

## Short CV

# CÉLIA MARINA PEDROSO GOUVEIA

### Personal Information

**Name:** Célia Marina Pedroso Gouveia

**Date and place of Birth:** 05 de November de 1970, Montijo

**Nationality:** Portuguese

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### Formal Education

2008 - PhD in Geophysical and Geoinformation Sciences (Remote Sensing) at Science Faculty, University of Lisbon, Portugal. Approved with excellence. Supervised by Prof. Carlos da Camara and Doctor Ricardo Trigo (FCUL).

2000 - Msc in Mechanical Engineering (Energy) at Instituto Superior Técnico, Technical University of Lisbon, Portugal. Supervised by Prof. José Carlos Pereira (IST) and Prof. Carlos da Camara (FCUL).

1996 - Bsc in Geophysics (Meteorology/Oceanography) at Faculty of Sciences, Univ. of Lisbon, Portugal. Supervised by Prof. Carlos da Camara (FCUL).

### Previous and Current scientific and professional activities:

2013-2014 Assistant Professor, Escola Superior de Tecnologia de Setúbal, Instituto Politécnico de Setúbal,

2011-2013 Assistant Professor at the Faculdade de Engenharia e Ciências Naturais of Universidade Lusófona de Humanidades e Tecnologias.

2011- Unpaid leave from Escola Superior de Tecnologia do Instituto Politécnico de Setúbal from March 2011 to February 2012

2011 Grant from the European Commission to finance the trip and stay in Denver, USA, in order to attend and participate in the World Climate Research Programme (WCRP) Open Science Conference.

2003–2011 Assistant Professor Escola Superior de Tecnologia de Setúbal, Instituto Politécnico de Setúbal, Portugal.

2009 Grant from the European MedCLIVAR Project, funded by the European Science Foundation (ESF), for a stay of nine weeks in the Pyrenean Institute of Ecology - Consejo Superior Scientific Research (CSIC) in the period June to August 2009

1999-2003 Assistant Lecturer at Escola Superior de Tecnologia de Setúbal, Instituto Politécnico de Setúbal, Portugal.

2004 Certificate of Registration, Instructor, Scientific and Pedagogical Council for Further Education, in 2004 (CCPFC/RFO-22335/7

2006 Certificate of Pedagogic Aptitude Trainer (CAP) by the Institute of Employment and Vocational Training in 2006 (Decree 4784/98 EDF, valid until 07/14/2011).

- 2006 PhD scholarship from the Portuguese Foundation for Science and Technology (FCT)
- 2002 Grant from LSA-SAF Project for a scientific collaboration with MeteoFrance (Toulouse) during the months of February and March 2002.
- 1999 Master scholarship from the PRAXIS XXI Program of Portuguese Foundation for Science and Technology (FCT).

## **Supervision experience**

### **PhD thesis**

- Co-supervisor Ana Bastos (2012-2015): “Climate Change Impacts on vegetation dynamics and carbon cycle in the Euro-Asian” (PhD in Geophysical and Geoinformation Sciences (Remote Sensing) at Department of Geographic Engineering, Geophysics and Energy of Science Faculty, University of Lisbon, Portugal, supervised by Prof. Doctor Ricardo Trigo). (SFRH/BD/78068/2011).
- Co-supervisor Margarida Lopes (2012-2015): “Ensemble Methodology for Air Quality Evaluation at Local and Regional Scales” (PhD in Environment at Science and Engineering, Department of the Environment Faculty of Science and Technology, New University of Lisbon, supervised by Prof. Doctor Francisco Ferreira).

### **Master Thesis**

- Supervisor Ana Bastos (2011): “Vegetation recovery in Portugal following large wildfire episodes” (Master's thesis in Energy and Environment, co-supervised by Prof. Carlos Camara of Department of Geographic Engineering, Geophysics and Energy at Science Faculty, University of Lisbon, Portugal).
- Supervisor Sara Cruz (2012): “Avaliação do impacto das Secas numa região semi-árida utilizando Índices de Secas Climáticas” Master's thesis in Environmental Technology at ESTSetubal-IPS.
- Supervisor Ana Alves (2012): “Análise temporal do impacto das secas climáticas na fixação de carbono no estrato arbóreo de ecossistemas de Pinheiro Bravo no Nordeste de Portugal” Master's thesis in Environmental Technology at EST Setubal-IPS, co-supervised by Prof Margarida Liberato do Engineering Department of Universidade de Trás-os-montes e Alto Douro.

