CURRICULUM VITAE

Last Name: **Suárez Moreno**
First Name: **Roberto**
Date of birth: **June 9, 1983**
Sex: **Male**
Nationality: **Spanish**
Email: **rsuarez@ldeo.columbia.edu**

ACADEMIC REFERENCES

- **Degree**: PhD in Physical Sciences by the Universidad Complutense de Madrid (UCM), Madrid, Spain

  Date: July 2017

  Title: Interdecadal Changes in Ocean Teleconnections with the Sahel. Implications in Rainfall Predictability.

  Thesis advisor: Prof. Belén Rodríguez de Fonseca

- **Degree**: Master in Geophysics and Meteorology by the Universidad Complutense de Madrid (UCM), Madrid, Spain

  Date: June 2012

- **Degree**: Bachelor in Physical Sciences by the Universidad Autónoma de Madrid (UAM), Madrid, Spain

  Date: September 2010

CURRENT PROFESSIONAL POSITION

June 1, 2019 - present
Post-Doctoral Research Scientist in the Lamont-Doherty Earth Observatory (LDEO) of the Columbia University, Palisades, New York

PARTICIPATION IN RESEARCH PROJECTS

Mechanisms of Mediterranean region hydroclimate variability and change (NSF award AGS-1734 760)
Funded by: National Science Foundation, USA
Duration: from June 1, 2019 to May 31, 2022
Principal Investigator: Prof. Richard Seager (LDEO)

Climate predictability in the Atlantic Sector (PRE4CAST, ref. CGL2017-86415R)
Funded by: Spanish Ministry of Science, Innovation and Universities
Duration: from September 1, 2017 to Dec 31, 2020
Principal Investigator: Prof. Elsa Mohino and Prof. Belén Rodríguez de Fonseca (UCM)

Enhancing prediction of Tropical Atlantic climate and its impacts (PREFACE, ref. 603521)
Funded by: European Union (FP7)
Duration: from November 1, 2013 up to October 31, 2017
Principal Investigator: Dr. Noel Keenlyside (University of Bergen)
Responsible Researcher at UCM: Prof. Belén Rodríguez de Fonseca (UCM)

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: Prof. Belén Rodríguez de Fonseca (UCM)

Tropical Atlantic variability and the Climate Shift (TRACS, ref. CGL2009-10285)
Funded by: Spanish Ministry of Science and Innovation
Duration: from January 1, 2010 up to Dec 31, 2012
Principal Investigator: Prof. Belén Rodríguez de Fonseca (UCM)

Creation and donation of a statistical seasonal forecast model for Sahelian rainfall (ref. VR: 101/11).
Funded by: University Complutense of Madrid (UCM)
Duration: from January 1, 2011 up to Dec 31, 2012
Principal Investigator: Prof. Belén Rodríguez de Fonseca (UCM)

Actualization of resources at the Simeon Fongang Laboratory of Atmospheric and Ocean Physics at Université Cheikh Anta Diop (UCAD), Dakar, Senegal.
Funded by: University Complutense of Madrid (UCM)
Duration: from April 4, 2012 up to Dec 31, 2013
Principal Investigator: Prof. Elsa Mohino Harris (UCM)

SCIENTIFIC PUBLICATIONS

Suárez-Moreno R, Seager R and Kushnir Y (**2020**) Assessing the decadal and long-term hydroclimate drivers in the Mediterranean region: contribution of internal atmospheric variability and external forcings (in preparation)

Suárez-Moreno R, Gaetani M, Rodríguez-Fonseca B, Mohino E, Flamant C (**2020**) The key role of the ocean background state in driving the Mediterranean Sea impact on the Sahel (to be submitted)

Diakhaté M, **Suárez-Moreno R**, Ayarzagüena B, Gómara I, Mohino E (**2020**) Statistical-observational analysis of skillful oceanic predictors of heavy precipitation events in the Sahel. (submitted to MDPI Atmosphere ISSN 2073-4433)

Suárez Moreno R (**2018**) Interdecadal Changes in Ocean Teleconnections with the Sahel. Implications in Rainfall Predictability. Springer Theses Award 2018, doi: 10.1007/978-3-319-99450-5

