

CURRICULUM VITAE

Family Name: **Martín del Rey** First Name: **Marta** Date: **December,2015**

CURRENT PROFESSIONAL POSITION

Post-doctoral researcher at LOCEAN-IPSL, Université Pierre et Marie Curie, Paris, France;
email: mmarlod@locean-ipsl.upmc.fr

RESEARCH INTERESTS

Tropical Climate Variability. El Niño-Southern Oscillation and Atlantic Niño. Ocean modeling.
Air-sea interactions.

CLIMATE MODELLING SKILLS

- Highly advance knowledge of the Tropical Atlantic configuration of NEMO Ocean Circulation Model.
- Basic knowledge of the UCLA Atmospheric General Circulation Model (AGCM)

SCIENTIFIC SKILLS

- Knowledge of Linux and Microsoft Windows.
- Knowledge of Matlab, GrADs.

ACADEMIC ACHIEVEMENTS

- **PhD by the Complutense University of Madrid** (July, 2015)
"Tropical Atlantic influence on the Pacific : Air-sea interactions and modulations"
(supervised by Dr. Belén Rodríguez de Fonseca and Dr. Irene Polo Sánchez).
- **Master in Geophysics and Meteorology by the Complutense University of Madrid**
(June 2010)
- **Five year's Degree in Physics, specialized in Atmospheric Physics by the University of Salamanca** (September 2008)

PAST SCIENTIFIC EXPERIENCE

- **PhD Researcher under contract “Enhancing prediction of Tropical Atlantic climate and its impacts” (PREFACE, ref ref.603521).**

Department of Geophysics and Meteorology, Faculty of Physical Sciences, Complutense University of Madrid (Spain), February-April 2015

- **PhD Researcher under contract “Multiscale Climate Variability. Agronomical and Economic impacts” (MULCLIVAR, ref: CGL2012-38923-C02-01).**

Department of Geophysics and Meteorology, Faculty of Physical Sciences, Complutense University of Madrid (Spain), July 2013- January 2015

- **PhD Researcher under contract, “Short term climate change predictability and projections” (ref CGL2011-13564-E)**

Department of Geophysics and Meteorology, Faculty of Physical Sciences, Complutense University of Madrid (Spain), August 1 2012- December 31 2012

- **PhD Researcher under contract, “Tropical Atlantic variability and the Climate Shift “(TRACS, ref CGL2009-10285)**

Department of Geophysics and Meteorology, Faculty of Physical Sciences, Complutense University of Madrid (Spain), April 1 2010- July 31 2012

FOREIGN LANGUAGES SKILLS

- **ENGLISH:** High level of fluency both written, read and spoken.
- **FRENCH:** Competent written and read; standard spoken.

TEACHING EXPERIENCE

2013/2014. Collaboration in Physical Oceanography. Degree in Physics and Master in Geophysics and Meteorology (15 hours)

2010/2011. Collaboration in Physical Oceanography. Degree in Physics and Master in Geophysics and Meteorology (12 hours)

2010/2011. Guide Student in Laboratory of Programming and Numerical Methods. Degree in Physics

SCIENTIFIC-TECHNICAL PUBLICATIONS

Rodríguez-Fonseca B, I Polo, E Mohino, T Losada, **M Martín-Rey** (2015) Modulation of the Tropical Atlantic and Pacific relationship: observation and CMIP5 assessment (in preparation)

Martín-Rey M, I Polo, B Rodríguez-Fonseca, A Lazar (2015c) Air-sea interactions and oceanic processes in the development of different Atlantic Niño patterns (to be submitted)

Martín-Rey M, I Polo, B Rodríguez-Fonseca, T Losada, A Lazar (2015b) On the configurations of the Atlantic Niño phenomenon (to be submitted)

Martín-Rey M, B Rodríguez-Fonseca, I Polo (2015a) Atlantic opportunities for ENSO prediction, *Geophys Res Lett*, 42, doi:10.1002/2015GL065062.

