

# **CURRICULUM VITAE**

**Name:** Dulce da Silva Oliveira

**Birthdate:** 27/02/1983

**Citizenship:** Portuguese

**Address:** Instituto Português do Mar e da Atmosfera (IPMA), Avenida de Brasília  
6, 1449-006 Lisboa, Portugal

**Phone:** +351- 21 302 7014

**Email:** dulce.oliveira@ipma.pt; dulce\_oliveiraa@hotmail.com

**Ciência ID:** A119-CA60-3C50

**Scopus ID:** 56688169500

**Orcid:** <http://orcid.org/0000-0002-3016-532X>



## **Present position**

---

May 2019 - to present: Junior researcher at Instituto Português do Mar e da Atmosfera (IPMA) and Centro de Ciências do Mar do Algarve (CCMAR), Portugal. Project: Impacts of climate change on the Indian monsoon and vegetation across the Early-Middle Pleistocene transition: New insights from eastern Indian margin (CEECIND/02208/2017).

## **Education**

---

- May 2017: Ph.D. in Science and Environment, specialty in Marine Sedimentology and Paleoclimate, Bordeaux University (France).
- June 2012: M.Sc. in Marine Sciences, Lisbon University (Portugal). Final grade 18/20.
- December 2009: Post-graduation in food safety and quality management, Lusófona University (Portugal). Final grade 18/20.
- August 2006: 1<sup>st</sup> Degree in Marine Biology and Biotechnology, Instituto Politécnico de Leiria (Portugal). Final grade 15/20.

## Professional experience

---

- February 2018 - April 2019: Post-Doc research grant in the framework of the project ULTImATum “Understanding past climatic instabilities in the North Atlantic Region- IF/01489/2015” at Instituto Português do Mar e da Atmosfera (IPMA), PT.
- September 2017 - December 2017: Post-Doc position in the framework of the project INSU-IMAGO MICMAc “Réponse de la Mousson Indienne à la variabilité Climatique au cours du dernier Million d’Années” at UMR-CNRS 5805 EPOC (Environnements et Paléoenvironnements Océaniques) - Bordeaux University (FR).
- April 2013 - May 2017: Ph.D. fellowship from the Portuguese Science Foundation (FCT) with the research theme “Understanding warm periods within and after the Mid Pleistocene Transition (MIS 31 and 11) in the Iberian Peninsula”, (SFRH/BD/90790/2012). Host institutions: EPHE, EPOC-Bordeaux University (FR), Centro de Ciências do Mar (CCMAR)-Algarve University (PT), Dom Luiz Institute (IDL)-Lisbon University (PT), and Instituto Português do Mar e da Atmosfera (IPMA), PT. Supervision: Dr. Maria Sánchez Goñi (FR), Dr. Ricardo Trigo (PT), and Dr. Filipa Naughton (PT).
- September 2010 - March 2013: Research Fellow (BI) in the project “Holocene climatic variability in the North Atlantic and adjacent landmasses: land-sea direct correlation-CLIMHOL, PTDC/AAC-CLI/100157/2008” at UGM - LNEG (Unidade de Geologia Marinha - Laboratório Nacional de Energia e Geologia), PT.
- March 2009 - August 2010: New product development of Sonae Continente private-label brand. Mérieux NutriSciences Corporation (former Silliker Group Corporation), Sonae MC, Lisbon, PT.
- November 2006 - March 2009: Quality Assurance/Quality Control technician of Continente private-label products at Modis Azambuja – Modelo e Continente Hipermercados S.A., Lisbon, PT.
- April 2006 - July 2006: Aquaculture. Hatchery production and farming of sea bream (*Sparus aurata*). Farming of sea bass (*Dicentrarchus labrax*). Timar - Culturas em Água, Lda. Zimbral, Tavira, PT.
- August 2005 - December 2005: Microbiological Analysis Laboratory - Food Microbiology Technician at the Microbiology Laboratory, Univates University, Rio Grande do Sul, BR.

## Research interests

---

- Long-term and millennial-scale environmental changes in Europe and North America during the present interglacial and last deglaciation, with foci on the Iberian Peninsula, SW France, and Cape Hatteras region.
- Intensity and climate variability of key past warm periods are considered as analogues for the projected global warming, namely Marine Isotopic Stages (MIS) 11 and 31, in regions highly sensitive to climate changes such as the Mediterranean.
- Forcing mechanisms and regional expression of the Holocene and its best orbital interglacial analogues, MIS 11c and MIS 19c, on SW Europe’s climate and vegetation as revealed by comparison of proxy-based reconstructions and climate model experiments.

- Impacts of insolation, greenhouse gases (GHGs), and ice-sheets in northern subtropical regions during the cool interglacial MIS 13: data-model approach.
- Indian vegetation and Indian Summer Monsoon response to climate variability during the past one million years.

## Awards

---

- 2018: Silver Medal for Scientific Achievements by the Municipality of Leiria, PT.
- 2018: L'Oréal Portugal Medal of Honour for Women in Science from L'Oréal, Portuguese Science Foundation (FCT) and UNESCO (15 000 €).
- 2017: Best oral communication at the Mediterranean Palynology Symposium, 4-6 September 2017, Barcelona, SP. Award by the Mediterranean Palynological Societies (150 €).
- 2005: Outstanding student scholarship from the Instituto Politécnico de Leiria (IPL), PT, to participate in an exchange program of Biological Sciences at the University of Univates, BR, during six months (1800 R\$).

