



## Europass-Curriculum Vitae

### Personal information

First name(s) / Surname(s) **Mariana Stichini Vilela Hart de Campos Bernardino**  
Telephone(s) Rua de Castelo Picão nº 20, Á-dos-Cãos, 2670-341 Loures, Portugal  
E-mail mariana.bernardino@centec.tecnico.ulisboa.pt;mariana.bernardino@ugal.ro  
Nationality Portuguese  
Date of birth 14/04/1970  
Driving licence Drivers license B, DGV, Lisbon 15-06-1999

### Work experience

|                                      |   |
|--------------------------------------|---|
| Dates                                | Since February 2007   |
| Occupation or position held          | Researcher  |
| Main activities and responsibilities | Implementation of both wave models and meteorological models at global and regional scale.<br>Evaluation of climate change impacts in the North Atlantic marine environment.<br>Waver modelling for renewal energy applications.<br>Acquisition and analysis of meteocean data.<br>Production of technical reports and research papers.<br>Master students and junior researcher supervision.<br>Submission and supervising of research projects. |
| Name and address of employer         | Centre for Marine Technology and Ocean Engineering<br>Instituto Superior Técnico, Av. Rovisco Pais, 1<br>1049-001 Lisboa<br>Portugal  |
| Type of business or sector           | R&D Unit, University  |
| Dates                                | 2010 to 2015  |
| Occupation or position held          | Meteorologist   |
| Main activities and responsibilities | Participation in several national and international research projects related to wave modelling and to climate change.<br>Production of EC -Earth simulations for CMIP5.<br>Implementation of operation wave forecasting system for Madeira and Azores archipelagos.<br>Implementation of operation wave forecasting system for the Cape Verde archipelago.   |
| Name and address of employer         | IPMA - Portuguese Institute for the Sea and Atmosphere<br>Rua C do Aeroporto<br>1749-077 Lisboa<br>Portugal   |
| Type of business or sector           | State Lab, R&D  |

Dates 2009 to 2015  
Occupation or position held Invited associated Professor  
Main activities and responsibilities Teaching maths, physics, statistics and meteorology to undergraduate students.  
Name and address of employer Universidade Europeia- Laureate International Universities  
Estrada da Correia, nº53.  
1500-210 Lisboa  
Portugal  
Type of business or sector University

Dates Between May 2003 and January 2007  
Occupation or position held Researcher  
Main activities and responsibilities Participation in the following research projects: "Desenvolvimento das competências nacionais para a implementação de modelos oceanográficos de assimilação de dados -MOCASSIM " and "Nearshore wave forecast: spectral models and data assimilation -PAMMELA 2".  
Development of a data assimilation module.  
Implementation of an operational methodology for wave forecast in the Portuguese coast.  
Production of wave forecasts for environmental support in military amphibious operations.  
Acquisition and statistical analysis of meteocean data.  
Production of technical reports and research papers.  
Presentation of research work in national and international conferences.  
Representation of the institution in national and international meetings.  
Contribution in the elaboration research project proposals  
Name and address of employer Oceanographic Division of the Hydrographical Institute  
Rua das Trinas, 49  
1049 -093 Lisbon  
Portugal  
Type of business or sector State Lab – Portuguese Navy

Dates Between November 1997 and March 2003  
Occupation or position held Assistant professor  
Main activities and responsibilities Teaching Physics and Mathematics to Biology, Engineering and Oceanography students  
Name and address of employer Universidade Lusófona de Humanidades e Tecnologias  
Campo Grande, 376  
1749-024 Lisbon  
Portugal  
Type of business or sector University

Dates Between January 1996 and April 2003  
Occupation or position held Research assistant