Martín-Rey M, B Rodríguez-Fonseca, I Polo, F Kucharski (2014) On the Atlantic-Pacific Niños connection: An Atlantic Multidecadal Oscillation modulated mode, *Clim Dyn*, 1-16, DOI: 10.1007/s00382-014-2305-3

Polo I, **M Martín-Rey**, B Rodríguez-Fonseca, CR Mechoso, F Kucharski (2014) Processes in the influence of the Tropical Atlantic Sea Surface on Pacific La Niña, *Clim Dyn*, 1-17, DOI: 10.1007/s00382-014-2354-7

Lopez-Parages J, Villamayor J, Gómara I, Losada T, **Martín-Rey M**, Mohino E, Polo I, Rodríguez-Fonseca B, Suarez R (2013) Nonstationary interannual teleconnections modulated by multidecadal variability, *Física de la Tierra*, ISSN 0214-4557.

Martín-Rey M, I Polo, B Rodríguez-Fonseca and F Kucharski (2012) Changes in the interannual variability of the Tropical Pacific related to the equatorial Atlantic, *Sci Mar*, 76S1, doi: 103989/scimar.03610.19A .

STAYS IN FOREIGN CENTRES

LOCEAN-IPSL (UPMC), Collaboration with Alban Lazar

City: Paris Country: France Date: 30/09/2012 Duration: 11 weeks

Subject: The influence of the Subtropical Highs on the development of Atlantic Niños.
Sensitive experiments with Tropical Atlantic configuration of NEMO model

Funding by: Spanish project TRACS, ref CGL2009-10285 and French project CNES-EUMETSAT OSTST " KWETOEB"

LOCEAN-IPSL (UPMC), Collaboration with Alban Lazar

City: Paris Country: France Date: 11/09/2011 Duration: 13 weeks

Subject: The European Ocean Model NEMO: Description, compilation and running

Funding by: Spanish project TRACS, ref CGL2009-10285

PARTICIPATION IN RESEARCH PROJECTS

International projects

Title of project: **PREFACE: Enhancing prediction of Tropical Atlantic climate and its impacts.**

Funded by: European Union (FP7)

Duration, from: November 1, 2013 up to: October 31, 2017

Principal Investigator: Noel Keenlyside (University of Bergen)

Responsible Researcher at UCM: Belén Rodríguez de Fonseca

National projects

Title of project: **MULTISCALE CLIMATE VARIABILITY. AGRONOMICAL AND ECONOMIC IMPACTS (MULCLIVAR, ref: CGL2012-38923-C02-01).**

Funded by: Spanish Ministry of [Economy and Competitiveness](#),

Duration, from: February 1, 2013 up to: January 31, 2016

Principal Investigator: Belén Rodríguez de Fonseca

Title of project: **Short term climate change predictability and projections** (Predictabilidad y Proyecciones de Cambio Climático a corto plazo (ref CGL2011-13564-E)

Funded by: Spanish Ministry of Science and Innovation

Duration, from: 2012 up to: 2013

Principal Investigator: Elsa Mohino Harris

Title of project: **Tropical Atlantic variability and the Climate Shift** (Variabilidad del Atlántico Tropical y la Transición Climática (TRACS, ref CGL2009-10285)

Funded by: Spanish Ministry of Science and Innovation

Duration, from: 2010 up to: 2012

Principal Investigator: Belén Rodríguez de Fonseca

Title of project: **Global Climate modelization by means of a hierarchy of climatic models. Application to the Iberian Peninsula** (Modelización de la variabilidad climática global mediante una jerarquía de modelos climáticos. Relevancia en el clima de la península ibérica (MOVAC, Ref: 20080005008402)

Funded by: Spanish Ministry of Environment

Duration, from: December 2008 up to: December 2011

Principal Investigator: Maria Luisa Montoya

Title of project: **Micrometeorology and Climate Variability** (Micrometeorología y Variabilidad Climática)