Suárez-Moreno R, Rodríguez-Fonseca B, Barroso JA, Fink AH (**2018**) Interdecadal changes in the leading oceal forcing of Sahelian rainfall interannual variability: Atmospheric dynamics and role of multidecasdal SST background. Journal of Climate, 31, 6687-6710, https://doi.org/10.1175/JCLI-D-17-0367.1

Gómara I, Mohino E, Losada T; Domínguez M, **Suárez-Moreno R**, Rodríguez-Fonseca B (**2018**) Impact of dynamical regionalization on precipitation biases and teleconnections over West Africa. Climate Dynamics, 50: 4481, https://doi.org/10.1007

Colman A, Rowell D, Foamouhoue AK, Ndiaye O, Rodríguez-Fonseca B, **Suárez-Moreno R**, Yaka P, Parker DJ, Diop-Kane M (**2017**) Seasonal Forecasting in Meteorology of Tropical West Africa: The Forecasters' Handbook (eds D. J. Parker and M. Diop-Kane), John Wiley & Sons, Ltd, Chichester, UK.

Rodríguez-Fonseca B, **Suárez-Moreno R**, Ayarzagüena B, López-Parages J, Gómara I, Villamayor J, Mohino E, Losada T, Castaño-Tierno A (**2016**) A review of ENSO influence on the North Atlantic. A Non-Stationary Signal. Atmosphere 7(7), 87, https://doi.org/10.3390/atmos7070087

Suárez-Moreno R,Rodríguez-Fonseca B (**2015**) S^4CAST v2.0: sea surface temperature based statistical seasonal forecast model. Geoscientific model development 8 (11) 3639-3658, http://dx.doi.org/10.5194/gmd-8-3639-2015

López-Parages J, Villamayor J, Gómara I, Losada T, Martín-Rey M, Mohino E, Polo I, Rodríguez-Fonseca B, **Suárez-Moreno R** (**2013**) Non-stationary interannual teleconnections modulated by multidecadal variability. Física de la tierra. 25, pp. 11-39, http://dx.doi.org/10.5209/rev_FITE.2013.v25.43433

Suárez-Moreno R, Rodríguez-Fonseca B, Losada T, Mohino E (**2012**) Predicción estacional de las lluvias en África Occidental bajo un modelo estadístico de predictores no estacionarios http://hdl.handle.net/20.500.11765/5864

MOST RELEVANT CONTRIBUTIONS TO SCIENTIFIC CONFERENCES

EGU General Assembly 7-12 April 2019, Vienna, Austria (poster)
Cause for an unstable Mediterranean SST teleconnection to the Sahel
(**Roberto Suárez-Moreno,** Belén Rodríguez-Fonseca, Elsa Mohino, Marco Gaetani)

PREFACE international conference on Ocean, Climate and Ecosystems and PREFACE final Assembly 17-20 April 2018, Lanzarote, Spain (oral presentation)
Interdecadal changes in ocean teleconnections with the Sahel. Modulating role of the multidecadal SST background
(**Roberto Suárez-Moreno**, Belén Rodríguez-Fonseca, Jesús A. Barroso, Andreas H. Fink)

ICTP Workshop on Teleconnections in the Present and Future Climate 24-28 October 2016 (oral presentation)
Multidecadal modulations of interanual SST variability teleconnections with Sahelian rainfall
(**Roberto Suárez-Moreno**, Belén Rodríguez-Fonseca, Andreas H. Fink)

MedCLIVAR Conference 26-30 September 2016, Athens, Greece (poster)
The low-frequency ocean variability responsible for the recently strengthened impact of the Mediterranean in the Sahel
(**Roberto Suárez-Moreno**, Marco Gaetani, Belén Rodríguez-Fonseca, Cyrille Flamant)

EGU General Assembly 17-22 April 2016, Vienna, Austria (oral presentation)
On the low-frequency modulation of the oceanic teleconnections with Sahelian rainfall
(**Roberto Suárez-Moreno**, Belén Rodríguez-Fonseca, Andreas H. Fink)