Main activities and responsibilities Participation in the following European research projects :  
 Desertification Information System for the Mediterranean (DISMED), from 2001 to 2003  
 Sustainable Water: Uncertainty, Risk and Vulnerability in Europe (SWURVE), from 2001 to 2003  
 Water Resources: The Influence of Climate Change in Europe ( WRINCLE), from 1998 and 2000  
 Mediterranean Desertification and Land Use (MEDALUS), from 1996 to 1998  
 Participation in the national research project:  
 Climate change in Portugal during the last 15 thousand years, from 1997 to 1999  
 In the scope of which it carried through activities of:  
 Acquisition and statistical analysis of climate data.  
 Production of technical reports and research papers.  
 Presentation of research work in national and international conferences.  
 Representation of the institution in national and international meetings.  
 Elaboration of a Master and a PhD thesis.

Name and address of employer Meteorology and climatology group, Faculty of Sciences, University of Lisbon, Portugal  
 Coordinator – Professor Doutor João Corte Real

Type of business or sector R&D Unit, University

Dates From July 1995 to December 1995

Occupation or position held Research assistant

Main activities and responsibilities Collaboration in the research project: "Production of energy from renewable energy sources (PEE)",  
 performing:  
 Statistical analysis of oceanographic data.  
 Production of technical reports.  
 Presentation of research work in project meetings.

Name and address of employer Department of renewal energies, National Institute for Energy and Industrial Technology (INETI),  
 Lisbon, Portugal

Type of business or sector State Lab

Dates Between January and July 1994

Occupation or position held Junior research assistant

Main activities and responsibilities Data analysis and synoptic chart interpretation  
 Production of a wind storm catalogue.  
 Production of technical reports.

Name and address of employer Climatic Research Unit, University of East Anglia, United Kingdom

Type of business or sector R&D unit, University

## Education and training

Dates 2016 to present

Title of qualification awarded Post-doctoral specializations

Principal subjects/occupational skills covered Assessment of the impact of climate change in the Iberian coastal waters and in North Atlantic wind  
 and wave regimes

Name and type of organisation providing education and training Centre for Marine Technology and Ocean Engineering  
 Instituto Superior Técnico, Av. Rovisco Pais, 1  
 1049-001 Lisbon  
 Portugal

Dates 2008 to 2009  
 Title of qualification awarded Post-doctoral specializations  
 Principal subjects/occupational skills covered Impacts of climate change on marine environment  
 Name and type of organisation providing education and training Centre for Marine Technology and Ocean Engineering  
 Instituto Superior Técnico, Av. Rovisco Pais, 1  
 1049-001 Lisbon  
 Portugal

Dates 2004  
 Title of qualification awarded PhD in Physics -Meteorology  
 Principal subjects/occupational skills covered Climatology, climate change, statistical climatology, risk analysis  
 Name and type of organisation providing education and training Faculty of Sciences, University of Lisbon, Portugal

Dates 1997  
 Title of qualification awarded Master in Geophysical Sciences -Meteorology  
 Principal subjects/occupational skills covered Meteorology, climatology, hydrology, boundary layer physics, statistics  
 Name and type of organisation providing education and training Faculty of Sciences, University of Lisbon, Portugal

Dates 1994  
 Title of qualification awarded Licence in Geophysical Sciences -Meteorology  
 Principal subjects/occupational skills covered Physics, mathematics, meteorology, oceanography, programming and numerical analysis  
 Name and type of organisation providing education and training Faculty of Sciences, University of Lisbon, Portugal

**Personal skills and competences**

Mother tongue(s) **Portuguese**

Other language(s)

Self-assessment  
*European level (\*)*

|                | <b>Understanding</b> |                     | <b>Speaking</b>     |                     | <b>Writing</b>     |  |
|----------------|----------------------|---------------------|---------------------|---------------------|--------------------|--|
|                | Listening            | Reading             | Spoken interaction  | Listening           | Reading            |  |
| <b>English</b> | C2 Proficient User   | C2 Proficient User  | C2 Proficient User  | C2 Proficient User  | C1 Proficient User |  |
| <b>French</b>  | B1 Independent User  | B1 Independent User | B1 Independent User | B1 Independent User | A2 Basic User      |  |