## **Project experience**

### **National Research Projects**

- PTDC/AAG-GLO/4155/2012 - QSECA (Drought quantification and evolution on Iberian Peninsula: past, present and future -). Funded by Fundação de Ciência e Tecnologia. Principal Investigator of the project. (€174k).
- PTDC/AAC-CLI/121339/2010 - STORMEX (Mid-Latitude North Atlantic Extreme Storms Variability: Diagnosis, Modelling Dynamical Processes and Related Impacts on Iberia). Funded by Fundação de Ciência e Tecnologia and Feder. (2013-2014). Member of the research team.
- PTDC/AGR-CFL/68186/2006 “DISASTER - Desastres naturais de origem hidrogeomorfológica em Portugal: base de dados SIG para apoio à decisão no ordenamento do

território e planeamento de emergência”. Funded by Fundação de Ciência e Tecnologia and Feder. (2010-2012). Member of the research team.

PTDC/AAC-CLI/103567/2008 “ENAC - Evolução do Clima do Atlântico Norte; o papel dos Bloqueios e ciclones no clima do Sul da Europa Passado, Presente e Futuro (ENAC). Funded by Fundação de Ciência e Tecnologia and Feder. (2010-2012). Member of the research team.

PTDC/AAC-AMB/104702/2008 “FLAIR -Inter-relações fogo – vegetação – atmosfera: entender os processos para prever os regimes de fogos rurais em Portugal".Funded by Fundação de Ciência e Tecnologia and Feder. (2010-2012). Member of the research team.

PTDC/AAC-CLI/103361/2008 “MEDIATIC - Alterações climáticas no Mediterrâneo Ocidental e nas Ilhas Atlânticas: um estudo dendroclimático e genético do género Juniperus.” Funded by Fundação de Ciência e Tecnologia and Feder. (2010-2012). Member of the research team.

PTDC/AGR-CFL/68186/2006 “Florestas mistas. Modelação dinâmica e distribuição geográfica da produtividade e da fixação de carbono nos ecossistemas florestais mistos em Portugal”. Funded by Fundação de Ciência e Tecnologia and by Feder. (2009-2011).

POCTIAMGS/47247/2002 “Modelação Numérica da Qualidade do Ar Urbano Relacionando com a Saúde Pública”. Funded by Fundação de Ciência e Tecnologia and Feder. (2003-2007).

PBIC/AGR/2111/95, intitulado "Padrões de Circulação Atmosférica associados à Ocorrência de Fogos Florestais em Portugal". (1996-1999).

PBIC/C/CEN/1992/92 intitulado "Sistemas de Previsão Meteorológica a Longo Prazo para Portugal Continental". (1995-1996).

## **International Research Projects**

FUME ("Forest fires under climate, social and economic changes in Europe, the Mediterranean and other fire-affected areas of the world") funded by European Commission EU7th Framework Programme (FP/-ENV-2009-1- Grant Agreement Number 243888). (2010-2013) Member of the research team.

LSA SAF (Satellite Application Facility for Land Surface Analysis) - Continuous Development and Operations Phase (CDOP). Funded by Eumetsat. (2008-2009) Member of the research team.

BEST RESULT funded by the European Commission included in the program Intelligent Energy Europe. (2007-2009) Member of the research team.

ACCENT NETWORK OF EXCELLENCE (Atmospheric Composition Change), European research and technological development programme “Integrating and Strengthening the European Research Area” under Priority 6 “Sustainable development, global change and ecosystems, Global change and ecosystems' sub-priority. (2007-2009). Associate member.

a. Principal Investigator of the project "Variability of Tropospheric Composition Associated with Global Circulation Patterns using Satellite Data" Task of ACCENT AT2;

b. Researcher of the project "Numerical Simulation of Atmospheric Circulation and Pollutants' Concentration in Douro Region" of AT3 ACCENT Task;

c. Researcher of the project "Enhance atmospheric science research / knowledge through education and training" of T & E Task ACCENT.

GLC2000 International Global Land Cover, (2001-2002).

## Publications

### Thesis

Gouveia, C., 1996: "Circulações de larga-escala associadas à ocorrência de fogos florestais em Portugal Continental", Bsc in Geophysics (Meteorology/Oceanography) at Faculty of Sciences, Univ. of Lisbon, Portugal. Supervised by Prof. Carlos da Camara (FCUL).

Gouveia, C., 2000: "Metodologia para o cálculo da dispersão de efluentes nas cimenteiras de Souselas e Maceira Lis, em função da climatologia local". Msc in Mechanical Engineering (Energy) at Instituto Superior Técnico, Technical University of Lisbon, Portugal. Supervised by Prof. José Carlos Pereira (IST) and Prof. Carlos da Camara (FCUL).

Gouveia, C., 2008: "The role of remote sensing in assessing the impact climate variability on vegetation dynamics in Europe" – PhD Thesis in Geophysical and Geoinformation Sciences (Remote Sensing) at Science Faculty, University of Lisbon, Portugal.