EGU General Assembly 12-17 April 2015, Vienna, Austria (poster)
Stationarity analysis of Sahelian rainfall predictability using data from stations
(**Roberto Suárez-Moreno**, Belen Rodríguez-Fonseca)
EGU General Assembly 27 April-2 May 2014, Vienna, Austria (poster)
Statistical Seasonal Sea Surface Temperature based Prediction Model
(**Roberto Suárez-Moreno**, Belén Rodríguez-Fonseca, Ibrahima Diouf)

TAV-PIRATA 22-25 October 2013, Venice, Italy (oral presentation)
Statistical forecast of West African rainfall from Tropical Atlantic SST
(**Roberto Suárez-Moreno**, Belén Rodríguez-Fonseca)

EGU General Assembly 7-12 April 2013, Vienna, Austria (poster)
Statistical Prediction model for West African rainfall. Terms of stationarity of the predictors.
(**Roberto Suárez-Moreno**, Belén Rodríguez-Fonseca)

4th AMMA international Conference 2-6 July 2012, ICC, Toulouse, France (oral presentation)
Seasonal prediction of rainfall in West Africa under a statistical model of non-stationary predictors
(**Roberto Suárez-Moreno**, Belén Rodríguez-Fonseca, Amadou Thierno Gaye, Abdulaye Demme, Luis Duran Montejano)

STAYS IN FOREIGN CENTRES

LATMOS-IPSL (UPMC).
Place: Paris (France)
Duration: from April 1, 2016 up to June 30, 2016 (12 weeks)
Subject: Explore the potentially non-stationary behavior of the interannual Mediterranean SST-forced response of Sahelian rainfall by means of sensitivity experiments with the Laboratoire de Meteorologie Dynamique Zoom (LMDZ) atmospheric general circulation model.
Funded by: European project PREFACE (FP7, ref.603521)
Supervisor: Dr. Cyrille Flamant

Simeon Fongang Laboratory of Atmospheric and Ocean Physics at UCAD.
Place: Dakar (Senegal)
Duration: June, 2014, April, 2015 and June, 2015 (12 weeks)
Subject: Development and testing of the sea surface temperature based statistical seasonal forecast model (S^{4}CAST v2.0)
Funded by: National project MULCLIVAR (ref. CGL2012-38923-C02-01).
Supervisors: Prof. Amadou Thierno Gaye and Dr. Belén Rodríguez-Fonseca

SOFTWARE DEVELOPMENT ACTIVITIES AND PROGRAMMING SKILLS

- Experience in Unix Shell scripts
- Experience in processing climate data for scientific application
- High proficiency level in MATLAB programming: The **S**ea **S**urface Temperature based **S**tatistical **S**easonal fore**CAST** model (**S^{4}CAST; Suárez-Moreno and Rodríguez-Fonseca 2015**) was developed as a MATLAB® toolbox. The code is open access and can be downloaded from the Zenodo repository (doi:10.5281/zenodo.15985) **https://zenodo.org/record/15985**
- PYTHON programming skills
- FORTRAN programming competences

TEACHING EXPERIENCE

Degree in Physics
Subject: Scientific Computing Laboratory
Place: Department of Geophysics and Meteorology, Faculty of Physical Sciences, Universidad Complutense de Madrid (UCM)
Duration: from October 1, 2017 up to November 22, 2017 (**30 hours**)

CRASH COURSES

First VALUE Training School: Introduction to Dynamical and Statistical Downscaling 6-15 November 2012, Santander, Spain
Training school within the COST scientific program on VALUE - Validating and Integrating Downscaling Methods for Climate Change Research.
Reference code: COST-TS-ECOST-TRAINING SCHOOL-ES1102-011012-022798

PRIZES AND AWARDS

Springer Theses Award 2018
Interdecadal Changes in Ocean Teleconnections with the Sahel. Implications in Rainfall Predictability.
Author: Roberto Suárez Moreno
Nominated as an outstanding PhD thesis by the Universidad Complutense of Madrid, Madrid, Spain (https://www.springer.com/gp/book/9783319994499)