



**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**

**CV date** 24/04/2022

|  |                     |            |            |
|--|---------------------|------------|------------|
| First name                                     | Jesús Fidel         |            |            |
| Family name                                    | González Rouco      |            |            |
| Gender (*)                                     | Male                | Birth date | 25/11/1968 |
| ID num   | NIF 77591846N       |            |            |
| e-mail   | fidelgr@ucm.es      |            |            |
| Open Researcher and Contributor ID (ORCID) (*) | 0000-0001-7090-6797 |            |            |

(\*) Mandatory

**A.1. Current position**

|                   |   |             |              |
|-------------------|---|-------------|--------------|
| Position          | Profesor Titular de Universidad (Associate Professor)   |             |              |
| Initial date      | 11/02/2011  |             |              |
| Institution       | Universidad Complutense de Madrid   |             |              |
| Department/Center | Física de la Tierra y Astrofísica   |             |              |
| Country           | Spain   | Tel. number | +34913944468 |
| Key words         | Climate modelling, model-data comparison. Paleoclimate, last millennium, statistical and dynamical downscaling. |             |              |

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

| Period       | Position/Institution/Country/Interruption cause                             |
|--------------|---|
| 1998-2001    | Postdoc position at GKSS (Geesthacht, Germany).                             |
| 2002-2003    | Assistant Professor at Universidad Complutense de Madrid.                   |
| 2004-2009    | Tenure-track "Ramón y Cajal" position at Universidad Complutense de Madrid. |
| 2009-2011    | Prof. Contratado Dr.  |
| 2011-present | Prof. Titular de Universidad  |

**A.3. Education**

| PhD, Licensed, Graduate | University/Country                | Year |
|-------------------------|-----------------------------------|------|
| Licensed in Physics     | Universidad Complutense de Madrid | 1991 |
| PhD in Physics          | Universidad Complutense de Madrid | 1997 |

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

J. Fidel González Rouco finished his Phd in 1997 on the development and application of statistical downscaling approaches to Iberian rainfall in climate change scenarios. During 1998-2001 he was a Postdoc at the GKSS (Geesthacht, Hamburg) research center extending research interests to problems related to the reconstruction and simulation of last millennium climate variability. In 2004 he obtained a tenure track Ramón y Cajal position at the Universidad Complutense and continued to develop both research lines in the frame of model-data comparison at global and regional scales. Since 2011 he is Associate Professor at the UCM.



Within the frame of the last millennia JFGR focuses on problems that involve performing and analysing model simulations and comparison with proxy based reconstructions. The target is to obtain a better representation of model and reconstruction uncertainty and derive lessons about mechanisms or application of models to future climate change scenarios. JFGR participated in the development of the first last millennium model runs that considered the evolution of both natural external forcing factors. Current projects involve assessing the role of land surface models and improvements in them within the context of the last millennia, including historical and scenario simulations.

A significant part of JFGR research activity has continued to focus on statistical and dynamical downscaling approaches to understand regional/local climate variability in relationship to large scale dynamics. This activity has been applied in different contexts like estimation of climate change at regional scales or in the frame of estimating energy resources, also leading to the formation of an Spin-off company, which contributes to transfer of knowledge in this field since 2008. Recent work was oriented towards the ERANET NEWA, New European Wind Atlas, both in developing a European wide surface wind dataset and performing and evaluating sensitivity of regional model simulations in this domain.

JFGR coordinates the GuMNet (Guadarrama Monitoring Network; [www.ucm.es/gumnet/](http://www.ucm.es/gumnet/)), a high mountain observational facility. He has been a cochair of CLIVAR-ES (Spanish committee of Clivar), the Spanish Climatology Association (AEC) and Euro-Med Pages2k. He has been a member of the Cluster de Cambio Global of the Campus de Excelencia Internacional, Campus Moncloa (UCM-UPM). He has coordinated the acquisition of HPC Resources (<http://www.campusmoncloa.es/es/infraestructuras/eolo/>) for the CEI-Moncloa. He also participated as a contributing author to IPCC AR4 an several chapters of AR5, and lead author to Chapter 5 of the IPCC AR5.