## Travel and accommodation awards

---

- 2021: European Geosciences Union (EGU) General Assembly, vEGU21, gather online. Award by Association des Palynologues de Langue Française, L'APLF, and Association Française pour l'Etude du Quaternaire, AFEQ-CNF INQUA.
- 2019: XX Congress of the International Union for Quaternary Research (INQUA), Dublin, Ireland. Award by INQUA congress and AFEQ-CNF INQUA.
- 2019: Mediterranean Palynology Symposium (MedPalyno) 2019, Bordeaux, France. Award by L'APLF.
- 2018: EGU General Assembly, Vienna, Austria.
- 2017: MedPalyno 2017, Barcelona, Spain. Award by AFEQ-CNF INQUA and L'APLF.
- 2017: 5<sup>th</sup> PAGES Open Science Meeting - Past Global Changes, Zaragoza, Spain. Award by PAGES and AFEQ-CNF INQUA.
- 2015: XIX INQUA Congress, Quaternary Perspectives on Climate Change, Natural Hazards and Civilization, Nagoya, Japan. Award by INQUA congress and L'APLF.
- 2014: European Consortium for Ocean Research Drilling (ECORD) scholarship for outstanding young scientists to attend the 11<sup>th</sup> Urbino Summer School in Paleoclimatology, University of Urbino, Italy.

## Participation in national and international research projects

---

11. 2019- 2024: Portuguese FCT- CEECIND project IMoVe (CEECIND/02208/2017) “Impacts of climate change on the Indian monsoon and vegetation across the Early-Middle Pleistocene transition: New insights from eastern Indian margin”, led by D. Oliveira (CCMAR and IPMA, PT).
10. 2018-2021: Portuguese FCT project WarmWorlds (PTDC/CTA-GEO/29897/2017) “Understand the warm periods in the last 1.5 Ma”, led by Teresa Rodrigues (IPMA, PT).
9. 2018-2020: FCT R&D project HOLMODRIVE (SAICT-45-2017-02) “North Atlantic Atmospheric Patterns influence on Western Iberia Climate: From the Lateglacial to the Present” led by Armand Hernández (IDL and Lisbon University, PT).
8. 2015-2020: Portuguese FCT project ULTImATum (IF/01489/2015) “Understanding past climatic instabilities in the North Atlantic Region” led by Filipa Naughton (IPMA, PT).
7. 2017-2018: French project CNRS-INSU (LEFE/IMAGO) MICMAc “Réponse de la Mousson Indienne à la variabilité Climatique au cours du dernier Million d’Années”, led by Philippe Martinez (EPOC-Bordeaux University, FR).
6. 2013-2017: D. Oliveira FCT Ph.D. project (SFRH/BD/90790/2012) “Understanding warm periods within and after the Mid Pleistocene Transition (MIS 31 and 11) in the Iberian Peninsula”. Host institutions: EPHE, EPOC-Bordeaux University (FR), CCMAR-Algarve University (PT), IDL-Lisbon University (PT), and IPMA (PT).
5. 2015-2017: South Korean and French project PHC STAR MEDKO “Abrupt climate events in the past Mediterranean and Korean basins”, University of Bordeaux (FR) and University of Hanyang (South Korea), led by Maria Fernanda Sanchez Goñi (EPHE, EPOC-Bordeaux University, FR) and Shin Kyoung-Hoon (Hanyang University, South Korea).
4. 2015-2016: French project AO-INSU/LEFE PuLSE “Understanding Paleoenvironmental instabilities in the Southwestern European region”, led by Stephanie Desprat (EPHE, EPOC-Bordeaux University, FR).
3. 2013-2016: French project INSU-IMAGO WarmClim “Understanding warm periods by integrating North Atlantic land-sea-ice palaeoclimatic records with inverse modeling”, led by Maria Fernanda Sanchez Goñi (EPHE, EPOC-Bordeaux University, FR).
2. 2010-2013: Portuguese FCT project CLIMHOL (PTDC/AAC-CLI/100157/2008) “Holocene climatic variability in the North Atlantic and adjacent landmasses: land-sea direct correlation”, led by Filipa Naughton (IPMA, PT).
1. 2008-2011: Spanish and Portuguese project “Programa de cooperação transfronteiriça Portugal-Espanha” NATURA MIÑO-MINHO (INTERREG B BI/0234): Valorización de los recursos naturales de la cuenca hidrográfica del Miño-Minho”, led by Fátima Abrantes (IPMA, PT).

## Publications

---

### Theses

- May 2017: Ph.D. thesis: Understanding warm periods within and after the Mid Pleistocene Transition (MIS 31 and 11) in the Iberian Peninsula. 292 p. (<http://www.theses.fr/2017BORD0598>).
- June 2012: M.Sc. thesis: Vegetation response to Holocene climate variability in south-western Europe. 159 p. (<http://repositorio.ul.pt/handle/10451/8623>).

