

## Dr. Carlos Pérez García-Pando

**Birth:** 25 June 1977, Barcelona, Spain  
**Institutions:** Barcelona Supercomputing Center (BSC)  
Catalan Institution for Research and Advances Studies (ICREA)  
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**Languages:** Spanish and Catalan - Native  
English and French - Fluent



### CURRENT POSITIONS

12/2019 - **ICREA Research Professor**  
Catalan Institution for Research and Advances Studies, Barcelona, Spain.  
Earth Sciences Department, Barcelona Supercomputing Center, Barcelona, Spain.  
10/2016 - **Head of the Atmospheric Composition Group**  
**AXA Professor on Sand and Dust Storms (AXA Chair)**  
Earth Sciences Department, Barcelona Supercomputing Center, Barcelona Spain

### PREVIOUS POSITIONS

2016 – 2019 **Ramon y Cajal Researcher**  
Earth Sciences Department, Barcelona Supercomputing Center, Barcelona, Spain.  
2016 - 2020 **Science collaborator**  
NASA Goddard Institute for Space Studies, New York, US.  
2011 - 2016 **Associate Research Scientist**  
NASA Goddard Institute for Space Studies, New York, US.  
Department of Applied Physics and Applied Math, Columbia University, New York  
2009 - 2011 **Earth Institute Fellow**  
The Earth Institute at Columbia University, New York, US.  
NASA Goddard Institute for Space Studies, New York, US.  
International Research Institute for Climate and Society, New Jersey, US.  
2009 **Visiting Scientist**  
NOAA National Centers for Environmental Prediction, Camp Springs, Maryland, US.  
2006 - 2009 **Research Scientist and Mineral Dust Group Leader**  
Earth Sciences Department, Barcelona Supercomputing Center, Barcelona, Spain.  
2005 **Visiting Scientist**  
Mediterranean Centre on Insular Coastal Dynamics. University of Malta (Malta)  
2002 - 2005 **Research Assistant and PhD. Candidate**  
Polytechnic University of Catalonia, Environmental Modelling Laboratory, Barcelona, Spain.

### EDUCATION

12/2005 **PhD in Environmental Engineering**  
Polytechnic University of Catalonia, Environmental Modelling Laboratory, Barcelona, Spain  
Summa Cum Laude (Unanimity)  
2001 **Industrial Engineer** - Environmental Option  
Polytechnic University of Catalonia, Industrial Engineering School, Barcelona, Spain  
2001 **Ingénieur des Arts et Manufactures**  
École Centrale Paris, France

## SCIENCE TEAM MEMBER OF A NASA INSTRUMENT MISSION

2018 – 2025 **Earth surface Mineral dust source InvesTigation (EMIT). NASA Earth Venture Instrument-4 (EVI-4) program** EMIT is sampling the surface mineral composition of Earth dust sources using hyperspectral imaging spectroscopy from the International Space Station (ISS). **Role: Science team member / Co-I.** The other members of the Science Team are: Robert O. Green, NASA JPL (PI); Natalie M. Mahowald (Deputy PI), Cornell U.; David Thompson (Co-I), NASA JPL); Roger Clark (Co-I), PSI; Paul Ginoux (Co-I), NOAA; Olga Kalashnikova (Co-I), NASA JPL; Ron Miller (Co-I), NASA GISS; Greg Okin (Co-I), UCLA; Bethany Ehlmann (Co-I), Caltech; Thomas Painter (Co-I), NASA JPL; Vincent Realmuto (Co-I), NASA JPL; Greg Swayze (Co-I), USGS. Budget: ~\$ 70 million

## GRANTS AS PI

2022 **Dust-Induced ice nucleation: Effects of Mineralogical Composition and Size (MICOS01).** ATMOS ACCESS Trans-national access (Integrating Activity under grant agreement No 101008004.) Facility: AIDA. Atmospheric Simulation Chamber.  
Role: PI. (co-PI Martina Klose).

2022-2025 **Service of operational management of products and services of the Regional Centers for dust and sand storms of the World Meteorological Organization (WMO).** Contract with the Agencia Estatal de Meteorología.  
Role: PI. Budget: EUR 705.000,00

2018 – 2024 **[Frontiers in dust mineralogical composition and its effects upon climate \(FRAGMENT\).](#)**  
**European Research Council Consolidator Grant (2017).**  
Role: PI. Budget: EUR 2 million.

2016 – 2030 **[AXA Chair on Sand and Dust Storms](#)**  
**AXA CHAIR (2015) awarded by the AXA Research Fund.**  
Role: Chair. Budget: EUR 1.7 million.

2018 – 2021 **Quantifying the present and future atmospheric delivery of bioavailable iron to the ocean (NUTRIENT).**  
Project “Plan Nacional” CGL2017-88911-R awarded by Agencia Estatal de Investigación.  
Role: PI (co-PI: María Gonçalves). Budget: EUR 72,600.

2018 – 2021 **Development and improvement of the products and services provided by the WMO Dust Regional Prediction Centers at the Barcelona Supercomputing Center.**  
SERVICES ENTRUST (Encomienda de Servicios) by Agencia Estatal de Meteorología.  
Role: PI. Budget: EUR 500,196.

2017 – 2018 **Dust forecast System for Kuwait Phase 1 (K-Dust Phase 1).**  
Funded by the Kuwait Institute for Scientific Research.  
Role: PI. Budget: EUR 140,999

2015 – 2016 **Implementation and testing of dust models for regional and global forecasting**  
R2O Initiative for the Next Generation Global Prediction System (NGGPS), NOAA Collaborative project between Columbia University, NASA and NOAA GFDL  
Role: Co-PI (PI: Paul Ginoux). Budget: \$200,000.

2014 – 2016 **Contribution to radiative forcing and climate by anthropogenic sources of dust aerosol**  
NASA ROSES Modeling, Analysis and Prediction Program. Co-I’s from NASA, Columbia University, NOAA GFDL and Princeton University.  
Role: Co-PI (PI: Ron Miller). Budget: \$1,020,000

2011 – 2014 **Improving the representation of soluble iron in climate models**  
Department of Energy (DoE DE-SC00671). Collaborative Project between Columbia University, NASA and Cornell University  
Role: Project Director and Institutional PI. Budget: \$750,000.

2010 – 2015 **Atmospheric aerosol impacts on health in sub-Saharan Africa**  
Earth Institute Cross-Cutting Initiative (CCI).  
Role: PI. Budget: \$45.000.