JFGR has coauthored 164 publications, 115 of them peer reviewed, 105 in JCR (Scopus), about 75% of them in Q1 journals, 7 in high ranking journals belonging to Nature or Science. His work has been cited 6645 times (Scopus). His h-index is 40 (Scopus). He has supervised 8 PhD thesis and 3 additional ones are in process. He has 4 'research' and 1 'transfer' six-year period (*sexenios*) positive evaluations from the Spanish Science Ministry. He is a co-director of the PalMA research group of the UCM, with rating 'excelent'.

For specific information, check <http://www.ucmfgr.es/>

## **Part C. RELEVANT MERITS** (sorted by typology)

### **C.1. Publications** (see instructions).

González-Rouco J. F. (AC), N. J. Steinert, E. García-Bustamante... , and J. Navarro (1/10): "Increasing the depth of a Land Surface Model. Part I: Impacts on the soil thermal regime and energy storage". *J. Hydro-Met.*, 22, 3211–3230, DOI: 10.1175/JHM-D-21-0024.1, 2021.

Steinert, N. J., J. F. Gonzalez-Rouco, P. de Vrese, E. Garcia-Bustamante, S. Hagemann, C. Melo-Aguilar, J. H. Jungclaus, and S. J. Lorenz: "Increasing the depth of a land surface model. Part II: Temperature sensitivity to improved subsurface thermodynamics and associated permafrost response". *J. Hydro-Met.*, 22, 3231–3254, DOI: 10.1175/JHM-D-21-0023.1, 2021.

García-Bustamante, E, J. F. González-Rouco, J. Navarro, E. E. Lucio-Eceiza, and C. Rojas-Labanda: " Expected recurrence of extreme winds in northwestern Sahara and associated uncertainties". *Energies*, 14(21), 6913, DOI: 10.3390/en14216913, 2021.



Steinert N. S (AC), J. F. González-Rouco, C. Melo-Aguilar... , and S. Hagemann (2/10): "Agreement of analytical and simulation-based estimates of the required land depth in climate models". *Geophys. Res. Lett.*, 48, e2021GL094273. DOI: 10.1029/2021GL094273, 2021.

García-Bustamante E., J. F. González-Rouco, E. García-Lozano, F. Martínez-Peña, and J. Navarro: " Impact of local and regional climate variability on fungi production from *Pinus sylvestris* forests in Soria, Spain". *Int. J. Climatol.*, 41, 5625-35643, DOI: 10.1002/joc.7144, 2021.

Cuesta-Valero F. J., A. García-García, H. Beltrami, J. F. González-Rouco, and E. García-Bustamante: " Long-Term Global Ground Heat Flux and Continental Heat Storage from Geothermal Data". *Clim. Past*, 17, 451-468, DOI: 10.5194/cp-17-451-2021, 2021.

García-García A., F. J. Cuesta-Valero, H. Beltrami, J. F. González-Rouco, E. García-Bustamante, and J. Finnis: "Land Surface Model influence on the simulated climatologies of temperature and precipitation extremes in the WRF v.3.9 model over North America". *Geosci. Model Dev.*, 13, 5345-5366, gmd-2020-86, DOI: 10.5194/gmd-13-5345-2020, 2020.

Roldán-Gomez P. J., J. F. González-Rouco, C. Melo-Aguilar, and J. Smerdon: "Dynamical and hydrological changes in climate simulations of the last millennium". *Clim. Past*, 16, 1285-1307, cp-16-1285-2020, DOI: 10.5194/cp-16-1285-2020, 2020.

Lucio-Eceiza E. E., J. F. González-Rouco, E. García-Bustamante, J. Navarro, H. Beltrami: " Multidecadal To Centennial Surface Wintertime Wind Variability Over Northeastern North America". *Clim. Dyn*, 53, 41-66, DOI: 10.1007/s00382-018-4569-5. 2019.