### Peer-review articles

14. González-Lanchas, A., José-Abel, F., Sierro, F.J., Sánchez Goñi, M.F., Rodrigues, T., Ausin, B., Oliveira, D., Naughton, F., Marino, M., Maiorano, P., Balestra, B., 2021. Control mechanisms of Primary Productivity revealed by coccolithophores from Marine Isotope Stage (MIS) 12 to 9 at the Shackleton Site U1385. Under review in *Paleoceanography and Paleoclimatology*.
13. Penaud, A., Eynaud, F., Etourneau, J., Bonnin, J., de Vernal, A., Zaragosi, S., Kim, J.-H., Kang, S., Gal, J.-K., Oliveira, D., Waelbroeck, C., 2021. Ocean productivity in the Gulf of Cadiz over the last 50 kyr. Under review in *Global and Planetary Change*.
12. González-Lanchas, A., José-Abel, F., Sierro, F.J., Bárcena, M.A., Rigual-Hernández, A., Oliveira, D., Azibeiro, L.A., Marino, M., Maiorano, P., Cortina A., Cacho, I., Grimalt, J.O., 2020. A new perspective of the Alboran Upwelling System reconstruction during the Marine Isotope Stage 11: A high-resolution coccolithophore record. *Quaternary Science Reviews* 245, 106520, <https://doi.org/10.1016/j.quascirev.2020.106520>.
11. Oliveira, D., Desprat, S., Yin, Q., Rodrigues, T., Naughton, F., Trigo, R., Qianqian, S., Grimalt, J.O., Alonso-Garcia, M., Voelker, A.H.L., Abrantes, F., Sánchez Goñi, M.F., 2020. Combination of insolation and ice-sheet forcing drive enhanced humidity in northern subtropical regions during MIS 13. *Quaternary Science Reviews* 247, 106573, <https://doi.org/10.1016/j.quascirev.2020.106573>.
10. Naughton F., Costas S., Gomes S.D., Rodrigues T., Desprat S., Bronk-Ramsey C., Salgueiro E., Sanchez Goñi M.F., Renssen H., Trigo, R., Oliveira, D., Voelker A.H.L., Abrantes F., 2019. Coupled ocean and atmospheric changes during Greenland Stadial 1 in southwestern Europe. *Quaternary Science Reviews*, 212, 108-120. <https://doi.org/10.1016/j.quascirev.2019.03.033>.
9. Oliveira, D., Desprat, S., Q. Yin, Naughton, F., Trigo, R., Rodrigues, T., Abrantes, F., Sánchez Goñi, M.F., 2018. Unraveling the forcings controlling the vegetation and climate of the best orbital analogues for the present interglacial in SW Europe. *Climate Dynamics*, 51: 667. <https://doi.org/10.1007/s00382-017-3948-7>.
8. Sánchez Goñi, M.F., Desprat, S., Fletcher, W.J., Morales-Molino, C., Naughton, F., Oliveira, D., Urrego, D., Zorzi, C., 2018. Pollen from the Deep-Sea: A Breakthrough in the Mystery of the Ice Ages. *Front. Plant Sci.* 9:38. <https://doi.org/10.3389/fpls.2018.00038>.
7. Abrantes, F., Rodrigues, T., Rufino, M., Salgueiro, E., Oliveira, D., Gomes, S., Oliveira, P., Costa, A., Mil-Homens, M., Drago, T., Naughton, F., 2017. The Climate of the Common Era off the Iberian Peninsula. *Climate of the Past*, 13, 1901-1918. <https://doi.org/10.5194/cp-13-1901-2017>.

6. Desprat, S., Oliveira, D., Naughton, F., Sánchez Goñi, M.F., 2017. Pollen in marine sedimentary archives, a key for climate studies: the example of past warm periods. «L'étude du pollen des séquences sédimentaires marines pour la compréhension du climat: l'exemple des périodes chaudes passées.» *Quaternaire*, 28(2), 259-269. <https://doi.org/10.4000/quaternaire.8102>.
5. Oliveira, D., Sanchez Goñi, M.F., Naughton, F., Polanco-Martínez, J.M, Jimenez-Espejo, F.J., Grimalt, J.O., Martrat, B., Voelker, A.H.L., Trigo, R., Hodell, D., Abrantes, F., Desprat, S., 2017. Unexpected weak seasonal climate in the western Mediterranean region in response to MIS 31, a high-insolation forced interglacial. *Quaternary Science Reviews* 161, 1–17. <https://doi.org/10.1016/j.quascirev.2017.02.013>.
4. Oliveira, D., Desprat, S., Rodrigues, T., Naughton, F., Hodell, D., Trigo, R., Rufino, M., Lopes, C., Abrantes, F., Sánchez Goñi, M.F., 2016. The complexity of millennial-scale variability in southwestern Europe during MIS 11. *Quaternary Research* 86, 373-387. <https://doi.org/10.1016/j.yqres.2016.09.002>.
3. Sánchez Goñi, M.F., Llave, E., Oliveira, D., Naughton, F., Desprat, S., Ducassou, E., Hodell, D.A., Hernández-Molina, F.J., 2016. Climate changes in south-western Iberia and Mediterranean Outflow variations during two contrasting cycles of the last 1 Myrs: MIS 31– MIS 30 and MIS 12–MIS 11. *Global and Planetary Change* 136, 18-29. <https://doi.org/10.1016/j.gloplacha.2015.11.006>.
2. Eynaud, F., Londeix, L., Penaud, A., Sánchez Goñi, M.F., Oliveira, D., Desprat, S., and Turon, J.-L., 2016. Dinoflagellate cyst population evolution throughout past interglacials: Key features along the Iberian margin and insights from the new IODP Site U1385 (Exp 339). *Global and Planetary Change* 136, 52-64. <https://doi.org/10.1016/j.gloplacha.2015.12.004>.
1. Naughton, F., Keigwin, L., Peteet, D., Costas, S., Desprat, S., Oliveira, D., de Vernal, A., Voelker, A., Abrantes, F., 2015. A 12,000-yr pollen record off Cape Hatteras — Pollen sources and mechanisms of pollen dispersion. *Marine Geology* 367, 118-129. <https://doi.org/10.1016/j.margeo.2015.06.003>.