2006 – 2009 **Improvement of the Dust Regional Atmospheric Model (DREAM) for prediction of Saharan dust events in the Mediterranean and the Canary Islands.**  
Ministry of Science and Technology, Spain. Contract CGL2006-11879/CLI.  
Role: PI. Budget: EUR 98,000.

## OTHER GRANTS AS CO-I, RESEARCH GROUP SUPERVISOR OR COLLABORATOR

- 2023 – 2026 **Centro de Excelencia Severo Ochoa**, awarded to the Barcelona Supercomputing Center by the Government of Spain.  
Role: “Garante” and Co-I (PI: Mateo Valero). Budget: EUR 4 million.
- 2021 – 2022 **Bases Científicas para un Plan Nacional de Ozono 2022**, funded by the Ministry for the Ecological Transition and the Demographic challenge, Spain.  
Role: Group Supervisor and Co-I (Coordinator: Xavier Querol, CSIC). Budget: EUR 100,000.
- 2022 – 2026 **Non-CO2 Forcers and their Climate, Weather, Air quality and Health Impacts (FOCI)**. Horizon Europe. Call HORIZON-CL5-2021-D1-01 — Climate sciences and responses.  
Role: WP leader (Responsible from AC group: Oriol Jorba). Budget: EUR 429,843.
- 2021 – 2025 **Research Infrastructures Services Reinforcing Air Quality Monitoring Capacities in European Urban & Industrial Areas (RI-URBANS)**. H2020. Call H2020-LC-GD-2020-6  
Role: Group Supervisor (Responsible from AC group: Oriol Jorba). Budget: EUR 107,000.
- 2023 – 2027 **Methodologies for Assessing the Real Costs to Health of Environmental Stressors (MARCHES)**. Horizon Europe. Call HHORIZON-HLTH-2022-ENVHLTH-04-01.  
Role: Group Supervisor (Responsible from AC group: Marc Guevara)
- 2021 – 2020 **Signs of Early Adaptation to Climate Change (EARLY ADAPT)**, ERC Consolidator Grant Subcontractor.  
Role: Co-I. (PI: Joan Ballester from ISGlobal). Budget: EUR 50,000.
- 2020 **Development of European emissions during the COVID-19 lockdown period**. ECMWF/RFQ/2020/COP\_066. Funded by the Copernicus Atmosphere Monitoring Service.  
Role: Group Supervisor (PI: Marc Guevara from AC group). Budget: EUR 59,903.
- 2020 **Development of European emissions during the COVID-19 lockdown period - Phase 2**. ECMWF/RFQ/2020/COP\_079. Funded by the Copernicus Atmosphere Monitoring Service.  
Role: Group Supervisor (PI: Marc Guevara from AC group). Budget: EUR 56,997
- 2021 – 2023 **Dust-Ocean Modelling & Observing Study (DOMOS)**. European Space Agency (ESA).  
Role: Co-I and Group Supervisor. Budget: EUR 120,000.
- 2020 – 2023 **Air Quality: Worldwide Analysis and Forecasting of Atmospheric Composition for Health (AQ-WATCH)**. H2020, Call H2020-SPACE-2018-2020.  
Role: Co-I and Group Supervisor. Budget: EUR 170,000.
- 2022 – 2025 **CO2MVS Research on Supplementary Observations (CORSO)**. Horizon Europe.  
Role: Group Supervisor (Responsible from AC group: March Guevara). Budget: EUR 385,625.
- 2023 – 2025 **CAMS Evolution (CAMEO)**. Horizon Europe. Call HORIZON-CL4-2021-SPACE-01-42.  
Role: Co-I and Group Supervisor (Responsible from AC group: Oriol Jorba). Budget: EUR 473,125.
- 2022 – 2025 **CAMS2\_61 Global and European emission inventories**. Copernicus Atmosphere Monitoring Service contract.  
Role: Group Supervisor (Responsible from AC group: Marc Guevara). Budget: 166,448.
- 2022 – 2025 **CAMS2\_82 Evaluation and Quality Control (EQC) of global products**. Copernicus Atmosphere Monitoring Service contract.  
Role: Group Supervisor (Responsible from AC group: Sara Basart). Budget: EUR 104,207.
- 2021 – 2025 **CAMS2\_40 Regional air quality products**. Copernicus Atmosphere Monitoring Service contract.  
Role: Group Supervisor (Responsible from AC group: Oriol Jorba). Budget: EUR 466,001.
- 2021 – 2025 **CAMS2\_35 Developments for reactive gases and aerosol in the Global System**. Copernicus Atmosphere Monitoring Service contract.  
Role: Co-I and Group Supervisor (Responsible from AC group: Maria Gonçalves). Budget: EUR 23,843.
- 2020 – 2021 **CAMS 81 (2) Global and regional emissions**. Copernicus Atmosphere Monitoring Service contract.  
Role: Co-I and Group Supervisor (Responsible from AC group: Marc Guevara). Budget: EUR 44,060,00.
- 2020 – 2021 **CAMS\_61 Development of regional air quality modelling and data assimilation aspects**. Copernicus Atmosphere Monitoring Service contract.  
Role: Group Supervisor (Responsible from AC group: Oriol Jorba). Budget: EUR 127,461.
- 2019 – 2023 **Constrained aerosol forcing for improved climate projections (FORCES)**  
H2020, Call: H2020-LC-CLA-2018-2019-2020 (SEP-210520751)  
Role: Co-I and Group supervisor. Budget: EUR 197,000 (from a total of EUR 8 million)