(\*) *Common European Framework of Reference for Languages*

Social skills and competences Ability to adapt to multicultural environments and team work capacity, acquired through the participation in international research projects and interaction with researchers from different countries

- Technical skills and competences Acquisition, analysis and interpretation of geophysical data sets  
Univariate and multivariate data analysis  
Modelling of ocean-atmosphere interaction processes at global and regional scales.
- Computer skills and competences Programming in FORTRAN and CDO  
Programming in MatLab and SPSS  
Programming under UNIX, LINUX, DOS and Windows environments.  
Graphical software GRADS, GMT3, SURFER
- Annexes List of Relevant Publications and Participation in Research Projects

**ANNEX**  
**LIST OF RELEVANT PUBLICATIONS AND PARTICIPATION IN RESEARCH PROJECTS**

**A1. Publication in international journals**

- Mariana Bernardino, Liliana Rusu, C. Guedes Soares, Evaluation of the wave energy resources in the Cape Verde Islands, *Renewable Energy*, Volume 101, February 2017, Pages 316-326, ISSN 0960-1481, <http://dx.doi.org/10.1016/j.renene.2016.08.040>.
- Semedo, A., Soares, P. M., Lima, D. C., Cardoso, R. M., Bernardino, M., & Miranda, P. M. (2016). The impact of climate change on the global coastal low-level wind jets: EC-EARTH simulations. *Global and Planetary Change*, 137, 88-106.
- Rusu, L., M. Bernardino, C. Guedes Soares. "Wind and wave modelling in the Black Sea". *Journal of Operational Oceanography*, 2014. Volume 7, Number 1, pp. 5-20(16).
- N. Salvação, M. Bernardino, C. Guedes Soares, Assessing mesoscale wind simulations in different environments, *Computers & Geosciences*, 2014, Volume 71, Pages 28-36, ISSN 0098-3004, <http://dx.doi.org/10.1016/j.cageo.2014.04.017>.
- Guedes Soares, C., L. Rusu, M. Bernardino, P. Pilar. "An operational wave forecasting system for the Portuguese continental coastal area". *Journal of Operational Oceanography*, Vol 4, N°2 (2011) 17- 27.
- Rusu, L., M. Bernardino, C. Guedes Soares. "Modelling the influence of currents on wave propagation at the entrance of the Tagus estuary". *Ocean Engineering* 38 (2011) 1174–1183.
- Bernardino, M., 2010. "Evaluation of the Storm Vulnerability of Two Ship Routes in the North Atlantic ". *The Annals of "DUN REA DE JOS" University of Galati, Fascicle X, Applied Mechanics*, ISSN 1221-4612 2010.
- Sorin, DG, E. Rusu, M. Bernardino, 2010. "Practical Challenges in Harvesting Wave Energy: Heaving buoy device " *The Annals of "DUN REA DE JOS" University of Galati, Fascicle X, Applied Mechanics*, ISSN 1221-4612 2010.
- Rusu L., M.C. Bernardino, C. Guedes Soares: "Influence of Wind Resolution on the Prediction of Waves Generated in an Estuary". *Journal of Coastal Research, Special Issue 56*, 1419-1423, 2009
- Rusu, L., M. Bernardino e C. Guedes Soares. "Influence of the wind fields on the accuracy of numerical wave modeling in offshore locations", *proceedings da 27ª International Conference on Offshore Mechanics and Arctic Engineering*, vol 4, 637-644, 2008.
- Bernardino, M., A.V. Boukhanovsky e C. Guedes Soares. "Alternative approaches to storm statistics in the ocean", *proceedings da 27ª International Conference on Offshore Mechanics and Arctic Engineering*, vol 2, 1061-1068, 2008
- Pinto, J.P, M. C. Bernardino, A. Pires Silva ."A Kalman filter application to a spectral wave model", *Nonlinear Processes in Geophysics*, 12, 775-782, 2005.