## Scientific Reports

---

- 2012: Mil-Homens M, Naughton F, Costa AM, Oliveira D, Santos C, Rodrigues T, Abrantes F, Fonseca S, Serrano R. Characterization of DIVA09 – a gravity core from the Minho shelf. Project NATURA MIÑO-MINHO “Valorización de los recursos de la cuenca hidrográfica del MIÑO-MINHO” Activity 1 report – Part 2”. Unidade de Geologia Marinha – LNEG. Relatório Técnico INGMARDEP 05/2012. 47p.

## Other publications

---

- 2019: Honored in the book "Mulheres na Ciência / Women in Science" by Ciência Viva, 2019. National Agency for Scientific and Technological Culture, <http://www.cienciaviva.pt/mulheresnaciencia/index.asp>.
- 2018: Book from Inés Garbayo, María Cuaresma and Filomena Fonseca “Visualización de la actividad científica femenina en la Euroregión Algarve-Andalucía”. ISBN: 9788494347160. 2018, 170 pp. [https://www.uhu.es/fexp/difusion/docs/ciencia\\_en\\_femenino\\_2.pdf](https://www.uhu.es/fexp/difusion/docs/ciencia_en_femenino_2.pdf). Oliveira, D. contribution on page 43.

## Conference presentations

---

### **Oral communications (as a first author)**

14. Oliveira, D., 2021. Looking to the past to anticipate future climate change. NOVA University Lisbon, NaNu - Nanotechnology Association of NOVA School of Science and Technology (FCT/UNL). (Invited)
13. Oliveira, D., Desprat, S., Yin, Q., Rodrigues, T., Naughton, F., Trigo, R., Qianqian, S., Grimalt, J.O., Alonso-Garcia, M., Voelker, A.H.L., Abrantes, F., Sánchez Goñi, M.F., 2021. Enhanced humidity in SW Iberia driven by the combination of insolation and ice-sheet forcing during MIS 13 interglacial. EGU General Assembly Conference.
12. Oliveira, D., 2020. Climate-driven vegetation changes in SW Europe: learning from key interglacials of the last 800,000 years. CCMAR Symposium, Algarve University, Faro, Portugal.
11. Oliveira, D., Desprat, S., Yin, Q.Z., Rodrigues, T., Naughton, F., Trigo, R., Qianqian, S., Grimalt, J.O., Alonso-Garcia, M., Voelker, A.H.L., Abrantes, F., Sánchez Goñi, M.F., 2020. Ice-sheet forcing reinforces precipitation over SW Iberia during an interglacial 500,000 years ago. “Climat et Impacts” conference, University of Paris-Saclay, Orsay, France.
10. Oliveira, D., Desprat, S., Yin, Q.Z., Rodrigues, T., Naughton, F., Qianqian, S., Grimalt, J.O., Abrantes, F., Sánchez Goñi, M.F., 2020. SW European vegetation and climate dynamics in a cooler world: insights from MIS 13 interglacial. 2nd Palaeontological Virtual Congress.
9. Oliveira, D., Desprat, S., Naughton, F., Rodrigues, T., Alonso-García, M, Joan, O., Grimalt, Abrantes, F., Sánchez Goñi, M.F., 2019. Climate and vegetation imprint of the cool MIS 13 in the Iberian Peninsula. Mediterranean Palynology Symposium 2019, Bordeaux, France.
8. Oliveira, D., Desprat, S., Yin, Q., Naughton, F., Trigo, R., Rodrigues, T., Abrantes, F., Sánchez Goñi, M.F., 2018. Western Mediterranean vegetation and climate dynamics during the best astronomical analogues of the Holocene: evidence from a model-data comparison. European Geosciences Union (EGU) General Assembly, Vienna, Austria.
7. Oliveira, D., Desprat, S., Yin, Q., Naughton, F., Trigo, R., Rodrigues, T., Abrantes, F., Sánchez Goñi, M.F., 2017. Unraveling the forcings controlling the magnitude and climate variability of the best orbital analogues for the present interglacial in SW Europe. In: De Linares C. & Belmonte J. (Eds.). Mediterranean Palynology Symposium, Barcelona, Spain.
6. Oliveira, D., Sanchez Goñi, M.F., Naughton, F., Polanco-Martínez, J.M., Jimenez-Espejo, F.J., Grimalt, J.O., Martrat, B., Voelker, A.H.L., Trigo, R., Hodell, D., Abrantes, F., Desprat, S., 2017. Unexpected weak seasonal climate in the western Mediterranean region in response to MIS 31, a high-insolation forced interglacial. PAGES 5<sup>th</sup> Open Science Meeting, Zaragoza, Spain.
5. Oliveira, D., Desprat, S., Rodrigues, T., Naughton, F., Hodell, D., Trigo, R., Abrantes, F., Sánchez Goñi, M.F., 2016. The diversity of millennial-scale cooling events in southwestern Europe during MIS 11. 2<sup>nd</sup> APOCEAN - Associação Portuguesa de Oceanografia – Meeting, S. Pedro de Moel, Portugal.
4. Oliveira, D., Desprat, S., Rodrigues, T., Naughton, F., Hodell, D., Trigo, R., Abrantes, F., Sánchez Goñi, M.F., 2016. Land–sea climatic variability during MIS 11 in southwestern Europe: Evidence from IODP Site U1385

(Shackleton Site). Colloque Q10 AFEQ CNF-INQUA 2016: Paléoclimats et environnements quaternaires, quoi de neuf sous le soleil? Bordeaux University, France.