### Peer-reviewed articles (accepted or published)

Gouveia C., Trigo R.M., DaCamara C.C., Libonati R., Pereira J.M.C. (2008) The North Atlantic Oscillation and European vegetation dynamics International Journal of Climatology, 28: 1835–1847, DOI: 10.1002/joc.1682

Trigo, R.M., Gouveia C., Garcia-Herrera R. Obregón A., Bissolli P., Kennedy J.J., Parker D.E. and Pires O. (2008) Iberia, in State of the Climate in 2007. Arguez, A., ed., Bulletin of the American Meteorological Society, 89, s147-s149

Gouveia C., Trigo R.M., DaCamara C.C (2009) Drought and Vegetation Stress Monitoring in Portugal using Satellite Data, Natural Hazards and Earth System Sciences, 9, 1-11

Trigo, R.M., Barriopedro D., Gouveia C., Obregón A., Bissolli P., Kennedy J.J., Parker D.E. (2009) "Iberia", in State of the Climate in 2008. Peterson T.C. and Baringer M.O., eds., Bulletin of the American Meteorological Society, 90, s149-s150

Trigo, R.M., Ramos A., Nogueira P., Santos F.D., Garcia-Herrera R., Gouveia C. and Santos F.E. (2009) "Evaluating the impact of extreme temperature based indices in the 2003 heatwave excessive mortality in Portugal", Environmental Science and Policy, 12, 844 - 854

Garcia, J.N.P.M., Coelho L.M.R., Gouveia C.M.P., Cerdeira R.S.S., Louro C.S.C., Ferreira T.M.F.B. and Baptista M.N.A. (2010) "Analyses of human exposure to urban air quality in a children population" International Journal of Environment and Pollution, 40 (1-3), 94-108.

Gouveia C., DaCamara C.C, Trigo R.M., (2010) "Post fire vegetation recovery in Portugal based on SPOT-VEGETATION data", Natural Hazards and Earth System Sciences, 10, 673-684.

Trigo R.M., Gouveia C.M., Barriopedro D., (2010) "The intense 2007-2009 drought in the Fertile Crescent: Impacts and associated atmospheric circulation", Agricultural and Forest Meteorology, 150, 1245-1257

Trigo, R.M., Barriopedro D., Gouveia C., Obregón A., Bissolli P., Kennedy J.J., Parker D.E. (2010) "Iberia", in State of the Climate in 2009. Peterson T.C. and Baringer M.O., Eds., Bulletin of the American Meteorological Society, 91, s165-s167

Liberato, M. L. R, Gouveia, C., Lopes, D. M. 2010. "Avaliação das Potencialidades da Utilização de Dendrocronologia no Estudo dos Impactos Climáticos sobre a Fixação de Carbono no Estrato Arbóreo de Ecossistemas de Pinheiro-bravo no Nordeste de Portugal", SILVA LUSITANA, Nº Especial: 51 - 63.