Funded by: Complutense University of Madrid and Banco Santander Central Hispano

Duration, from: 2007 up to: 2012

Principal Investigator: Carlos Yagüe Anguis

Cooperation projects

Title of project: **Actualization of resources at the Simeon Fongang Laboratory of Atmospheric and Ocean Physics at UCAD (Senegal)** (Actualización de Recursos del Laboratorio de Física de la Atmósfera y el Océano Simeon Fongang en UCAD (Senegal))

Funded by: Complutense University of Madrid (UCM), Spain

Duration, from: 2013 up to: 2014

Responsible Researcher: Elsa Mohino Harris

Title of project: **Creation and Donation of a forecast statistical model of Sahel rainfall** (Creación y Donación de un modelo estadístico de predicción de lluvias en el Sahel, ref VR:101/11).

Funded by: Complutense University of Madrid, Spain

Duration, from: 2011 up to: 2012

Responsible Researcher: Belén Rodríguez de Fonseca

Divuligation projects

Title of project: **Project for Innovation and Improvement of the quality of teaching activity: Virtual Laboratory of Meteorology and Climate** (Proyecto de Innovación y Mejora de la calidad docente: Laboratorio virtual de Meteorología y Clima (ref 122PCD1144))

Funded by: Complutense University of Madrid (UCM), Spain

Duration, from: June, 2011 up to: June, 2012

Responsible Researcher: Belén Rodríguez de Fonseca

CONTRIBUTIONS TO NATIONAL AND INTERNATIONAL SCIENTIFIC CONGRESSES

A Lazar, **M Martín-Rey**, M Diakhaté, S Faye, E Machu, D. Dausse, A.T. Gaye, D Dagorne (2015), First results of a ocean-atmosphere mooring in the Senegalese upwelling, Oral presentation in the Tropical Atlantic Variability (TAV)-PIRATA Meeting, CapeTown (South Africa), from August 25 to August 27, 2015

M Martín-Rey, I Polo, B Rodríguez-Fonseca and A Lazar (2015), Dynamics associated to different Atlantic Niño configurations, Poster presentation in the Tropical Atlantic Variability (TAV)-PIRATA Meeting, CapeTown (South Africa), from August 25 to August 27, 2015

I Polo, **M Martín-Rey**, B Rodríguez-Fonseca, F Kucharski, and CR Mechoso (2015), Processes in the Pacific La Niña onset triggered by the Atlantic Niño, Poster presentation in the European Geosciences Union (EGU) General Assembly, Viena (Austria), from April 12 to April 17, 2015

M Martín-Rey, I Polo, B Rodríguez-Fonseca and A Lazar (2015), Dynamics associated to different Atlantic Niño configurations, Poster presentation in the European Geosciences Union (EGU) General Assembly, Viena (Austria), from April 12 to April 17, 2015

M Martín-Rey, B Rodríguez-Fonseca, I Polo and F Kucharski (2015), On the Atlantic–Pacific Niños connection: A multidecadal modulated mode, Poster presentation in the European Geosciences Union (EGU) General Assembly, Viena (Austria), from April 12 to April 17, 2015

M Martín-Rey, B Rodríguez-Fonseca and I Polo(2015), Atlantic opportunities for ENSO prediction, Poster presentation in the European Geosciences Union (EGU) General Assembly, Viena (Austria), from April 12 to April 17, 2015

M Martín-Rey, I Polo, A Lazar and B Rodríguez-Fonseca (2014), On the influence of Subtropical Highs in the development of Atlantic Niños, IV Encuentro de Oceanografía Española (EOF2014), from June 11 to 13, 2014

M Martín-Rey, I Polo, A Lazar and B Rodríguez-Fonseca (2014), On the influence of Subtropical Highs in the development of Atlantic Niños. Poster presentation in the European Geosciences Union (EGU) General Assembly, Viena (Austria), from April 27 to May 2, 2014

M Martín-Rey, B Rodríguez-Fonseca, I Polo (2014), Atlantic Opportunities for ENSO prediction (2014). Oral presentation in the European Geosciences Union (EGU) General Assembly, Viena (Austria), from April 27 to May 2, 2014.