3. Oliveira, D., Desprat, S., Rodrigues, T., Naughton, F., Hodell, D., Trigo, R., Abrantes, F., Sánchez Goñi, M., 2015. New insights on MIS 11 climate changes at millennial time scale in southwestern Europe. XIX INQUA Congress, Quaternary Perspectives on Climate Change, Natural Hazards and Civilization, Nagoya, Japan.

2. Oliveira, D., Naughton, F., Trigo, R., 2013. Holocene climate variability in the southeastern Bay of Biscay. CLIMHOL Workshop: Holocene climatic variability in the North Atlantic and adjacent landmasses: land-sea direct correlation. IPMA (Instituto do Mar e da Atmosfera), Lisbon, Portugal.

1. Oliveira, D., Naughton, F., Trigo, R., Rodrigues, T., Jouanneau, J.M., Weber, O., 2012. Holocene climate variability in south-western France. European Geosciences Union (EGU) General Assembly, Vienna, Austria.

### **Posters (as a first author)**

15. Oliveira, D., Desprat, S., Yin, Q.Z., Rodrigues, T., Naughton, F., Qianqian, S., Voelker, A.H.L., Abrantes, F., Sánchez Goñi, M.F., 2020. Intense precipitation in the western Mediterranean during the globally cool MIS 13 interglacial. UK IODP Annual Meeting online.

14. Oliveira, D., Desprat, S., Naughton, F., Rodrigues, T., Alonso-García, M., Grimalt, J.O., Abrantes, F., Sánchez Goñi, M.F., 2019. Climate change and vegetation dynamics during the lukewarm interglacial MIS 13 in SW Europe. 20th Congress of the International Union for Quaternary Research (INQUA), Dublin, Ireland.

13. Oliveira, D., Naughton, F., Desprat, S., Rodrigues, T., Grimalt, J., Martrat, B., Voelker, A., Trigo, R., Polanco-Martínez, J., Hodell, D., Abrantes, F., Sánchez Goñi, M.F., 2019. The Iberian Peninsula in a warmer world: learning from Quaternary super-interglacials. Encontro de Oceanografía, Peniche.

12. Oliveira, D., Sanchez Goñi, M.F., Naughton, F., Polanco-Martínez, J.M., Jimenez-Espejo, F.J., Grimalt, J.O., Martrat, B., Voelker, A.H.L., Trigo, R., Hodell, D., Abrantes, F., Desprat, S., 2018. Orbital parameters controlling the western Iberian vegetation and climate during the Middle Pleistocene Transition: evidence from the extreme interglacial MIS 31. European Geosciences Union (EGU) General Assembly, Vienna, Austria.

11. Oliveira, D., Sanchez Goñi, M.F., Naughton, F., Polanco-Martínez, J.M., Jimenez-Espejo, F.J., Grimalt, J.O., Martrat, B., Voelker, A.H.L., Trigo, R., Hodell, D., Abrantes, F., Desprat, S., 2017. MIS 31, a globally super interglacial? Insights from a new high-resolution direct land-sea comparison from the southwestern European margin. In: De Linares C. & Belmonte J. (Eds.). Mediterranean Palynology Symposium, Barcelona, Spain.

10. Oliveira, D., Sanchez Goñi, M.F., Naughton, F., Polanco-Martínez, J.M., Jimenez-Espejo, F.J., Grimalt, J.O., Martrat, B., Voelker, A.H.L., Trigo, R., Hodell, D., Abrantes, F., Desprat, S., 2017. Unraveling western Mediterranean vegetation and climate dynamics during the super interglacial MIS 31. Ciência 2017 - Science and Technology in Portugal Meeting, Lisboa Congress Centre, Portugal.

9. Oliveira, D., Desprat, S., Rodrigues, T., Naughton, F., Hodell, D., Trigo, R., Abrantes, F., Sanchez Goñi, M.F., 2017. The complexity of millennial-scale cooling events in SW Europe during MIS 11. PAGES 5<sup>th</sup> Open Science Meeting, Zaragoza, Spain.

8. Oliveira, D., Desprat, S., Rodrigues, T., Naughton, F., Hodell, D., Trigo, R., Abrantes, F., Sánchez Goñi, M.F., 2016. The diversity of millennial-scale variability in southwestern Europe during MIS 11. Ciência 2016 - Science and Technology in Portugal Meeting, Lisboa Congress Centre, Portugal.