- Gouveia C., Liberato M.L.R., DaCamara C.C. Trigo R.M., Ramos A. M. (2011) "Modelling past and future wine production in the Portuguese Douro Valley". *Climate Research* 48, 349–362, 2011.
- Pereira M.G., Caramelo L., Gouveia C., Gomes-Laranjo J., Magalhães M. (2011) "Assessment of Weather-related Risk on Chestnut Productivity". *Natural Hazards and Earth System Sciences*, 11, 2729–2739
- Bastos A., Gouveia C.M, DaCamara C.C., Trigo R.M., (2011) Modelling post-fire vegetation recovery in Portugal, *Biogeosciences*, 8, 3593–3607, 2011.
- Barriopedro D., Gouveia C. M., Trigo R.M., Wang L. (2012) "The 2009-2010 drought in China", *Journal of Hydrometeorology* 13, 1251–1267. (I.F. 3.050-Q1)
- Trachte K., Obregón A., Bissolli P., Trigo R., Barriopedro D., Gouveia C. and Parker D.E. (2012). "Iberia" [in *State of the Climate in 2010*. Blunden J., Arndt D.S., and Baringer M.O. Eds.] *Bulletin of the American Meteorological Society*, 93 (6), S192-S193.
- Gouveia C.M., Bastos A., Trigo R.M., DaCamara C.C. (2012) "Drought impacts on vegetation in the pre and post-fire events over Iberian Peninsula". *Natural Hazards and Earth System Sciences*, 12, 3123-3137, 2012. (I.F. 1.983-Q2)
- Amraoui M.; Liberato M.R., Calado T.J., DaCamara C.C., Pinto-Coelho L., Trigo R.M. and Gouveia C.M., (2012) "Fire activity over Mediterranean Europe based on information from Meteosat-8". *Forest Ecology and Management* 294, 62–75, 2013 (I.F. 2.744-Q1)
- Sergio M. Vicente-Serrano, Célia Gouveia, Jesús Julio Camarero, Santiago Beguería, Ricardo Trigo, Juan I. López-Moreno, César Azorín-Molina, Edmond Pasho, Jorge Lorenzo-Lacruz, Jesús Revuelto, Enrique Morán-Tejeda and Arturo Sanchez-Lorenzo (2013) "The response of vegetation to drought time-scales across global land biomes". *Proceedings of the National Academy of Sciences*, 110:52-57, doi: 10.1007/s10113-012-0387-1. (I.F. 9.681-Q1)
- Trigo R., Sousa P., Pereira M., Rasilla D., Gouveia C. M. (2013) "Modeling wildfire activity in Iberia with different atmospheric circulation weather types, *International Journal of Climatology*, DOI: 10.1002/joc.3749. (I.F. 2.886-Q1)
- Bastos A., Running S. W., Gouveia C. and Trigo R. M. (2013) "The global NPP dependence on ENSO: La-Niña and the extraordinary year of 2011", *Journal of Geophysical Research: Biogeosciences* 118 (3): 1247–1255, DOI: 10.1002/jgrg.20100 (I.F. 3.021-Q1)
- Kurz-Besson C., Lobo Vale R., R. Siegwolf, Rodrigues L., Almeida P., Herd A., Grant O.M., David T.S., Schimidt M., Otieno D., T. Keenan, Siegwolf R., Gouveia. C., Meriaux, Chaves M.M., Pereira J.S. (2014) "Impact of precipitation change on Cork oak physiological traits: results of a rainfall manipulation experiment". *Journal of Agriculture and Forest Meteorology* 184: 230–242 (I.F. 3.421-Q1).
- DeSoto L., Varino F., Andrade J.P., Gouveia C.M., Campelo F., Trigo R.M., Nabais C. (2014) "Different growth sensitivity to climate of the conifer *Juniperus thurifera* on both sides of the Mediterranean Sea". *International Journal of Biometeorology*, doi 10.1007/s00484-014-0811-y. (I.F. 2.59-Q)
- Trigo R.M., Varino F., Ramos A. M., Valente M. A., Zêzere J. L., Vaquero J.M., Gouveia C. M., Russo A. (2014) The record precipitation and flood event in Iberia in December 1876: description and synoptic analysis, *Front. Earth Sci. - Atmospheric Science*, doi: 10.3389/feart.2014.00003.
- Bastos A. Gouveia C. M., Trigo R. M. and Running S. W., (2014) "Analysing the spatio-temporal impacts of the 2003 and 2010 extreme heatwaves on plant productivity in Europe", *Biogeosciences* 11: 3421-3435. DOI: 10.5194/bg-11-3421-2014.

## Book Chapters

- C. Louro, R. Cerdeira, L. Coelho, J. Garcia, C. Gouveia, T. Ferreira, N. Batista Effects of Urban Pollution on Children's Health WSEAS Transactions on Environment and Development, Issue 4, Vol.2 n° 4, pp.322-322, 2006
- R. Cerdeira, C. Louro, L. Coelho, J. Garcia, C. Gouveia, T. Ferreira, N. Batista. Environmental Effects on Respiratory Diseases WSEAS Transactions on Environment and Development, Vol.2 n° 8, pp.1029-1029, 2007
- C. Gouveia, R.M. Trigo (2008) "Influence of climate variability on wheat production in Portugal", in geoENV VI – Geostatistics for Environmental Applications, Ed. Soares A., Pereira M.J., Dimitrakopoulos R., Springer, 335-345.
- C. Gouveia, R.M. Trigo (2011) "The impacts of the NAO on the Vegetation Activity in Iberia", in Hydrological, Socioeconomic and Ecological impacts of the North Atlantic Oscillation in the Mediterranean region, Ed. Vicente-Serrano S., Trigo R. M and García-Herrera R., Advances in Global Change Research 46, Springer, 113-128.
- E. Xoplaki<sup>1</sup>, R.M. Trigo, R. García-Herrera, D. Barriopedro, F. D'Andrea, L. Gimeno, C. Gouveia, E. Hernandez, F.G. Kuglitsch, A. Mariotti, R. Nieto, J.G. Pinto, D. Pozo-Vázquez, H. Saaroni, A. Toreti, I.F. Trigo, S.M. Vicente-Serrano, P. Yiou, B. Ziv (2011) "Large-scale atmospheric circulation driving extreme climate events in the Mediterranean and related impacts" in Ed. Xoplaki E., Elsevier (in press)