**A2. Book chapters**

- Bernardino, M. and Guedes Soares, C. Evaluating marine climate change in the Portuguese coast during the 20th century( 2017). Guedes Soares, C. & Teixeira A. P., (Eds.). *Maritime Transportation and Harvesting of Sea Resources*. Taylor & Francis.
- Bernardino, M. and Guedes Soares, C. (2016), "Assessing climate change effect in offshore wind power in the North of Portugal", *Progress in Renewable Energies Offshore*, Guedes Soares, C. (Ed.), Taylor & Francis Group, London, UK, pp. 111-118.
- Bernardino, M. and Guedes Soares, C. (2016), "A climatological analysis of storms in the North Atlantic", *Maritime Technology and Engineering 3*, Guedes Soares, C. & Santos T.A. (Eds.), Taylor & Francis Group, London, UK, pp. 1021-1026.
- Bernardino, M. and Guedes Soares, C. (2015), "A Lagrangian perspective of the 2013/2014 winter wave storms in the North Atlantic", *Maritime Technology and Engineering*, Guedes Soares, C. & Santos T.A. (Eds.), Taylor & Francis Group, London, UK, pp. 1381-1388.
- Salvação, N., Bernardino, M. and Guedes Soares, C. (2014), "Assessing the offshore wind energy potential along coasts of Portugal and Galicia", *Developments in Maritime Transportation and Exploitation of Sea Resources*, Guedes Soares, C. and López Peña F. (Eds.). Francis & Taylor Group, London, UK, pp. 995-1002.
- Bernardino, M., Salvação, N. and Rusu, L. (2012), "Assessment of wind and wave simulations for an enclosed sea using satellite data", *Maritime Engineering and Technology*, Guedes Soares, C., Garbatov, Y., Sutulo, S., Santos, T.A. (Eds.), Taylor and Francis Group, pp. 467-471. ISBN 978-0-415-62146-5. Doi: 10.1201/b12726-66.
- Queirós, J., Bernardino, m. Guedes Soares, C. (2012), "Influence of wave data bases on the long term prediction of wave induced loads in ships", *Maritime Engineering and Technology*, Guedes Soares, C., Garbatov, Y., Sutulo, S., Santos, T.A. (Eds.), Taylor and Francis Group, pp. 513-523, ISBN 978-0-415-62146-5. Doi: 10.1201/b12726-72.
- Rusu, L. , M. Bernardino, P. Pilar, C. Guedes Soares, (2011). "Hindcast studies of the wave conditions on the Portuguese coast". In *Marine Technology and Engineering*, C. Guedes Soares et al., (eds.), Taylor & Francis Group, London, Vol. I, pp. 181-198, ISBN 978-0-415-69808-5.

Bernardino, M.C., L. Rusu, C. Guedes Soares, (2010). "Validation of a wave forecast system for the Portuguese ports". In: Coastal to Global Operational Oceanography: Achievements and Challenges. Proceedings of the Fifth International Conference on EuroGOOS, 20-22 May 2008, Exeter, UK. Eds. H. Dahlin, M. J. Bell, N. C. Flemming, S.E. Petersson, EuroGOOS publication no. 28, pp. 513-519. ISBN 978-91-974828-6-8.

Guedes Soares, C., M. Bernardino, L. Rusu, P. Pilar, (2008). "Implementação de um Sistema de Previsão da Agitação Marítima para os Portos de Leixões e Sines". In: O Sector Marítimo Português, C. Guedes Soares e C. Costa Monteiro (eds.), Salamandra, Lisbon, Portugal, pp. 397-411, ISBN 978-972-972-689-237-3.

Bernardino, M.C., J. Corte Real, (2007). "Avaliação do risco de seca em Portugal". Riscos Públicos e Industriais, Guedes Soares, C., Teixeira, A. P. and Antão, P. (eds.), Edições Salamandra, Lda., Lisboa, Portugal, Vol. I, pp. 241-252, ISBN 972-689-231-1.