7. Oliveira, D., Sánchez Goñi, M.F., Naughton, F., Desprat, S., Hodell, D.A., Trigo, R., Abrantes, F., 2016. Vegetation and climatic changes during MIS 31 in southwestern Europe. 2<sup>nd</sup> APOCEAN - Associação Portuguesa de Oceanografia – Meeting, S. Pedro de Moel, Portugal.
6. Oliveira, D., Desprat, S., Rodrigues, T., Naughton, F., Hodell, D., Trigo, R., Abrantes, F., Sánchez Goñi, M.F., 2015. Marine Isotope Stages 11-12 direct land-sea comparison from the Shackleton Site U1385, IODP Expedition 339. IODP (International Ocean Discovery Program)/ECORD (European Consortium for Ocean Drilling) Portugal day, Pavilhão do Conhecimento - Ciência Viva, Lisbon, Portugal.
5. Oliveira, D., Sánchez Goñi, M.F., Naughton, F., Hodell, D., Rodrigues, T., Daniau, A.L., Eynaud, F., Trigo, R., Abrantes, F., IODP Expedition 339 Scientists Team, 2014. Understanding MIS 11 by integrating land-sea-ice records from the Shackleton site (IODP 1385, SW Iberian margin). 11<sup>th</sup> Urbino Summer School in Paleoclimatology (USSP), University of Urbino, Italy.
4. Oliveira, D., Rodrigues, T., Desprat, S., Naughton, F., Hodell, D., Daniau, A.L., Eynaud, F., Trigo, R., Abrantes, F., Sánchez Goñi, M.F., 2014. Revealing MIS 11 climatic variability in the southwestern Iberian margin: direct land-sea comparison. IODP Exp. 339 2<sup>nd</sup> post-cruise meeting, Tarifa, Spain.
3. Oliveira, D., Sánchez Goñi, M.F., Naughton, F., Hodell, D., Rodrigues, T., Daniau, A.L., Eynaud, F., Trigo, R., Abrantes, F., IODP Expedition 339 Scientists Team, 2014. Understanding MIS 11 by integrating land-sea-ice records from the Shackleton site (IODP 1385, SW Iberian margin), EGU General Assembly, Vienna, Austria.
2. Oliveira, D., Naughton, F., Trigo, R., Abrantes, F., Rodrigues, T., Voelker, A., 2014. The role of blocking events during the 8.2. ka event over the mid-latitudes of the eastern North Atlantic region. 1<sup>th</sup> APOCEAN - Associação Portuguesa de Oceanografia – Meeting, Lisbon, Portugal.
1. Oliveira, D., Naughton, F., Trigo, R., Abrantes, F., Rodrigues, T., Voelker, A., 2012. The role of blocking events during the 8.2. ka event over the mid-latitudes of the eastern North Atlantic region. 7<sup>th</sup> Symposium on the Atlantic Iberian Margin (MIA), Lisbon, Portugal.

### **Presentations as a co-author**

38. Santos, R. N., Rodrigues, T., Schefuß, E., Naughton, F., Oliveira, D., Ramos, A., Hernández, A., 2021. Hydroclimate reconstruction of Western Iberia over the last 3600 years - insights from lipid biomarker and specific isotope signal. European Geoscience Union Conference, Austria, Vienna (Oral presentation).
37. Penaud, A., Eynaud, F., Etourneau, J., Bonin, J., De Vernal, A., Kim, J.-H., Kang, S., Oliveira, D., Zaragosi, S., Waelbroeck, C., 2020. Ocean Productivity control in the Gulf of Cadiz over the Last 50 Kyr BP. "Climat et Impacts" conference, University of Paris-Saclay, Orsay, France (Poster).
36. Rodrigues, T., Zeng, X., Padilha, M., Oliveira, D., Grimalt, J.O., Abrantes, F., 2020. The role of obliquity forcing on the interglacial climate instabilities in the mid-latitudes of the North Atlantic. Online EGU General Assembly, Vienna, Austria. (Oral presentation)
35. Lauterbach, S., Andersen, N., Clément, C., Desprat, D., Zorzi, C., Anupama, K., Prasad, S., Oliveira, D., Blanz, T., Thirumalai, K., Clemens, S., Martinez, P., Schneider, R., 2020. Indian subcontinent hydroclimate and vegetation changes during the last glacial reconstructed by leaf wax stable isotope and pollen analyses on

sediments from IODP Site U1446, NW Bay of Bengal. Online EGU General Assembly, Vienna, Austria. (Oral presentation)

**34.** Desprat, S., Clément, C., Zorzi, C., Martinez, P., Daniau, A.-L., Thirumalai, K., Anupama, K., Prasad, S., Oliveira, D., Schneider, R., Clemens, S., 2020. Changes in vegetation and summer monsoon rainfall in eastern India over the last 70 000 years. Conference on the Evolution of the Monsoon, Biosphere and Mountain Building in Cenozoic Asia, Washington, USA. (Poster)

**33.** Rodrigues, T., Gonçalves, C., Padilha, M., Alonso-Garcia, M., Oliveira, D., Grimalt, J.O., Abrantes, F., 2019. Past Interglacials Climate Variability: Features and lessons from “Warm Worlds”. 13th International Conference of Paleoceanography, Sydney, Australia. (Poster)

**32.** Rodrigues, T., Gonçalves, C., Padilha, M., Alonso-Garcia, M., Oliveira, D., Grimalt, J.O., Abrantes F., 2019. What can Past Interglacials Climate and Oceanographic Variability teach us about the ongoing climate warming? 20th Congress of the International Union for Quaternary Research (INQUA), Dublin, Ireland. (Poster)