- 2019 – 2021 **CAMS 43: Development of global aerosol aspects.** Copernicus Atmosphere Monitoring Service.  
Role: Co-I and Group Supervisor (Responsible from AC group: Jeronimo Escribano). Budget: EUR 64,616
- 2018 – 2022 **SOLving WATER Issues for ConcenTRated Solar Power PlanTs (SOLWARIS).** H2020. Call H2020-LCE-2016-2017.  
Role: Co-I and Group Supervisor. Budget: EUR 304,022.50 (from a total of EUR 10,812,502).
- 2018 – 2021 **Public policies, urban Organization and Logistics as Levers for EXPOsure (POLL-EXPO)** PRIMEQUAL : Programme de Recherche Interorganisme pour une meilleure qualité de l'air - Ministère de la Transition Ecologique et Solidaire, France  
Role: Co-I and Group supervisor (PI: Isabelle Coll from LISA). Budget: EUR 19,128.38 Euro (from a total of EUR 274.160).
- 2018 – 2021 **CAMS 84 (2) Global and regional a posteriori validation, including focus on the Arctic and Mediterranean areas.** Copernicus Atmosphere Monitoring Service.  
Role: Group Supervisor (Responsible from my group: Sara Basart). Budget: EUR 185.244,59
- 2018 – 2020 **CAMS 50: Regional production.** Copernicus Atmosphere Monitoring Service.  
Role: Group Supervisor (Responsible from my group: Oriol Jorba)  
Budget: EUR 104.512,94.
- 2018 – 2019 **Dust Early Warning System for Burkina Faso.** World Meteorological Organization.  
Role: Co-I and Group supervisor (PI: Sara Basart from my group). Budget: EUR 14.776,28
- 2017 – 2021 **International Network to Encourage the Use of Monitoring and Forecasting Dust Products (InDust).** COST Action CA16202  
Role: Member - Management Committee, Group supervisor (Chair/PI: Sara Basart from my group). Budget: EUR 412.801,64
- 2017 – 2019 **Aerosols, Clouds and Trace Gases Preparatory Phase Project (ACTRIS PPP).** H2020 Program. Call H2020-INFRADEV-2016-2.  
Role: Co-I and Group supervisor. Budget: EUR 21,250 (total of 3.999.996,25 Euro).
- 2017 – 2020 **CAMS 81: Global and Regional emissions.** Copernicus Atmosphere Monitoring Service.  
Role: Co-I and Group Supervisor (main contributor from my group: Marc Guevara). Budget: EUR 109,687.50
- 2017 – 2020 **Dust Storms Assessment for the development of user-oriented Climate Services in Northern Africa, Middle East and Europe (DustClim).** H2020 ERA4CS Joint Call for Transnational Collaborative Research Projects  
Role: Co-I and Group supervisor (PI: Sara Basart from my group). Budget: EUR 319,125
- 2017 – 2019 **Air quality Forecast System for Mexico City and its Metropolitan Area**  
Awarded by Secretaría de Medio Ambiente de Ciudad de México (SEDEMA)  
Role: Group Supervisor (PI: March Guevara from my group). Budget: EUR 177.860,72 (1st phase) & EUR 87.583,12 (2<sup>nd</sup> phase)
- 2016 – 2019 **Photochemical modelling to attribute emission sources and source regions to high particulate matter concentration in urban areas in Spain (PAISA)**  
Proyecto Pan Nacional (2017) awarded by Agencia Estatal de Investigación.  
Role: Group Supervisor (PI: María Teresa Pay from AC group). Budget: EUR 118,580
- 2012 – 2014 **Composition, sources and multi-decadal evolution of the dust and particulate pollutants observed in the subtropical Saharan Air Layer (POLLINDUST).** Awarded by the Ministry of Science and Innovation (Spain). Contract CYCIT CGL2011-26259  
Role: Subcontractor (PI: Sergio Rodríguez from Izaña Observatory). Budget: EUR 109,000
- 2010 – 2011 **The role of airborne dust and climate in meningococcal meningitis outbreaks in the Sahel.**  
A Pilot Proposal to the NIEHS Center for Environmental Health in Northern Manhattan.  
Role: Co-I PI: Sylwia Trzaska from IRI. Budget: \$50,500
- 2008 – 2011 **Implementation of Chemistry on-line with the NCEP UMO Global Regional Model**  
Awarded by the Ministry of Science and Innovation (Spain) CGL2008-02818.  
Role: Collaborator. PI: Oriol Jorba Casellas from BSC. Budget: EUR 90,000.
- 2008 – 2011 **TIGERZ - AERONET/CALIPSO Validation in India**  
Four-year intensive field campaign to measure aerosol microphysical and optical properties over India. I provided specific dust forecasts for the campaign.  
Role: Collaborator
- 2007 – 2013 **Supercomputing and e-Science.** Programa CONSOLIDER-INGENIO.  
Role: Co-I. PI: Mateo Valero Cortés from BSC. Budget: EUR 5,000,000

- 2007 – 2009 **Saharan Mineral Dust Experiment II (SAMUM II)**  
German Research Foundation (Deutsche Forschungsgemeinschaft, DFG)  
Role: Collaborator. PI: Jost Heintzenberg from IfT Leipzig
- 2006 – 2011 **European Aerosol Research Lidar Network - Advanced Sustainable Observation System**  
EC FP6 Structuring the European Research Area Specific Programme - Research Infrastructures Action. Contract number 025991.  
Role: Collaborator. PI: Gelsomina Pappalardo from CNR
- 2006 – 2009 **CALIOPE: Operational Air Quality Forecast System for Spain**  
Funded by the Ministry of Environment (441/2006/3-12.1, A357/2007/2-12.1, 157/PC08/3-12.0)  
Role: Co-I. PI: José Maria Baldasano from BSC. Budget: EUR 354,414 (1<sup>st</sup> year); EUR 301,630 (second year); EUR 533,214 (3<sup>rd</sup> year).
- 2006 – 2009 **High-resolution modelling of atmospheric pollution by anthropogenic and natural particulate matter in the Iberian Peninsula.**  
Awarded by the Ministry of Science and Innovation (Spain). Contract CYCIT CGL2006-08903.  
Role: Collaborator. PI: Pedro Jiménez Guerrero from BSC). Budget: EUR 140,000.
- 2006 – 2009 **Operational System of Air Quality Forecasting for the Iberian Peninsula**  
Spanish-Portuguese integrated action HP2006-0035  
Role: Co-I. PI's: José M. Baldasano and Carlos Borrego
- 2006 – 2009 **Global and Regional Interactions of Air Quality and Climate: Modeling Forcings and Feedbacks**  
DEISA Extreme Computing Initiative, EC 6<sup>th</sup> Framework Programme.  
Role: Collaborator
- 2006 – 2009 **Red de Lidares Europea para investigación de aerosoles: sistema de observación avanzado**  
Complementary action project CTM2006-27154/TECNO.  
Role: Collaborator. PI: José M. Baldasano from BSC
- 2005 – 2008 **TROMPETA. TROPical Monitoring Phase in the Atmosphere.**  
Plan Nacional de I+D. CGL2004-03669/CLI.  
Role: Collaborator. PI: M. Gil from INTA
- 2005 – 2006 **Saharan Mineral Dust Experiment I (SAMUM I)**  
German Research Foundation(Deutsche Forschungsgemeinschaft, DFG) project FOR 539.  
Role: Collaborator. PI: Jost Heintzenberg from IfT Leipzig
- 2004 **Determinación de aerosoles por medidas obtenidas en columna y en superficie”**  
Red Temática Damocles REN2002-12784-E/CLI  
Role: Collaborator. PI: José Ant. Martínez Lozano from Univ. de Valencia, Spain
- 2004 – 2008 **ACCENT Network of Excellence**  
FP6 programme of the European Commission.  
Role: Participant
- 2003 – 2006 **Determination of circulatory patterns and outbreak processes of Saharan Dust**  
Funded by the Ministry of Science and Technology. Contract CICYT REN2003-09753-C02-01.  
Role: Co-I. PI: José María Baldasano from Universitat Politècnica de Catalunya, Spain
- 2001 – 2004 **Application of Supercomputing in the Field of Atmospheric Pollutant Dispersion Modeling.**  
Supercomputing Center of Catalonia (CESCA)  
Role: Collaborator. PI: José M. Baldasano from Universitat Politècnica de Catalunya, Spain
- 2001 – 2003 **Methodology and Model Integration for Forecasting and Analysis of Air Pollution and the Weather and Their Effects (IMMPACTE)**  
Contract CIRIT of the Government of Catalonia.  
Role: Collaborator. PI: José M. Baldasano from Universitat Politècnica de Catalunya, Spain.
- 2000 – 2003 **Characterization of air pollutants dynamics in the area of the Western Mediterranean Basin.**  
Awarded by the Ministry of Science and Technology. CICYT REN2000-1020-C02-02/CLI  
Role: Collaborator. PI: Dr. Santiago Gassó from Universitat Politècnica de Catalunya, Spain
- 2000 – 2003 **EARLINET. European Aerosol Research Lidar Network to Establish an Aerosol Climatology**  
V Framework Program for Research and Technological Development of the European Union, Contract UE EVR1-CT-1999-40003.  
Role: Collaborator. PI: J. Bösenberg. Max-Planck Institut für Meteorologie, Hamburg, Germany
- 2000 – 2003 **Measures of Aerosols Distribution through Lidar Techniques in the Framework of EARLINET** Special Complementary Action Contract REN2000-1907-EC.

