Part A. Personal Information

DATE	15/12/2017

Surname(s)	Gutiérrez Llorente
Forename	José Manuel
ID number	10881098M
Sex	Male
Age	47
Researcher numbers	Researcher ID	C-5754-2009
	Open Researcher and Contributor ID (ORCID)	0000-0002-2766-6297

A.1. Current position

Professional Category	Full research professor	
UNESCO Code	2502, 2509, 1203	
Key Words	Data mining, climate, nonlinear science	
Name of the Institution	Consejo Superior de Investigaciones Científicas (CSIC)	
	Department/Center	Instituto de Física de Cantabria (IFCA)
	Full Address	Avda. de los Castros, s/n
	Email Address	gutierjm@unican.es
	Phone Number	+34 608481623
Start date	15/08/2009	

A.2. Education *(title, institution, date)*

1992	*University of Cantabria*	*First Degree*	*Mathematics*
1995	*University of Cantabria*	*PhD*	*Mathematics and computation*

A.3. Indicators of Quality in Scientific Production *(See the instructions)*

- PhD Thesis supervision: 8 (4 during the last 5 yeras).
- Citations: 1800 | 4600 in scopus | google researcher (1200 | 2350 in the last 5 years).
- Papers (scopus): 106 (44 in the last 5 years)
- Papers in the first quartile Q1: 65 (37 in the last 5 years).
- Cites per year (average during the last 5 years): 220 | 450
- h index: 24 | 34, in scopus | google researcher

[Scopus AuthorID: 26642900400; http://scholar.google.com/citations?user=gFex3BcAAAAJ].

Part B. Free Summary of CV *(Max. of 3.500 characters, including spaces)*

Prof. Gutiérrez is CSIC full professor at Instituto de Física de Cantabria (IFCA); previously he was associate professor at the Department of Applied Mathematics and Computational Sciences (MACC) in Cantabria University, where he was the chair from 2000-2008. He got the PhD in Mathematics and Computer Science in 1995 working in advanced statistical and data mining methods (in particular probabilistic network models and neural/functional networks) and, later, he moved to meteorology and climate research, applying these techniques in different problems related to statistical downscaling, seasonal forecast validation, and regional climate change projection. He published nearly 100 papers in international impact journals (including Journal of Climate, Climate Dynamics, Journal of Geophysical Research, Physical Review Letters, etc.) and is the co-author of two books in Springer and Kluwer. He has also participated in several national and international research projects, including the European Projects DEMETER (dealing with seasonal forecast), ENSEMBLES (dealing with regional climate change scenarios), EELA (GRID infrastructure shared between Europe and Latin America for climate simulation), QWeCI (impacts of climate in vector borne diseases), FUME (impacts of climate change in forest fires), INTACT (resilience of critical infrastructures to climate change) and SPECS (new generation of

seasonal-to-decadal climate prediction models). He has participated in many international conferences and has been invited speaker in several international events. He has been visiting scientist in several Universities, including Cornell University (one year), Universidad Nacional de la Patagonia Austral (6 months) and Oxford University (one year).

Prof. Gutiérrez is the head of the Climate and Data Mining IFCA group, which actively collaborates with the MACC Department (http://www.meteo.unican.es), with over 15 years of experience in different topics related to data analysis of regional climate variability, including statistical downscaling. The group is well recognized internationally in these topics and is actively involved in different international initiatives in the framework of statistical downscaling including VALUE (member of the steering committee), CORDEX (local contact point of statistical downscaling activities in EURO-CORDEX), and several climate change adaptation projects run by FAO (in Malawi, Zambia, Uganda and Vietnam). As a result of this work the group has developed several datasets, scientific packages and web tools forming a end-to-end suite to provide different regional climate services. An example of these tools is the statistical downscaling portal (http://www.meteo.unican.es/downscaling) with over 500 users, which is also used in different projects and organisms (such as the Food and Agriculture Organization of the United Nations providing, through the MOSAICC tool).

Part C. Accomplishments *(Order by typology)*

C.1. Publications

Maraun, D., Shepherd, T.G., Widmann, M., Zappa, G., Walton, D., Gutiérrez, J.M., Hagemann, S., Richter, I., Soares, P.M.M., Hall, A., Mearns, L.O. (2017) Towards process-informed bias correction of climate change simulations. **Nature Climate Change**. DOI: 10.1038/NCLIMATE3418

San-Martín, D., Manzanas, R., Brands, S., Herrera, S., Gutiérrez, J.M. (2017) Reassessing model uncertainty for regional projections of precipitation with an ensemble of statistical downscaling methods. **Journal of Climate**, 30 (1), 203-223.