Bernardino, M.C., B. Qian, J. Corte Real (2001). "Water Resources: Influence of Climate change in Europe (WRINCLE), Final Report, Chapter 7- Impacts- Drought risk", April 2001. Editor C. G. Kilsby, Water Resources Systems Research Laboratory, University of Newcastle, Reino Unido.

### A3. Publication in proceedings of international conferences

Pinto, A., Bernardino, M., Santos, A. S., & Santo, F. E. ASSESSING CLIMATE CHANGE IMPACT IN HOSPITALITY SECTOR. SIMPLIFIED APPROACH USING BUILDING RESOURCES CONSUMPTION SIGNATURE. Proceedings of the 8th AECEF Symposium – AECEF2015.

Daniela C A Lima, Álvaro Semedo, Pedro M M Soares, Rita M Cardoso, Mariana Bernardino, Pedro M A Miranda, "The Impact of a Warmer Climate on the Global Coastal Low-Level Wind Jets". Jornadas do Mar, novembro 2014. Escola Naval, Alfeite, Portugal.

Salvação N., Bernardino M. and Guedes Soares C.G.; Assessing the offshore wind energy potential along the coasts of Portugal and Galicia; 15th International Congress of the International Maritime Association of the Mediterranean IMAM 2013, A Coruña, Spain. Doi: 10.1201/b15813-125.

Salvação N., Bernardino M. and Guedes Soares C.G.; Validation of an atmospheric model for assessing the offshore wind resources along the Portuguese coast; Proceedings of the 32nd International Conference on Ocean, Offshore and Arctic Engineering (OMAE2013), June 9-14, 2013, Nantes, France .

Liliana Rusu, Mariana Bernardino and Carlos Guedes Soares, "Wave Forecast at the Entrance of the Tagus Estuary", Proceedings of the 30th International Conference on Ocean, Offshore and Arctic Engineering (OMAE 2011), 19-24 June, Rotterdam, The Netherlands, ASME, New York, USA, paper OMAE2011-50214.

Queirós, J. , C. Guedes Soares, M. Bernardino. "Influence of Wave Data Bases on the Long Term Prediction of Wave Induced Loads in Ships". 1st International conference on maritime technology and Engineering, Lisbon, 10-12 May 2011.

Bernardino, M., N. Salvação, L. Rusu. "Assessment of wind and wave simulations for an enclosed sea using satellite data". 1st International conference on maritime technology and Engineering, Lisbon, 10-12 May 2011.

Rusu, L., M. Bernardino, P. Pilar e C. Guedes Soares, 2010. "Previsão da agitação marítima em situações de temporal à entrada do estuário do Tejo". Proceedings das 1ª Jornadas de Engenharia Hidrográfica, Lisboa, 21-22 de Junho de 2010.

Bernardino, M. , J. Queirós, C. Guedes Soares, 2010. "Aplicação de uma metodologia Lagrangeana de identificação de tempestades para avaliar a vulnerabilidade de duas rotas no Atlântico Norte". Proceedings das 1ª Jornadas de Engenharia Hidrográfica, Lisboa, 21-22 de Junho de 2010.

Rusu, L. M. Bernardino, C. Guedes Soares, 2010. "Wave Forecast at the Entrance of the Tagus Estuary". CoastLab2010, 29 Setembro a 1 de Outubro de 2010, Barcelona, Espanha.

Bernardino M. , L. Rusu, D. Silva, R. Bento, P. Pilar, C. Guedes Soares: "Avaliação do desempenho do sistema de previsão da agitação marítima implementado para os portos Portugueses", Proceedings das VI Jornadas Portuguesas de Engenharia Costeira e Portuária, Funchal, Outubro, 2009.