Role: Collaborator. PI's: José M. Baldasano and Adolfo Comerón from Universitat Politècnica de Catalunya, Spain.

## COMPETITIVE SUPERCOMPUTING RESOURCES OBTAINED

- 2022 – 2023 Benchmarking ensemble data assimilation of atmospheric composition for reanalysis applications. RES access. **3.4 million core hours** in Marenostrum IV Supercomputer. Role: Collaborator (PI: Enza Di Tomaso)
- 2022 – 2023 Significance of mineral dust composition towards aerosol radiative forcing in Earth System Models. **3.7 million core hours** in Marenostrum IV Supercomputer. Role: Collaborator (PI: María Gonçalves)
- 2022 Unraveling the role of nitrogen oxides and volatile organic compounds reactivity in the formation of tropospheric ozone: towards the design of ozone mitigation strategies. **9.4 million core hours** in Marenostrum IV Supercomputer. Role: Collaborator (PI: Oriol Jorba)
- 2022 Understanding dust emission and transport across key source regions. **4.9 million core hours** in Marenostrum IV Supercomputer. Role: Co-I (PI: Elina Karnezi)
- 2021 – 2022 eFRontiers in dust mineralogical composition and its effects on climate, phase 3. PRACE access. **20 million core hours** in Marenostrum IV Supercomputer. Role: PI
- 2019 – 2020 eFRontiers in dust mineralogical composition and its effects on climate, phase 2. PRACE access. **35 million core hours** in Marenostrum IV Supercomputer. Role: PI
- 2018 – 2019 eFRontiers in dust mineralogical composition and its effects on climate, phase 1. PRACE access. **34 million core hours** in Marenostrum IV Supercomputer. Role: PI
- 2017 – 2018 High-resolution regional dust reanalysis based on ensemble data assimilation techniques (eDUST). PRACE access. **21 million core hours** in Marenostrum IV Supercomputer. Role: Co-I (PI: Sara Basart)

## COORDINATION OF FIELD CAMPAIGNS

- 2022 Co-coordinator together with Martina Klose (KIT) of a campaign in the KIT Atmospheric Simulation Chamber (AIDA) in the context of the ATMOS ACCCES project Dust-Induced ice nucleation: Effects of Mineralogical Composition and Size (MICOS01). Nov-Dec 2022.
- 2022 Co-coordinator together with Martina Klose of [Jordan Wind Erosion and Dust Investigation \(J-Wadi\)](#) field campaign that took place in the Wadi Rum Desert of Jordan, linked to the FRAGMENT ERC Consolidator Grant. Sept-Oct 2022.
- 2022 Coordinator of the soil sampling and spectroscopy field campaign across the Mojave Desert in the US, linked to the FRAGMENT ERC Grant. May-June 2022
- 2021 Co-coordinator together with Konrad Kandler (TUDA) of a wind erosion, dust emission and transport field campaign in the desert of Dyngjúsandur, Iceland, linked to the FRAGMENT ERC Grant. Aug-Sep 2021
- 2019 Co-coordinator of a wind erosion and dust emission field campaign in the lower Draa Valley, Morocco, linked to the FRAGMENT ERC Grant. Sep-Oct 2019.

## FELLOWSHIPS AND PRIZES

- 2017 **Agustín de Betancourt y Molina prize**. Awarded by the Spanish Royal Academy of Engineering for my contributions in the field of environmental risks, and in particular, the field of mineral aerosols.
- 2016 – 2020 **Ramon y Cajal fellowship (ranked #1 by the Earth Sciences Panel)**. Awarded by the Ministry of Economy, Industry and Competitiveness, Spain. Amount: EUR 210,000
- 2014 **Co-author of the Best Publication of 2014 at NASA Goddard Institute for Space Studies**
- 2014 **Best Science Brief of 2014 at NASA Goddard Institute for Space Studies**
- 2009 – 2011 **Earth Institute Fellowship** (~5% success rate). Earth Institute at Columbia University, New York. Amount: \$110,000.
- 2009 Mobility grant José Castillejo to visit NOAA/NCEP. Awarded by the Ministry of Science and Innovation, Spain. Amount: EUR 20,000
- 2001 – 2005 PhD Thesis fellowship awarded by the Polytechnic University of Catalonia, Spain.
- 2007 Poster presentation prize at the 11th International Conference on Harmonisation within atmospheric dispersion modelling for atmospheric purposes.
- 1998 – 2000 EU Fellowship to obtain the double Spanish-French Engineering degree at the École Centrale Paris, France

## SUPERVISION OF MASTER STUDENTS

- 2021 *Roger Garatachea*. Polytechnic University of Catalonia. Master in Environmental Engineering.  
2019 *Elisa Bergas-Massó*. University of Barcelona (Spain), Master in Meteorology.  
2019 *Aleix Bou Comas*. University of Barcelona (Spain), Master in Meteorology.  
2013 *Yang Liu*. Columbia University (US). Master in Climate and Society  
2006 Natalie Clave. Université Pierre et Marie Curie (France). Master Remote Sensing Methods Physics  
2005 *Aurelien Henon*. École Centrale de Nantes et l'Université de Nantes (France). Master in Mécaniques Appliquées / Spécialité Dynamique des fluides et des transferts.