**31.** Gomes, S.D., Fletcher, W., Rodrigues, T., Oliveira, D., Sanchez-Goni, M. F., Abrantes, F., Stone, A., Naughton, F., 2019. Rising atmospheric CO<sub>2</sub> concentrations: the overlooked factor promoting forest development in southwestern Europe across Termination I? 20th Congress of the International Union for Quaternary Research (INQUA), Dublin, Ireland. (Poster)

**30.** Naughton, F., Oliveira, D., Desprat, S., Rodrigues, T., Morales Molino, C., Hodell, D., Alonso-Garcia, M., Abrantes, F., Sanchèz-Goñi, M.F., 2019. Climate-driven vegetation changes during MIS 12 and MIS 16 in southwestern Europe. 20th Congress of the International Union for Quaternary Research (INQUA), Dublin, Ireland. (Oral presentation)

**29.** Desprat, S., Clément, C., Oliveira, D., Anupama, K., Prasad, S., Zorzi, C., Lauterbach, S., Andersen, N., Thomas Blanz, T., Ralph Schneider, R., Martinez, P., 2019. Response of the Indian vegetation and monsoon rainfall to the current and last interglacial warmings in the Mahanadi river region. 20th Congress of the International Union for Quaternary Research (INQUA), Dublin, Ireland. (Poster)

**28.** Rodrigues, T.; Voelker, A.H.L., Rufino, M., Alonso-García, M., Oliveira, D., Naughton, F., Abrantes, F., 2019. “Warm Worlds” project Features and lessons from Past Interglacials “warm periods” during the last 1.5 Ma. Encontro de Oceanografia 2019, Peniche, Portugal. (Poster)

**27.** Sánchez Goñi, M.F., Desprat, S., Morales del Molino, C., Naughton, F., Oliveira, D., Ferretti, P., Polanco-Martinez, J.M., Rodrigues, T., Alonso-García, M., Rodriguez-Tovar, F.J., Dorador, J., 2019. 800,000 years of western Mediterranean vegetation and climate changes: a zooming on the cold MIS 17 interglacial (700 ka). MedPalyno 2019, Bordeaux, France. (Oral presentation)

**26.** Clément, C.S., Desprat, K., Anupama, S., Prasad, C., Zorzi, Oliveira, D., Lauterbach, S., Bolton, C., Andersen, N., Blanz, T., Clemens, S.C., Schneider, R., Martinez, P., 2019. Indian vegetation and monsoon rainfall changes during the last deglaciation and early Holocene at orbital and millennial timescales. MedPalyno 2019, Bordeaux, France. (Oral presentation)

**25.** Rodrigues, T., Voelker, A.H.L., Rufino, M., Alonso-García, M., Oliveira, D., Hodell, D.A., Grimalt, J.O., Abrantes, F., 2018. Alterações Climáticas durante o último 1 Milhão de Anos: Evidências da Margem Ibérica. Ciência 2018 - Science and Technology in Portugal Summit, Lisbon Congress Centre, Portugal. (Oral presentation)

- 24.** Naughton, F., Gomes, S.D., Rodrigues, T., Desprat, S., Bronk-Ramsey, C., Salgueiro, E., Sanchez Goñi, M.F., Oliveira, D., Voelker, A.H.L., Abrantes, F., 2018. Climate variability in central-western Iberia across the last 11.7 ka. Conference "Climate and Prehistory in Southern Iberia", Lisbon, Portugal. (Oral presentation)
- 23.** Naughton, F., Costas, S., Gomes, S.D., Rodrigues, T., Desprat, S., Bronk-Ramsey, C., Salgueiro, E., Sanchez Goñi, M.F., Renssen, H., Trigo, R., Oliveira, D., Voelker, A.H.L., Abrantes, F., 2018. Complex climatic pattern in Central Western Iberia during the YD. 9th Symposium on the Atlantic Iberian Margin (MIA), Coimbra, Portugal. (Oral presentation)
- 22.** Rodrigues, T., Alonso-García, M., Rufino, R., Oliveira, D., Hodell, D.A., Grimalt, J.O., Abrantes, F., 2017. Climate Changes over the last 1.3 Ma on the Iberian Margin. 3rd QUIGS - PAGES working Group: workshop: Interglacials of the 41kyr-world and the Middle Pleistocene Transition, Molyvos, Island of Lesbos, Greece. (Oral presentation)
- 21.** Wary, M., Oliveira, D., Morales Del Molino, C., Naughton, F., Eynaud, F., Londeix, L., Ducassou, E., Sanchez-Goni, M.F., 2017. Role of the Mediterranean Outflow Water on the North Atlantic climate and ocean circulation during past climate warming events. Mediterranean Palynology Symposium, Barcelona, Spain. (Oral presentation)
- 20.** Sánchez Goñi, M.F., Desprat, S., Morales-Molino, C., Naughton, F., Oliveira, D., Rodrigues, T., Polanco-Martínez, J.M., Eynaud, F., Danialu, A.L., Hodell, D.A., Sierro, F.J., Martín-García, G.M., 2017. The Shackleton site, a pivotal Iberian margin climatic archive for understanding the ocean-ice-land interactions of the last 800,000 years. Mediterranean Palynology Symposium, Barcelona, Spain. (Oral presentation)
- 19.** Wary, M., Londeix, L., Eynaud F., Oliveira, D., Morales Del Molino, C., Naughton, F., Ducassou, E., Sanchez-Goni, M.F., 2017. Role of the Mediterranean Outflow Water on the North Atlantic climate and ocean circulation during past climate warming events. 11<sup>th</sup> International Conference on Modern and Fossil Dinoflagellates, Bordeaux, France. (Oral presentation)
- 18.** Abrantes, F., Rodrigues, T., Rufino, M., Naughton, F., Gil, I., Salgueiro, E., Stoynowski, Z., Drago, T., Santos, C., Oliveira, D., Domingues, S., Alberto, A., Mil-Homens, M., 2017. The climate of the last two millennia off Iberia. EGU General Assembly, Vienna, Austria. (Poster)
- 17.** Etourneau, J., Kim, J.-H., Oliveira, D., Wary, M., Shin, K.-H., Gal, J.-K., Penaud, A., Eynaud, F., Sánchez Goñi, M.F., 2017. Investigating climate variability in SW Iberia margin during the last deglaciation. Workshop South Korean and French project PHC STAR MEDKO: "Abrupt climate events in the past Mediterranean and Korean basins", Bordeaux University, France. (Oral presentation)
- 16.** Desprat, S., Oliveira, D., Rodrigues, T., Danialu, A.L., Morales Del Molino, C., Naughton, F., Yin, Q., Guilhem, G., Sánchez Goñi, M.F., 2016. Réponse climatique du sud-ouest de l'Europe aux échelles orbitale et millénaire au Pléistocène moyen. Journées scientifiques "Climats et impacts", Paris-Sud (Orsay) University, France. (Oral presentation)
- 15.** Naughton, F., Rodrigues, T., Salgueiro, E., Sanchez Goñi, M.F., Desprat, S., Costas, S., Gomes, S., Bronk-Ramsey, C., Duprat, J., Michel, E., Rossignol, L., Zaragosi, S., Prabhu, C.N., Oliveira, D., Voelker, A.H.L., Abrantes, F., 2016. Climate variability across the last deglaciation in western Iberia and its margin. 2<sup>nd</sup> APOCEAN - Associação Portuguesa de Oceanografia – Meeting, S. Pedro de Moel, Portugal. (Oral presentation)