M Martín-Rey, Belén Rodríguez-Fonseca, Irene. Polo, Fred Kucharski (2013) The Atlantic-Pacific connection: A multidecadal variability mode. Oral presentation in Tropical Atlantic Variability (TAV)-PIRATA Meeting, Venice (Italy), October from 21 to 24, 2013

M Martín-Rey, B Rodríguez-Fonseca, I Polo, F Kucharski (2013) The role of the Atlantic and Pacific basins in the connection between Atlantic and Pacific Niños. Poster presentation in the European Geosciences Union (EGU) General Assembly, Viena (Austria), April, from 9 to 13, 2013

M Martín-Rey, B Rodríguez-Fonseca, I Polo, A Lazar (2013) The role of the subtropical and equatorial forcing in the development of the Atlantic Niños after 1970s. Oral presentation in the European Geosciences Union (EGU) General Assembly, Viena (Austria), April, from 9 to 13, 2013

B Rodríguez-Fonseca, I Polo, E Mohino, **M Martín-Rey** and T Losada (2013) Multidecadal modulations of the Atlantic Niño influence on the Pacific ENSO in CMIP5 simulations. Poster presentation in the European Geosciences Union (EGU) General Assembly, April, from 9 to 13, 2013.

M Martín-Rey, I Polo, B Rodríguez-Fonseca, F Kucharski (2012) The role of the Atlantic and Pacific basins in the connection between Atlantic and Pacific Niños. Poster presentation in the II Encuentro de Oceanografía Física, Madrid (Spain), November from 14 to 16, 2012

M Martín-Rey, I Polo, B Rodríguez-Fonseca: Análisis de la Influencia del Atlántico en la Variabilidad Interanual del Pacífico Tropical. Oral presentation in XXXII Jornadas Científicas de la AME. Meteorología y calidad del aire, 7, Madrid (Spain), May from 26 to 30, 2012

M Martín-Rey, I Polo, B Rodríguez-Fonseca, Alban Lazar (2012) The influence of the Subtropical Highs in the development of the Atlantic Niños since 1970. Poster presentation in European Geosciences Union (EGU) General Assembly in Viena (Austria), April from 22 to 27, 2012

B Rodríguez -Fonseca, I Polo, E Mohino, T Losada, **M Martín-Rey** (2012) Multidecadal Modulation of Tropical Atlantic impact on ENSO. Poster presentation in European Geosciences Union (EGU) General Assembly, Viena (Austria), April from 22 to 27, 2012

I Polo, **M Martín-Rey**, B Rodríguez-Fonseca, CR Mechoso and F Kucharski (2012) Processes in the Influence of Tropical Atlantic Sea Surface Temperatures on Pacific la Nina Onset . Poster presentation in European Geosciences Union (EGU) General Assembly, Viena (Austria), April from 22 to 27, 2012.

M Martín-Rey, I Polo, B Rodríguez-Fonseca and Fred Kucharski (2011) The Atlantic impact on Pacific El Niño: A important source of predictability for the Euro-Atlantic region. Poster presentation in World Climate Research Programme Open Science Conference (WCRP OSC), Denver (Colorado), October from 24 to 28, 2011

B Rodríguez-Fonseca , I Polo, T Losada, E Mohino, **M Martín-Rey** (2011) The relation between the Atlantic and Pacific Niños in CMIP simulations. A multidecadal modulation. Poster presentation in World Climate Research Programme Open Science Conference (WCRP OSC), Denver (Colorado), October from 24 to 28, 2011

M Martín-Rey, I Polo, B Rodríguez-Fonseca, J García-Serrano , T Losada, E Mohino , CR Mechoso and F Kucharski (2011) Analysis of El Niño events from the Atlantic remote influence. Poster presentation in European Conference on Applications of Meteorology, EMS Annual Meeting, Berlin (Germany), September, from 12 to 16, 2011

M Martín-Rey, I Polo, B Rodríguez-Fonseca, J García-Serrano, T Losada, E Mohino, Carlos Roberto Mechoso and Fred Kucharski (2011) Analysis of El Niño events from the Atlantic remote influence. Poster presentation in European Geosciences Union (EGU) General Assembly, Viena (Austria), April from 3 to 8, 2011.