## SUPERVISION OF PHD STUDENTS

- 2022 *Roger Garatachea*. Polytechnic University of Catalonia. PhD in Environmental Engineering. Role: Co-Advisor (Advisor: Oriol Jorba). Ongoing.  
2021 - *Elisa Bergas-Massó*. Polytechnic University of Catalonia. PhD in Environmental Engineering. Role: Advisor (Co-Advisor: María Gonçalves). Ongoing  
2021 – *Ruben Sousse*. Polytechnic University of Catalonia. PhD in Environmental Engineering. Role: Advisor (Co-Advisor: Oriol Jorba). Ongoing.  
2018 – *Cristina González Flórez*. Polytechnic University of Catalonia. PhD in Environmental Engineering. Role: Advisor (Co-Advisor: Martina Klose). (FI Fellowship) Ongoing.  
2018 – *Agnesh Panta*. Technical University Darmstadt. PhD in Geosciences. Role: Co-Advisor (Advisor: Konrad Kandler). Ongoing.  
2018 – *Adolfo González Romero*. Polytechnic University of Catalonia. PhD in Environmental Engineering. Role: Co-Advisor (Advisor: Xavier Querol). Ongoing.  
2011 – 2015 *Michele Spada*. Polytechnic University of Catalonia. PhD in Environmental Engineering. Role: External Advisor (Advisor: Oriol Jorba). Cum Laude.  
2008 – 2012 *Sara Basart*. Polytechnic University of Catalonia. PhD in Environmental Engineering. Role: Advisor (Co-Advisor: Emilio Cuevas). Cum Laude.  
2008 – 2012 *Karsten Hausteijn*. Polytechnic University of Catalonia. PhD in Environmental Engineering. Role: Advisor (Co-Advisor: José María Baldasano). Cum Laude.

## SUPERVISION OF POSTDOCTORAL FELLOWS AND EARLY CARRIER RESEARCHERS

- 2021 – *Luka Ilic*. Barcelona Supercomputing Center  
2020 – *Montserrat Costa*. Barcelona Supercomputing Center  
2018 – *Jerónimo Escribano*. Barcelona Supercomputing Center  
2018 – *Hervé Petetin*. Barcelona Supercomputing Center (now Ramon y Cajal Researcher at BSC)  
2018 – *Eleni Karnezi*. Barcelona Supercomputing Center  
2018 – *Dene Bowdalo*. Barcelona Supercomputing Center (co-supervising with Oriol Jorba)  
2018 – 2020 *Vincenzo Obiso*. Barcelona Supercomputing Center (destination: Goddard Institute for Space Studies)  
2017 – 2020 *Antonis Gkikas*. National Observatory of Athens (co-supervising with Vassilis Amiridis)  
2017 – 2020 *Martina Klose*. Barcelona Supercomputing Center (destination: Karlsruhe Institute of Technology)  
2016 – *Marc Guevara*. Barcelona Supercomputing Center  
2016 – 2022 *Sara Basart*. Barcelona Supercomputing Center (destination WMO)  
2016 – *Enza Di Tomaso*. Barcelona Supercomputing Center  
2016 – 2021 *Maria Teresa Pay*. Barcelona Supercomputing Center (destination University of Barcelona)  
2015 – 2016 *Adrien Deroubaix*. Geophysical Fluid Dynamics Laboratory (co-supervising with Paul Ginoux)

## POSTDOC AND OTHER FELLOWSHIPS OBTAINED BY GROUP MEMBERS

- 2023 – 2027 *Herve Petetin*. Ramón y Cajal Fellowship at BSC.  
2020 – *Martina Klose*. [Helmholtz Young Investigator Group at KIT funded by the Helmholtz Association of German Research Centers](#).  
2020 – 2023 *Montserrat Costa*. STARS CO-FUND Postdoc Fellow. Supervisor: Carlos Pérez García-Pando  
2018 – 2020 *Martina Klose*. Marie Curie Postdoc Fellow. DUST.ES2. Supervisor: Carlos Pérez García-Pando  
2018 – 2020 *Jerónimo Escribano*. STARS CO-FUND Postdoc Fellow. Supervisor: Carlos Pérez García-Pando  
2018 – 2020 *Hervé Petetin*. STARS CO-FUND Postdoc Fellow. Supervisor: Albert Soret, Carlos Perez García-

Pando.

- 2017 – 2019 *Matt Dawson*. Marie Curie Postdoc Fellow. ACRONNIM. Supervisor: Oriol Jorba  
2017 – 2018 *Martina Klose*. Beatriu de Pinós Postdoc Fellow. DUST.ES. Supervisor: Carlos Pérez García-Pando

## SECONDED POSTDOC FELLOWSHIPS

- 2017 – 2019 *Antonis Gkikas*. Marie Curie Postdoc Fellow. DUST GLASS. National Observatory of Athens. Supervisors: Vassilis Amiridis (main) and Carlos Pérez García-Pando (secondment)  
2017 – 2019 *Leonardo Micheli*. Marie Curie Postdoc Fellow. NoSoilPV. Universidad de Jaen. Supervisors: Eduardo Fernández (main) and Carlos Pérez García-Pando (secondment)