Ortín, S., M. C. Soriano, L. Pesquera, D. Brunner, D. San-Martín, I. Fischer, C. R. Mirasso, and J. M. Gutiérrez (2015) A Unified Framework for Reservoir Computing and Extreme Learning Machines based on a Single Time-delayed Neuron. **Scientific Reports**, 5: 14945. doi: 10.1038/srep14945

Manzanas, R., S. Brands, D. San-Martín, A. Lucero, C. Limbo, and J.M. Gutiérrez (2015) Statistical downscaling in the tropics can be sensitive to reanalysis choice: A case study in the Philippines. **Journal of Climate**, 28: 4171–4184. doi: 10.1175/JCLI-D-14-00331.1

Menendez, M., M. García-Díez, L. Fita, J. Fernández, F. J. Méndez, J. M. Gutiérrez (2014) High-resolution sea wind hindcasts over the Mediterranean area. **Climate Dynamics**, 42 (7-8): 1857-1872. doi: 10.1007/s00382-013-1912-8

Gutiérrez, J. M., D. San-Martín, S. Brands, R. Manzanas, and S. Herrera (2013) Reassessing Statistical Downscaling Techniques for Their Robust Application under Climate Change Conditions. **Journal of Climate**, 26: 171–88. doi:10.1175/JCLI-D-11-00687.1.

Brands, S., S. Herrera, J. Fernández, and J. M. Gutiérrez (2013) How Well Do CMIP5 Earth System Models Simulate Present Climate Conditions in Europe and Africa?. **Climate Dynamics**, 41: 803–17. doi:10.1007/s00382-013-1742-8.

Brands, S., J. M. Gutiérrez, S. Herrera, and A. S. Cofiño (2012) On the Use of Reanalysis Data for Downscaling. **Journal of Climate**, 25: 2517–26. doi:10.1175/JCLI-D-11-00251.1.

Herrera, S., J. M. Gutiérrez, R. Ancell, M. R. Pons, M. D. Frías, and J. Fernández (2012) Development and Analysis of a 50-Year High-Resolution Daily Gridded Precipitation Dataset

over Spain (Spain02). **International Journal of Climatology**, 32: 74–85. doi:10.1002/joc.2256.

He has also published several books, among which the following, which is relevant pair the project theme: E. Castillo, J.M. Gutiérrez and A.S. Hadi (1997) Expert Systems and Probabilistic Network Models. Springer-Verlag (New York, USA), 597 pp.

This book has more than 1000 citations in Google Scholar and has been used in various undergraduate and doctoral courses at the universities of Granada, Malaga, Murcia, Zaragoza, Almeria, Cantabria, UNED; It has also been used as a textbook in courses at the universities of Albert-Ludwigs-University of Freiburg (Germany), Iowa State University (USA), University of Brasilia (Brazil), National University of Singapore, Rutgers University, USA. Univerisity of California at Irvine, USA. Duke University, USA. Helsinki University of Technology, Finland.

C.2. Research Projects and Grants

PI of the following projects:

SPECS: Seasonal-to-decadal climate Prediction for the improvement of European Climate Services (FP7-ENV-2012-308387)
Funding Organization: Large scale integrating project del VII Programa Marco de la UE.
Duration, from: 1/11/2012   to: 31/12/2016
Budget: 217000€ (8.5 M€ el proyecto total).
Principal Investigator: José Manuel Gutiérrez (IFCA, CSIC-Univ. Cantabria, Spain).
Project coordinator: Francisco Doblas (IC3, Spain)

EXTREMBLES: Análisis de EXTRemos climáticos observados y simulados en España a partir del proyecto ensEMBLES (CGL2010-21869)
Funding Organization: Ministerio de Medio Ambiente y Medio Rural y Marino (Plan Nacional de Investigación 2008-2011).
Duration, from: Enero 2011 to: Diciembre 2014
Budget: 109989€
Principal Investigator: José Manuel Gutiérrez (IFCA, CSIC-Univ. Cantabria, Spain).