M Martín-Rey, I Polo, B Rodríguez-Fonseca and F Kucharski (2011) Multidecadal variability of El Niño types due to Atlantic remote influence. Oral presentation in European Geosciences Union (EGU) General Assembly, Viena (Austria), April from 3 to 8, 2011

M Martín-Rey, I Polo , B Rodríguez-Fonseca , J García-Serrano , T Losada, E Mohino , CR Mechoso and F Kucharski (2010) Changes in the Tropical Pacific background state and La

Niña development from Atlantic remote influence. Poster presentation in I Encuentro de Oceanografía Física Española (EOF), Barcelona (Spain), October, from 13 to 15, 2010

M Martín-Rey, I Polo , B Rodríguez-Fonseca , J García-Serrano , T Losada, E Mohino , CR Mechoso and F Kucharski (2010) Changes in the Tropical Pacific background state and La Niña development from Atlantic remote influence. Poster presentation in European Geosciences Union (EGU) General Assembly, Viena (Austria), May from 2 to 7, 2010

M Martín-Rey, I Polo, B Rodríguez-Fonseca (2010). Estudio del océano superior del Pacífico Tropical y su relación con un forzamiento del Atlántico, Oral presentation in XXXI Jornadas Científicas de la Asociación Meteorológica Española, Seville(Spain), March from 1 to 3,2010.

Organization of Seminars and Workshops

- International **PREFACE Kick-OFF Meeting**
(Assistant in the organization and development)
Madrid, December 02-04, 2013
- **Seminar Spain-Brazil on Atlantic Climate Variability and Teleconnections** (in the framework of the Project ref PHB2011-0113-TA)
Madrid, October 15-19, 2012
- International MedClivar Meeting ***“The Climate of the Mediterranean region: understanding its evolution and effects on environment and societies”***
(Assistant in the organization and development)
Madrid, September 26-28, 2012

DIVULGATIVE ACTIVITIES

-Participation of the workshop on Atmosphere and Ocean in the frame of the XIII Scientific Week in Madrid, November 3-16, 2014

-Participation of the workshop on Atmosphere and Ocean in the frame of the Museum of Technology and Science in Madrid, January 25, 2014.

-Collaboration in the web page <http://meteolab.fis.ucm.es/>, in particular in the realization of the experiment about the ENSO phenomena: <http://meteolab.fis.ucm.es/oceano/el-fenomeno-de-el-nino>

-Responsible of the workshop on Atmosphere and Ocean in the frame of the XIII Scientific Week in Madrid, November 4-14, 2013

- Seminar *“On the connection of the Atlantic Niños on the Pacific Niñas and viceversa”* , Department of Geophysics and Meteorology, Complutense University of Madrid, Madrid, May 16, 2013

-Seminar "*The influence of the Atlantic Ocean over the Tropical Pacific since 1970s*" , Laboratoire d'Océanographie et du Climat: Expérimentation et Approches Numériques (LOCEAN), Paris, November 18, 2012

- Seminar "*Influence of the equatorial Atlantic on the Tropical Pacific from 1970s*" Department of Geophysics and Meteorology, Complutense University of Madrid, Madrid, January 25, 2012

-Participation in the workshop on Atmosphere and Ocean in the Complutense University for the visit of "Fundación Aprocor" in Madrid, March 16, 2012

- Seminar "*The El Niño-Southern Oscillation. Relation with the Atlantic Niño*" in Colegio de España, Paris, December 5, 2011

-Participation in the workshop on Atmosphere and Ocean in the frame of the Public Primary School " República de Venezuela" in Madrid, November 8-12, 2010

-Participation in the workshop on Atmosphere and Ocean in the frame of the X Scientific Week in Madrid, November 8-12, 2010

-Participation in the workshop on Atmosphere and Ocean in the frame of the IX Scientific Week in Madrid, November 9-22, 2009