## JOURNAL ARTICLES PUBLISHED OR ACCEPTED (Google Scholar: 6900 citations, H-In 44)

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## BOOK EDITOR

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11. Miller, R.L., P. Knippertz, **C. Pérez García-Pando**, J.P. Perlwitz, and I. Tegen, 2014: Impact of dust radiative forcing upon climate. *In Mineral Dust: A Key Player in the Earth System*. P. Knippertz, and J.-B.W. Stuut, Eds. Springer, 327-357, doi:10.1007/978-94-017-8978-3\_13.
12. **Contributing author** of “*The Atmospheric Input of Chemicals to the Ocean*”. 2012. [GESAMP Reports and Studies 84. GAW Report 2003](#)
13. **Contributed**. Atlas of Health and Climate. 2012. [WHO/WMO. ISBN 978 92 4 156452 6 \(WHO; NLM classification: WA 30.5\); 978-92-63-11098-5 \(WMO\). pp 68.](#)
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17. **Pérez, C.**, J.M. Baldasano, P. Jiménez-Guerrero, O. Jorba, K. Haustein, E. Cuevas, S. Basart and S. Nickovic, 2009. Dust modelling and forecasting in the Barcelona Supercomputing Center: Activities and developments. IOP Conf. Ser.: Earth Environ. Sci. 7 012013 (7pp). Edited by **C. Pérez** and J.M Baldasano. doi: 10.1088/1755-1307/7/1/012013.
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21. Gobbi, G.P., **C. Pérez**, F. Angelini, G. Ciolli, F. Barnaba, 2007. Properties and Environmental Impact of Saharan Dust Layers Over Rome (Italy): Observations and Model Results. Excerpt of “Earth: Our Changing Planet. Proceedings of IUGG XXIV General Assembly Perugia, Italy 2007” Compiled by Lucio Ubertini, Piergiorgio Manciola, Stefano Casadei, Salvatore Grimaldi. ISBN: 978-88-95852-25-4.
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23. **Pérez, C.** et al., 2007. Long-term simulations (1958-2006) of Saharan dust over the Mediterranean and the Eastern North Atlantic with the DREAM regional dust model. Excerpt of “Earth: Our Changing Planet. Proceedings of IUGG XXIV General Assembly Perugia, Italy 2007” Compiled by Lucio Ubertini, Piergiorgio Manciola, Stefano Casadei, Salvatore Grimaldi. ISBN: 978-88-95852-25-4.
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25. Jiménez-Guerrero, P., O. Jorba, **C. Pérez**, J.M Baldasano, 2007. Isolating the effects of climate on air pollutants concentrations during summertime in the Mediterranean. Excerpt of “Earth: Our Changing Planet. Proceedings of IUGG XXIV General Assembly Perugia, Italy 2007” Compiled by Lucio Ubertini, Piergiorgio Manciola, Stefano Casadei, Salvatore Grimaldi. ISBN : 978-88-95852-25-4.



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27. Jorba O., P. Jiménez, **C. Pérez** and J.M. Baldasano, 2005. Characterization of Ozone and Particulate Matter levels in a Coastal site with the application of a Trajectory Clustering Correlation Methodology. *Proceedings of the 10th Int. Conf. On Harmonisation within Atmospheric Dispersion Modeling for Regulatory Purposes*. Editors: A.N. Skouloudis, P. Kasomenos and J. Bartzis: 36-40. ISBN: 960 233 166 6.
28. Jiménez, P., O. Jorba, R. Parra, **C. Pérez**, M. Viana, A. Alastuey, X. Querol, J.M. Baldasano, 2005. High-resolution modeling of gaseous photochemical pollution and particulate matter in Barcelona air basin. Edited by Sokhi, R. S., Millan, M. M., Moussiopoulos, N. 5<sup>th</sup> International Conference on Urban Air Quality. University of Herfordshire, ISBN: I-898543-92-5.
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30. Papayannis, A. et al (including **C. Pérez**), 2004. Saharan dust outbreaks towards Europe: 3 years of systematic observations by the European lidar Network in the frame of the EARLINET project (2000-2003). 22nd International Laser Radar Conference (ILRC 2004), Proceedings of the Conference held 12-16 July, 2004 in Matera, Italy. Edited by Gelsomina Pappalardo and Aldo Amodeo. ESA SP-561. Paris: European Space Agency, 2004, p.845 (<http://adsabs.harvard.edu/full/2004ESASP.561..845P>).
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## INVITED LECTURES

1. *Comprehensive high-latitude dust field campaign in the desert of Dyngjunsandur, Iceland*. American Geophysical Union (AGU) Fall Meeting 2021, New Orleans, Dec 13-17.
2. *The NASA Earth Surface Mineral Dust Source Investigation*, Goldschmidt 2021 Conference, Lyon, France. July 4-9. (Keynote)
3. *Dust Composition in climate models*. [InDust Webinar](#). 30 June 2021.
4. *Constraining regional variations in dust mineralogical composition in models*. International Technical Meeting on Air Pollution Modelling and Its Application. October 18 – 22, 2021. (Keynote)
5. *Frontiers in dust mineralogical composition and its effects upon climate (FRAGMENT)*. European Geosciences Union General Assembly. April 7-12, 2019.
6. *BSC's contribution to CAMS and associated activities*. Workshop on Copernicus climate change and atmosphere monitoring services. Santander, Spain. 19 March 2019.
7. *Impact of soil dust aerosols upon weather and climate*. 2<sup>nd</sup> WMO Workshop on Operational Climate Prediction, 30 May - 1 June 2018, Barcelona, Spain.
8. *Challenges and Perspectives in Dust Modeling*. 5th International Workshop on Sand Dust Storms, 23-25 Oct. 2017, Istanbul.
9. *Atmospheric Composition research, modeling and services at BSC*. ISGLObal Seminar. 13 June 2017.
10. *Atmospheric Dust Modeling: Challenges and Perspectives*. Webinar PVQAT Soiling Group TG-12. April 18, online.
11. *Dust Storms: characteristics, effects and prediction*. Kuwait Institute for Scientific Research, Kuwait, 14 February 2017.
12. *Frontiers in dust mineralogical composition and its effects upon climate*. Goldschmidt Conference, Paris. August 13-18, 2017. (Keynote)
13. *Climate services and infectious disease: the case of meningococcal meningitis epidemics*. Climateurope 2nd Webinar. 16 November 2016.
14. *Modeling Mineral Dust and its Effects upon Climate: Current Status and Challenges*. 1st National French Dust Workshop, Paris. March 2, 2016. (Keynote)