QWeCI: Quantifying Weather and Climate Impacts on Health in Developing Countries (FP7-ENV-2009-1-243964)
Funding Organization: Small-Medium Scale Project del VII Programa Marco de la UE.
Duration, from: 1/2/2010   to: 31/6/2013
Budget: 290000€ (2 M€ el proyecto total).
Principal Investigator: José Manuel Gutiérrez (IFCA, CSIC-Univ. Cantabria, Spain).
Project coordinator: Andy Morse (Univ. Liverpool, UK)

FUME: Forest fires under climate, social and economic changes in Europe, the Mediterranean and other fireaffected areas of the world (FP7-ENV-2009.1-243888)
Funding Organization: Large scale integrating project del VII Programa Marco de la UE.
Duration, from: 1/1/2010   to: 31/12/2013
Budget: 232000€ (3.5 M€ el proyecto total).
Principal Investigator: José Manuel Gutiérrez (IFCA, CSIC-Univ. Cantabria, Spain).
Project coordinator: José Manuel Moreno (Univ. de Castilla La Mancha, Spain)

esTcena: Programa Coordinado para la Generación de Escenarios Regionalizados de Cambio Climático: Regionalización Estadística (Exp. 200800050084078)
Funding Organization: Ministerio de Medio Ambiente y Medio Rural y Marino (Acción Estratégica Energía y Cambio Climático. Plan Nacional de Investigación 2008-2011).
Duration, from: 1/10/2008   to: 31/12/2011
Budget: 413166€ (846486 € el proyecto total).
IP y Project coordinator: José Manuel Gutiérrez (IFCA, CSIC-Univ. Cantabria, Spain)

ENSEMBLES: Predictions of Climate Changes and their Impacts (GOCE-CT-2003-505539)

Funding Organization: Large scale integrating project del VI Programa Marco de la UE.
Duration, from: 1/9/2004   to: 31/8/2009
Budget: 48000€ (15 M€ el proyecto total).
Principal Investigator: José Manuel Gutiérrez (IFCA, CSIC-Univ. Cantabria, Spain)
Project coordinator: Dave Grigs (Centro Hadley, UK)

C.3. Contracts

Title: Asistencia Científico-Técnica para el Desarrollo de Servicios Océano-Meteorológicos para la Monitorización de Instalaciones de Energías Renovables Marinas
Funding company: Predictia S.L.
Start date: enero 2012   Duration: 24 meses.
Budget: 50.000€
Principal investigator: José Manuel Gutiérrez (IFCA, CSIC-Univ. Cantabria, Spain)

Title: Linking information and decision making to improve food security: Module for regional projection of climate change (GCP/GLO/243/EC)
Funding company: FAO (ONU)
Start date: mayo 2010   Duration: 12 meses.
Budget: 30.000 US$
Principal investigator: José Manuel Gutiérrez (IFCA, CSIC-Univ. Cantabria, Spain)

Title: Implantación y Soporte del Modelo de Indicadores y Ejes de Análisis de los Datos del Conjunto Mínimo Básico de Datos de Hospitalización del Sistema Nacional de Salud
Funding company: Ministerio de Sanidad y Consumo
Start date: junio 2007   Duration: 9 meses.
Budget: 150.000€
Principal investigator: José Manuel Gutiérrez (IFCA, CSIC-Univ. Cantabria, Spain)

Title: Escenarios Regionales de Cambio Climático en Cantabria
Funding company: Gobierno de Cantabria (Consejería de Medio Ambiente).
Start date: junio de 2007   Duration: 2 años.
Budget: 200.000€
Principal investigator: José Manuel Gutiérrez (IFCA, CSIC-Univ. Cantabria, Spain)

Title: Adaptación de la Predicción Automática Local del Sistema Prometeo a una Rejilla Regular de Observaciones de Alta Resolución Sobre la Península Ibérica y Baleares
Funding company: Instituto Nacional de Meteorología (Ministerio de Medio Ambiente)
Duración, desde: Enero 2004   hasta: Diciembre 2004
Budget: 9.000€
Principal investigator: José Manuel Gutiérrez (IFCA, CSIC-Univ. Cantabria, Spain)

C.4. Patents and other IPR

C.5 … Other

I have participated in various activities of research management: Evaluation of the National Research Plan since 2004; member of the evaluation committee Ramón y Cajal program in 2012; organizer and coordinator of the Training Schools VALUE COST action in the years 2012 and 2013; organizer and co-organizer of various international scientific meetings as "WCRP Expert Meeting on Climate Information Distillation", October 2014.

I have been coordinator of the doctoral program "Mathematics and Applications" at the University of Cantabria between 2002 and 2006 (program menion Quality Education Ministry).

I have been consultant of the FAO for different missions in Philippines, Morocco and Perú.