Guedes Soares C., M.C. Bernardino, L. Rusu, P. Pilar: "Implementação de um sistema de previsão da agitação marítima para os portos de Sines e Leixões". Proceedings das XX Jornadas Técnicas "O Sector Marítimo Português", Lisboa, Portugal, 2009

Bernardino, M.C., L. Rusu, C. Guedes Soares: "Validation of a wave forecast system for the Portuguese ports". Proceedings do 5th EuroGOOS Conference, Exeter, Reino Unido, 2008.

Rusu, L., M.C. Bernardino, C. Guedes Soares: "Estudo da agitação marítima no Estuário do Tejo". Proceedings of the V Jornadas Portuguesas de Engenharia Costeira e Portuária, Lisbon, October 2007.

Bernardino, M.C., J. Corte Real: " Avaliação do risco de seca em Portugal". Proceedings of the II Encontro Nacional de Riscos, Segurança e Fiabilidade. Lisbon, November, 2007.

Vieira F., M.C. Bernardino: "Estudo da geração e propagação de condições extremas da agitação marítima no Estuário do Tejo – Base Naval do Alfeite". Proceedings of the IV Jornadas Portuguesas de Engenharia Costeira e Portuária, Angra do Heroísmo, October 2005.

Bernardino M.C., J.P. Pinto, S. Almeida e F. Vieira: "A metodologia de previsão operacional de agitação marítima na costa Portuguesa implementada no Instituto Hidrográfico" Proceedings of the IV Jornadas Portuguesas de Engenharia Costeira e Portuária, Angra do Heroísmo, October 2005.

#### **A4. PARTICIPATION TO RELEVANT RESEARCH PROJECTS**

##### **Project coordination:**

CLIBECO – Clima marinho presente e futuro na costa Ibérica. Present and future marine climate in the Iberian Coast 2014-2015.

##### **Participation in international projects:**

EUPORIAS- EUropean Provision Of Regional Impact Assessment on a Seasonal-to-decadal timescale.  
2012-11-01 a 2017-01-31.  
Coordinator: MET OFFICE (Dr. Chris Hewitt).

EC\_EARTH- Developing a European Earth system model based on ECMWF modeling tools.  
2010-2014  
Coordinator: KNMI (Dr. W. Hazeleger).

SAFEOFFLOAD: Safe Offloading from Floating LNG Platforms.  
01.01.2006 – 30.06.2009.  
Coordinator: SHELL – SIEP.

MARSTRUCT: Network of Excellence on Marine Structures.  
01.02.2004 – 31.10.2010.  
Coordinator: IST (Prof. Carlos Guedes Soares).

WRINCLE: Water Resources- The Influence of Climate Change in Europe  
1998-2000  
Coordinator: Universidade de Newcastle Upon Tyne (Prof. Enda O'Connell)

MEDALUS III - Mediterranean Desertification and Land Use  
1996-1998  
Coordinator :King's College ( Prof. John Thornes)

##### **Participation in Portuguese funded projects:**

AC:T- Adapt Turism  
Abril 2015- Março 2016  
Coordinator LNEC ( Eng. Armando Pinto)

SHARE - Sistema de modelação atmosfera-oceano em alta resolução.  
2013-2016.  
Coordinator: FCUL (Prof. Pedro Miranda).

WANDA: Wave predictions in the Nearshore with Data Assimilation.  
2013 – 2016.  
Coordinator: IST (Prof Liliana Rusu).

NEARPORT: Development of a Real -Time Nearshore Wave Prediction System for the Portuguese Ports.  
2008 – 2011.  
Coordinator: IST (Prof Eugen Rusu).

MARPORT: System to Forecast Wave Conditions in the Portuguese Ports.  
2007– 2008.  
Coordinator: IST (Prof. Carlos Guedes Soares).

MOCASSIM - Desenvolvimento das competências nacionais para a implementação de modelos oceanográficos de assimilação de dados.  
Coordinator: Instituto Hidrográfico (Dr. João Vitorino).