 1993-2017. **Authors:** M. Casanova-Masjoan, M.D. Pérez-Hernández, R.S. Pickart, (...), A. Hernández-Guerra

C.3. Research projects.

1. **Reference:** Not applicable. **Title:** Iceland Faroe Glider Ocean Observations (IFGLOO). **Funding Agency:** United States Office of Naval Research (ONR). **Call:** PI: Ángel Ruiz Angulo. **Principal Organization:** University of Iceland. **Dates:** 2021- to 2024. **Role:** Research team.
2. **Reference:** Not applicable. **Name of the project:** Fine scales shaping nitrogen fixation in the Gulf stream. **Funding Agency:** EuroFleets plus Regional programme. **PI:** Mar Benavides. **Principal Organization:** Merditerranean Institute of Oceanography. **Dates:** 2022- to 2022. **Role:** Research team.
3. **Reference:** Not applicable. **Name of the project:** BACI project: The Argentine Basin, a Case study for the Integrated ocean observing system. **Funding Agency:** Centre National D'Études Spatiales. **PI:** Camila Artana. **Principal Organization:** Mercator Ocean. **Dates:** 2021- to 2024. **Role:** Research team.
4. **Reference:** RTI2018-100844-B-C31. **Name of the project:** The South Atlantic Gateway in the global conveyor belt (SAGA). **Funding Agency:** Spanish Ministry of Economy, Industry and Competition. **PI:** Jose Luis Pelegrí. **Principal Organization:** Spanish National Research Council (CSIC). **Dates:** 2019- to 2021. **Role:** Research team.
5. **Reference:** #ARC-1264098. **Name of the project:** The Atlantic Water Boundary Current in the Eastern Arctic: Composition, Transport, Variability, and Dynamics (A-TWAIN). **Funding Agency:** National Science Foundation. **PI:** Robert S Pickart **Principal Organization:** Woods Hole Oceanographic Institution. **Dates:** May 1st, 2013 to April 30th, 2018. **Role:** Postdoctoral Investigator associated to the project.

C.4. Transfer of Knowledge.

M.D. Pérez-Hernández (2017). La Corriente de Canarias, el mito de la corriente fría (the Canary Current, the myth of the cold current). *Okeanos, Journal of the Atlantic Oceanographic Society*, 4, 22-26. Mercurio Editorial <http://mercurioeditorial.com/Revista-Okeanos/>

S. R. Ólafsdóttir, H. Valdimarsson, M.D. Pérez- Hernández, K. Guðmundsson, Á. Gíslason, H. Pétursdóttir, H. G. Guðfinnson, K. J. Valsdóttir, A. Eydal og K. Gunnarsson (2018): Ástand sjávar 2016 (environmental report on the state of the Iceland Sea). HV 2018-29. Marine and Freshwater Research Institute. pp.58. ISSN 2298-9137