

Dr. M. CARMEN ALVAREZ-CASTRO

PERSONAL INFORMATION:

Current Position: Postdoctoral researcher at Centro Euro-Mediterraneo sui Cambiamenti Climatici, CMCC. Bologna, Italy
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Telephone: +39 0510301604
Nationality: Spanish
Place and Date of Birth: Marchena, Seville, 19/12/1983

ACADEMIC INFORMATION:

2010 – 2014: PhD in Climatology: University Pablo Olavide, Seville, Spain .
Thesis: “Westerly Index: Un nuevo índice de vientos del oeste en el Canal de la Mancha a partir de observaciones en los diarios de navegación de la Royal Navy (1685-2008)”.
Mention: International PhD, CUM-LAUDE
Supervisors: Dr. David Gallego and Dr. Pedro Ribera.

2006 – 2008: Master in Geophysics and Meteorology. University of Granada, Spain.
Master’s Thesis: Techniques and applications of statistical downscaling for study of climate change in Andalusia.
Supervisors: Dr. Yolanda Castro-Díez and Dr. M. Jesús Esteban-Parra.

2001-2006: Degree in Environmental Science. University of Huelva, Spain.

WORK EXPERIENCE:

2017 – present: Postdoctoral fellow in the Climate Simulation and Prediction team at CMCC, Italy.
MEDSCOPE project: MEDditerranean Services Chain based On climate PrEdictions
ENEL Green Power Spa: Statistical and Dynamical probabilistic Seasonal Forecast.
Supervisors: Dr. Stefano Materia and Dr Silvio Gualdi.

2014 – 2017: Postdoctoral fellow in ESTIMR team at LSCE-IPSL, France.
MILEX project: Extratropical climate variability during the last millennium, atmospheric circulation and extreme events.
A2C2 project: Atmospheric flow Analogues for Climate Change.
Supervisor: Dr. Pascal Yiou.

2013– 2014: Researcher at JRC-European Commssion at Ispra, Italy.
Climate Risk Management Unit in the Institute of Environment and Sustainability (IES)
ECLAIRE project: Effects of Climate Change on Air Pollution and Response Strategies for European Ecosystems.
Supervisor: Dr. Alessandro Cescatti.

2012 – 2012: Visiting Researcher at IDL-University of Lisbon, Portugal. (Sep-Dec)
Grant of Santander Bank for Young Researchers and Professors.
Supervisor: Dr. Ricardo M. Trigo

2011– 2013: Part-time lecturer at University Pablo Olavide, Seville, Spain.

Degree in Environmental Sciences.

Meteorology and Climatology (2nd course), 2011/2012 (12 ETCS) and 2012/2013 (5 ETCS).

Global Change (3rd course), 2012/2013 (5 ETCS).

Noise and contamination (4rd course), 2012/2013 (5 ETCS).

2009– 2012: Researcher at University Pablo de Olavide, Seville, Spain.

Salvá-Sinobas project: Caracterización de la variabilidad climática en la Península Ibérica durante el periodo 1750-1850

Supervisor: Dr. David Gallego.

2008– 2009: Research Grant at TNA and University of Sunderland, UK (Oct-May)

Grant of European Science Foundation for MedCLIVAR project.

Supervisor: Dr. Dennis Wheeler. University of Sunderland, UK.

PUBLICATIONS:

- G. Messori, P. Davini, **M.C. Alvarez-Castro**, F.S.R. Pausata, R. Caballero. On the low-frequency variability of Euro-Atlantic planetary wave breaking. *Climate dynamics* (In press), 2018
- D. Rodrigues, **M.C. Alvarez-Castro**, G. Messori, Y. Robin, P. Yiou, D. Faranda. Changes in the dynamical properties of the North Atlantic atmospheric circulation in the past 150 years. *Journal of Climate*. <https://doi.org/10.1175/JCLI-D-17-0176.1>. 2018
- R. Vautard, N. Christidis, A. Ciavarella, **M. C. Alvarez-Castro**, O. Bellprat, B. Christiansen, I. Colfescu, T. Cowan, F. Doblas-Reyes, J. Eden, M. Hauser, G. Hegerl, N. Hempelmann, K. Klehmet, F. Lott, C. Nangini, R. Orth, S. Radanovics, S. I. Seneviratne, G.J. van Oldenborgh, P. Stott, S. Tett, L. Wilcox, P. Yiou. Evaluation of the HadGEM3-A simulations in view of climate and weather event human influence attribution in Europe. *Climate Dynamics*. <https://doi.org/10.1007/s00382-018-4183-6>. 2018
- D. Mellado-Cano, D. Barriopedro, R. Garcia-Herrera, R. M. Trigo, **M.C. Alvarez-Castro**. Euro-Atlantic atmospheric circulation during the Late Maunder Minimum. <https://doi.org/10.1175/JCLI-D-17-0261.1>. *Journal of Climate*. 2018
- B. Christiansen, **M.C. Alvarez-Castro**, N. Christidis, A. Ciavarella, I. Colfescu, T. Cowan, J. Eden, M. Hauser, N. Hempelmann, K. Klehmet, F. Lott, C. Nangini, G. J. van Oldenborgh, R. Orth, P. Stott, S. Tett, R. Vautard, L. Wilcox, P. Yiou. Was the cold European winter 2009-2010 modified by anthropogenic climate change? An attribution study. *Journal of Climate*. <https://doi.org/10.1175/JCLI-D-17-0589.1>. 2018
- **M.C. Alvarez-Castro**, D. Faranda, P. Yiou. Atmospheric dynamics leading to West European summer hot temperatures since 1851. *Complexity*, <https://doi.org/10.1155/2018/2494509>. 2017
- D. Faranda, G. Messori, **M.C. Alvarez-Castro**, P. Yiou. Dynamical properties and extremes of global climate fields over the past 60 years *Nonlinear Processes in Geosciences*. <https://doi.org/10.5194/npg-2017-36>. 2017
- N. Hempelmann, C. Ehbrecht, **M.C. Alvarez-Castro**, P. Brockmann, W. Falk, J. Hoffmann, S. Kindermann, B. Koziol, C. Nangini, S. Radanovics, R. Vautard, P. Yiou. Web processing service for climate impact and extreme weather event analyses. *Flyingpigeon* (Version 1.0). *Computers and Geosciences*. <https://doi.org/10.1016/j.cageo.2017.10.004>. 2017
- D. Faranda, **M.C. Alvarez-Castro**, P. Yiou. Robust return times of hot and cold days via recurrences and extreme value theory. *Climate Dynamics*. <https://doi.org/10.1007/s00382-016-3042-6>. 2016.
- D. Barriopedro, D. Gallego, **M.C. Alvarez-Castro**, R. García-Herrera, D. Wheeler, C. Peña-Ortiz and, S. M. Barbosa. Witnessing North Atlantic westerlies variability from ships logbooks (1685-2008). *Climate Dynamics*. <https://doi.org/10.1007/s00382-013-1957-8>. 2014

Curriculum vitae

- C. Peña-Ortiz, D. Gallego, P. Ribera, P. Ordoñez-Perez, **M.C. Alvarez-Castro**. Observed trends in the global jet stream characteristics during the second half of the 20th century. *Journal of Geophysical Research Atmospheres*. <https://doi.org/10.1002/jgrd.50305>. 2013
- J. Luterbacher, R. García-Herrera, A. R. Allan, **M.C. Alvarez-Castro**, et al.. A Review of 2000 years of paleoclimatic evidence in the Mediterranean. *The Mediterranean Climate: from past to future*. In: Lionello et al. (eds.), Elsevier. <https://doi.org/10.1016/B978-0-12-416042-2.00002-1>. 2012
- **M.C. Alvarez-Castro**. The climate of the Mediterranean Sea during the Maunder Minimum from old Royal Navy logbooks. Grant Report EG/2175, European Science Foundation. 2009.
- **M.C. Alvarez-Castro**, Y. Castro-Díez, M.J. Esteban-Parra, S.R. GámizFortis. Estudio de Precipitación mediante Downscaling estadístico para la proyección de cambio climático en Andalucía. In: *Ambientalia: el Cambio Climático*. Chapter: Variabilidad climática y efectos abióticos. ISBN: 13978- 84-97856-60-8 , 1084-96856-60-7. Depósito legal: H-81-2008. Federación Andaluza de Ciencias Ambientales, Editorial Universidad de Huelva. 2008.

OTHER INFORMATION:

Publications in peer-review journals currently in Review: 5

Contributions to international conferences: 30

Attendance to Summer Schools in climatology: 2

Convener at EGU (2018), Session: Dynamical Extremes in Climate Sciences

Reviewer of Journals: *Tellus Atmosphere*, *Environmental Research Letters*, and *Natural Hazards earth system sciences (NHES)*

Co-supervisor, with Dr. Pascale Braconnot, of a PhD student stay: co-supervisor of F.P. Gomez-Delgado during his PhD stay of 3months at LSCE (March-May 2017)

Fluent Languages: Spanish, English, Italian, French

Grants:

Prize: Best oral communication in *Ambientalia* “climate change” conference, 2008.

Qualification Maître de Conférences in France. Section 37: *Météorologie, Océanographie, Physique et chimie des enveloppes fluides superficielles de la Terre et des autres planètes*. Ministère de l'Education Nationale, Ministère de l'Enseignement Superior, de la Recherche et de l'innovation. 23/02/2018.

Member of COAMBA: Colegio Oficial de Ambientólogos de Andalucía

Quality Control technician (2008)

Master in Occupational Risk Prevention (2009): Health, Safety and Ergonomics at Workplace.