15. *Dust Composition in Climate Models: Current Status and Prospects*. American Geophysical Union (AGU) Fall Meeting 2015, San Francisco.
16. *Constraining the Dust Mineral Composition in Climate Models*. Conference on Airborne Dust, Climate Change, and Human Health. Organized by Henry F. Diaz, Joseph M. Prospero and Roger S. Pulwarty. Miami, Florida. May 19–21, 2015.
17. *Can We Inform Reactive Vaccination Strategies for Meningococcal Meningitis in Sub-Saharan Africa Using Dust and Climate Predictors?* Conference on Human Health in the Face of Climate Change: Science, Medicine, and Adaptation. Organized by the "la Caixa" Foundation, BIOCAT, and the New York Academy of Sciences. Barcelona, Spain. May 14 - 15, 2015
18. *Using Brittle Fragmentation Theory to Estimate Aerosol Mineral Composition in Climate Models*. Severo Ochoa Research Seminar Lectures. Barcelona Supercomputing Center. March 26, 2015.
19. *Soil dust aerosols and wind as predictors of seasonal meningitis incidence in Niger*. Climate and Health Seminar. Department of Environmental Health Sciences. Mailman School of Public Health, Columbia University (New York). February 27, 2014.
20. *Meningitis and Climate: From Science to Practice (a review)*. Workshop: “Next Generation Modeling: Climate, Weather and Infectious Disease” organized at Princeton University by the NIH Fogarty International Center Research and Policy for Infectious Disease Dynamics (RAPIDD) program. Princeton University. January 2014.
21. *Mineral dust in Northern Africa*. Concept Development Workshop: Impact of Saharan Dust Particles on Epidemic Bacterial Meningitis. Norwegian Institute of Public Health. Oslo, Norway. September 2013.
22. *Meningitis and Climate – from Science to Practice*. Concept Development Workshop: Impact of Saharan Dust Particles on Epidemic Bacterial Meningitis. Norwegian Institute of Public Health. Oslo. September 2013.
23. *Climate and infectious disease: the case of Meningococcal Meningitis Epidemics in sub-Saharan Africa*. Earth Science Seminars. Universitat Politècnica de Catalunya and BSC-CNS (Spain). 1 February 2012.
24. *A 30-year high-resolution model reanalysis of dust and climate for the Meningitis Belt*. The Earth Institute Fellows Symposium. Columbia University (New York). 4 May 2012.
25. *An online mineral dust forecast model from meso to global scales: description, validation and applications*. GISS seminar series. NASA Goddard Institute for Space Studies (New York). 20 October 2010.
26. *How does climate influence infectious diseases? Unraveling the effects of dust and climate on meningitis epidemics in the Sahel*. Earth Institute Fellows Symposium. Columbia University (New York). 10 May 2010.
27. *The WMO Sand and Dust Storm Warning Advisory and Assessment System (SDS-WAS): A Global Consortium Helping Society Reduce Risk Through Research, Assessments and Forecasts*. Air Quality and GEOS Meeting. Nov 18th, 2009. Washington DC.
28. *NMMB developments: radiation, mineral dust and chemistry*. NOAA/NCEP/EMC Seminar Series. May 26<sup>th</sup> 2009. NOAA Science Center (World Weather Building, Camp Springs, Maryland)
29. *Understanding mineral dust radiative feedbacks upon atmospheric dynamics and impacts on NWP at regional scales*. NASA GSFC Aerocenter Seminar. May 12<sup>th</sup>, 2009. Greenbelt, Md.
30. *An overview of the atmospheric mineral dust cycle and current research and operational activities at the Barcelona Supercomputing Center*. NOAA/NCEP/EMC Seminar Series. April 3<sup>rd</sup> 2009. NOAA Science Center (World Weather Building), Camp Springs, Maryland.
31. *Dust emission modeling and dust forecast evaluation at the Barcelona Supercomputing Center*. NOAA/NWS/NCEP Dust Emissions Workshop. March 25<sup>th</sup>, 2009. Silver Spring, Maryland.
32. *Mineral Dust Modeling at the Barcelona Supercomputing Center: An overview of activities, developments and applications*. Monthly Ozone/Aerosol DA Teleconference. March 6<sup>th</sup> 2009. NOAA Science Center (World Weather Building, Camp Springs, Maryland).
33. *Atmospheric Mineral Dust Modeling and Forecasting: On-Going Activities, Developments and Applications*. Earth Institute's International Research Institute for Climate and Society (IRI) special seminar. March 9<sup>th</sup> 2009. Columbia University, Lamont Campus, Monell Building (New York).
34. *Mineral dust modeling and forecasting at the Barcelona Supercomputing Center: activities, developments and applications*. First Meeting of the Regional Steering Committee of the SDSWAS. 24-25 November 2008, Institut National de la Météorologie HQ, Tunis-Carthage (Tunis).
35. *WMO Sand and Dust Storm Warning Advisory and Assessment System: Current and planned activities of the Regional Center SDSWAS for North Africa, Europe and Middle East*. First Meeting of the Regional Steering Committee of the SDSWAS. 24-25 November 2008, Institut National de la Météorologie HQ, Tunis-Carthage.
36. *Understanding aerosol feedbacks on atmospheric dynamics and impacts on NWP: a mineral dust example*. Fall Colloquium on the Physics of Weather & Climate: ‘Regional Weather Predictability and Modelling’. Abdus Salam International Centre for Theoretical Physics (Trieste). Italy Sept 29 - October 10, 2008.

37. *Dust feedbacks on atmospheric dynamics: insights from a regional model*. 3rd Mineral Dust Workshop. (Leipzig, Germany). 15-17 September 2008.
38. *Present and future capabilities of the Sand and Dust Storm Warning System for North Africa to provide knowledge on environmental risk indicators of meningitis epidemics*. GEO Meningitis Environmental Risk Consultative Meeting, Geneva, 26-27 September 2007.
39. *Saharan Dust and Blooms of Diazotrophic Cyanobacteria off the NW African Upwelled Waters*. Sand and Dust Storm Warning System Expert Meeting SDSWS, BSC-CNS/WMO/INM/CSIC, Barcelona, 7-9 Nov 2007.
40. *Dust modeling and forecasting at the Barcelona Supercomputing Center: activities and developments*. Sand and Dust Storm Warning System Expert Meeting SDSWS, BSC-CNS/WMO/INM/CSIC, Barcelona, 7-9 Nov 2007.

## ABSTRACTS AND ORAL OR POSTER PRESENTATIONS IN CONFERENCES

I have co-authored **more than 350 abstracts** and related presentations or posters in conferences and workshops which are not included here for the sake of brevity. I co-authored 100 abstracts in the last three years.