Zhang H. (AC), J. P. Werner, E. García-Bustamante, ..., and J. Luterbacher (4/20): " East Asian warm season temperature variations over the past two millennia". *Scientific Reports*, 8, 7702. DOI: 10.1038/s41598-018-26038-8. 2018.

Pavón-Carrasco F. J., M. Gomez-Paccard, S. A. Campuzano, J. F. González-Rouco, M. L. Osete: " Multi-centennial fluctuations of radionuclide production rates are modulated by the Earth's magnetic field". *Scientific Reports*, 8, 9820. DOI: 10.1038/s41598-018-28115-4. 2018.

Jungclaus J. H. (AC), E. Bard, M. Baroni, ..., and E. Zorita (9/45): " The PMIP4 contribution to CMIP6, Part 3: The last millennium, scientific objective and experimental design for the PMIP4 past1000 simulations". *Geosci. Model Dev.*, 10, 4005-4033, DOI: 10.5194/gmd-10-4005-2017. 2017.

Neukom R.(AC), J. Gergis, D. Karoly, ..., and D. Frank (7/17): " Inter-hemispheric temperature variability over the past millennium". *Nature Clim. Change*, 4, 362-267, DOI: 10.1038/NCLIMATE2174. 2014.

Masson-Delmotte, V. (AC), M. Schulz, A. Abe-Ouchi... , and A. Timmermann (6/17): "Information from Paleoclimate Archives". In: "Climate Change 2013: The Physical Science Basis. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change". Stocker, T. F., D. Qin, G.-K. Plattner, M. Tignor, S. K. Allen, J. Boschung, A. Nauels, Y. Xia, V. Bex and P. M. Midgley (Eds.). Ch. 5, 383-464, Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA, 2013.

## C.2. Congresses

JFGR has regularly participated as meeting organizer/convener. One example is the Paleoclimatology/Historical climatology session at the EMS meetings, that he convenes with Rudolf Brazdil and other colleagues since 2011.

He has participated in numerous scientific meetings. For an account of invited talks, meeting convening and related activities, see: <http://www.ucmfgr.es/pubs-cn1.html>

## C.3. Research projects

**2019** Global and Regional Impacts of using more realistic Land Modelling on Historical and Climate Change scenario Simulations (GREATMODELS). Retos MINECO. Principal Investigator. Reference: RTI2018-102305-B-C21, 108.9 k€, 01/01/2019 - 31/12/2021

**2016** How is the external climatic forcing affected by the Earth's magnetic field? (CLIMAGNET) European Commission Research Executive Agency, H2020 MSCA IF. Principal Investigator, together with F. J. Pavón. Reference: 659901 (NC 4129139), 158.1 K€, 01/10/2016 - 30/09/2019

**2014** Effects of land model depth in climate variability and climate change model simulations. Retos MINECO. Principal Investigator. Reference: CGL2014-59644-R, 145 k€, 1/1/2015-31/12/2018.

**2014** Towards a New European Wind Atlas (NEWA). ERA-NET PLUS, References: PCIN-2014-015-C07-06, PCIN 2016-009, Principal Investigator, 135 K€, 12/2014-12/2017-09/2019.

**2012** Guadarrama Monitoring Network (GUMNET). Campus Excelencia Internacional de Moncloa. CAIMON2011, Principal Investigator. 350 k€. 2012-2015.

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

2007. Founding partner of a spin off company promoted by CIEMAT: Global Forecasters SL, CIF: B85181097 Address: Santiago Grisolia 2, Tres Cantos 28760 Madrid Tel.: 918298138 Fax.: 918770817 Email: [info@gforecasters.es](mailto:info@gforecasters.es)

2008. Universidad Complutense Award to technology based companies.

Several contracts (10) with the private sector involving the Spin Off company Global Forecasters. Contracts are oriented to evaluate wind resources and wind extremes as a danger for infrastructures. All funds are strategically reinvested to research, phds, etc. Some of the companies involved: VESTAS, SENER, IBERDROLA. Average project funding: 30 k€