## ORGANISATION OF SCIENTIFIC MEETINGS

- |      |   |
|------|---|
| 2022 | <b>Co-Convener</b> of the American Geophysical Union Session Models, in Situ, and Remote Sensing of Aerosols (MIRA). Chicago, US. December 2022.                                  |
| 2021 | <b>Co-Convener</b> of the IV International Conference in Atmospheric Dust Session Microphysical, Chemical and Optical properties of Mineral dust, Italy.                          |
| 2019 | <b>Co-Convener</b> of the American Geophysical Union Session Dust in a changing climate: from small-scale insights to large-scale understanding. December 2019.                   |
| 2019 | <b>Local Organizer</b> of the AEROCOM meeting in Barcelona. September 2019  |
| 2018 | <b>Member of the Scientific Committee</b> of the 9th International Workshop on Sand/Duststorms and Associated Dustfall 22-24 May 2018 Tenerife, Spain                             |
| 2018 | <b>Chair of Session</b> on dust, radiation and clouds at the the 9th International Workshop on Sand/Duststorms and Associated Dustfall 22-24 May 2018 Tenerife, Spain             |
| 2018 | <b>Chair of the Special Session</b> on dust and air quality at the 11th International conference on Air Quality – Science and Application, Barcelona, Spain, 12-16 March 2018     |
| 2017 | <b>Chair of Session</b> . 5th International Workshop on Sand Dust Storms, 23-25 Oct. 2017, Istanbul.  |
| 2012 | <b>Workshop Organizer</b> , “Dust, climate and Health in sub-Saharan Africa” sponsored by the Earth Institute, International Research Institute for Climate and Society, New York |
| 2011 | <b>Co-Chair</b> , WMO SDS-WAS/GESAMP Expert Workshop on Modelling and Observing the Impacts of Dust Transport and Deposition on Marine Productivity, Malta                        |
| 2007 | <b>Member of the Steering Committee and local organizer</b> , “WMO/GEO Expert Meeting on an International Sand and Dust Storm Warning System”, Barcelona, Spain                   |

## COMMISSIONS OF TRUST

- |             |   |
|-------------|---|
| 2023 -      | <b>Lead Scientist</b> , World Meteorological Organization Sand and Dust Storm Warning System Regional Center for North Africa, Europe and Middle East.  |
| 2022 -      | <b>Member of the Steering Committee and Regional Center representative</b> , World Meteorological Organization Sand and Dust Storm Warning System Regional Center for North Africa, Europe and Middle East.                                       |
| 2021 -      | <b>Member of the External Scientific Council</b> of the Institut Pierre-Simon Laplace, France.  |
| 2019        | <b>Member of the Expert Committee</b> for the evaluation of the Laboratoire Interuniversitaire des Systèmes Atmosphériques (UMR CNRS 7583). Creteil, France.  |
| 2017 – 2021 | <b>Member of the Steering Committee</b> , World Meteorological Organization Sand and Dust Storm Warning System Regional Center for North Africa, Europe and Middle East.  |
| 2016 – 2022 | <b>Scientific Advisor</b> , World Meteorological Organization Sand and Dust Storm Warning System Regional Center for North Africa, Europe and Middle East. <a href="http://sds-was.aemet.es/">http://sds-was.aemet.es/</a>                        |
| 2014 –      | <b>Evaluator of Research proposals</b> , NERC, UK / Department of Energy, US / MINECO, Spain / DFG, Germany.  |
| 2014        | <b>Member of the expert panel</b> on extreme events for "The Impacts of Climate Change on Human Health in the United States: A Scientific Assessment", as part of the President’s Climate Action Plan, US Global Change Research Program (USGCRP) |

- 2012 **Principal Science Advisor**, Atmospheric dust module of the COMET Program, University Corporation for Atmospheric Research (UCAR) and NOAA National Weather Service.
- 2008 – 2011 **Spanish Representative**, Meningitis Environmental Risk Information Technologies (MERIT), World Health Organization, Geneva, Switzerland
- 2007 – 2010 **Member of the Steering Committee**, World Meteorological Organization Sand and Dust Storm Warning System Regional Center for North Africa, Europe and Middle East
- 2007 **Member of the Writing team**, Implementation Plan for an International Sand and Dust Storm Warning System of the World Meteorological Organization
- 2007 **Editor**, Book of proceedings “WMO/GEO Expert Meeting on an International Sand and Dust Storm Warning System”, IOP Conference Series: Earth Environmental Science
- 2004 **Reviewer**: Science Advances, Scientific Reports, Nature Geoscience, Biomedcentral Infectious Diseases, Journal of Climate, Geoscientific Model Development, Atmospheric Chemistry and Physics, Tellus B, Theoretical and Applied Climatology, Atmospheric Environment, Geophysical Research Letters, Journal of Geophysical Research, and other

## MEMBERSHIPS OF SCIENTIFIC SOCIETIES

- 2019 – European Geosciences Union
- 2016 – Member of the International Cooperative for Aerosol Prediction (ICAP)
- 2009 – American Geosciences Union
- 2008 – 2011 Member of the Meningitis Environmental Risk Information Technologies (MERIT)
- 2004 – 2009 Principal Investigator of the NASA Aerosol Robotic Network (AERONET) in Barcelona.
- 2004 – 2008 European Geosciences Union

## SOME MEDIA HIGHLIGHTS OR INTERVIEWS ABOUT MY RESEARCH

[Cope](#), [El Pais](#), [El Plural](#), [La Razón](#), [La Vanguardia](#), [RTVE \(Vida Verda\)](#), [RNE \(A hombros de gigantes\)](#), [BBC World](#), [The Guardian](#), [Astrobiology Magazine](#), [Phys.org](#), [Psychology Today](#), [Voice of America](#), [SciDevNet](#)

## SOME INSTITUTIONAL HIGHLIGHTS OF MY RESEARCH

[ISGlobal](#), [Barcelona Supercomputing Center 1, 2, 3, 4, 5, 6, 7, 8](#), [NASA Global Climate Change](#), [NASA Goddard Institute for Space Studies](#), [International Research Institute for Climate and Society](#), [ECMWF](#)

## MODELS, FORECASTS, TECHNOLOGY TRANSFER

I have contributed to the development of several models and operational forecast systems:

- BSC-DREAM8b model (Pérez et al., 2006a, Pérez et al., 2006b, Basart et al., 2012).  
The BSC-DREAM8b model has been distributed to meteorological services and research groups in Europe, Africa and the Middle East.
- [MONARCH model](#) (Pérez et al., 2011, Spada et al., 2013, 2015, Jorba et al., 2013; Badia et al., 2017, Di Tomaso et al., 2017, Klose et al., 2021)
- [NASA Earth System ModelE](#) (Miller et al., 2014, Kelley et al., 2020, Miller et al., 2021)
- [EC-Earth3](#) (Van Noije et al., 2021, Myriokefalitakis et al., 2022)
- [MONARCH dust forecasts for Northern Africa, the Middle East and Europe \(SDSWAS\)](#)
- [Multi-model ensemble dust forecasts for Northern Africa, the Middle East and Europe \(SDSWAS\)](#)
- [High resolution air quality forecasts for Spain \(CALIOPE\)](#)
- [CAMS European air quality ensemble forecasts](#)
- [International Cooperative for Aerosol Prediction \(ICAP\)](#)