- 14.** Desprat, S., Sánchez Goñi, M.F., Rodrigues, T., Oliveira, D., Guillem, G., Piette, N., Hodell, D. A., 2016. Climate Variability during Middle Pleistocene interglacials in southwestern Europe. Colloque Q10 AFEQ CNF-INQUA 2016: Paléoclimats et environnements quaternaires, quoi de neuf sous le soleil? Bordeaux University, France. (Oral presentation)
- 13.** Sanchez Goñi, M.F., Desprat, S., Morales del Molino, C., Naughton, F., Oliveira, D., Rodrigues, F., Eynaud, F., Daniau, A.-L. Hodell, D. A., Martín-García, G. M., Sierro, F. J., 2016. The Shackleton site, a pivotal Iberian margin climatic archive for understanding the ocean-ice-land interactions of the last 800,000 years. XII International Conference on Paleoceanography (ICP12), Utrecht, The Netherlands. (Poster)
- 12.** Etourneau, J., Kim, J.-H., Kang, S., Oliveira, D., Gal, J.-K., Choi, B., Shi, K.-H., Penaud, A., Sanchez-Goñi, M.F., 2016. Rapid climate and environmental changes in the western Iberian Peninsula since the last glacial period, EGU General Assembly, Vienna, Austria. (Poster)
- 11.** Sánchez Goñi, M.F., Rodrigues, T., Desprat, S., Oliveira, D., Guillem, G., Daniau, A.-L., Ducassou, E., Eynaud, F., Hodell, D.A., 2015. Southwestern European climate response to the contrasting interglacials of the last 800,000 years. XIX INQUA Congress, Quaternary Perspectives on Climate Change, Natural Hazards and Civilization, Nagoya, Japan. (Oral presentation)
- 10.** Etourneau, J., Kim, J.-H., Oliveira, D., Shin, K.-H., Gal, J.-K., Penaud, A., Sánchez Goñi, M.F., 2015. Abrupt changes in the Mediterranean Outflow Waters during the last deglaciation - preliminary results. XIX INQUA Congress, Quaternary Perspectives on Climate Change, Natural Hazards and Civilization, Nagoya, Japan. (Poster)
- 9.** Sánchez Goñi, M.F., Desprat, S., Oliveira, D., Rodrigues, T., Hodell, D., IODP Expedition 339 Scientists, 2014. Western Mediterranean vegetation response to contrasting interglacials of the last 1 million years. Milankovitch Anniversary UNESCO Symposium: Water Management in Transition Countries as Impacted by Climate and Other Global Changes, Belgrade, Serbia. (Oral presentation)
- 8.** Naughton, F., Keigwin, L., Peteet, D., Desprat, S., Costas, S., Oliveira, D., Abrantes, F., de Vernal, A., 2014. Holocene climate changes in the mid-latitudes of the western North Atlantic. 1<sup>th</sup> APOCEAN - Associação Portuguesa de Oceanografia – Meeting, Lisbon, Portugal. (Oral presentation)
- 7.** Jimenez-Espejo, F.J., Grunert, P., Martrat, B., Hodell, D., Voelker, A., Flores, J.A., Martinez-Ruiz, F., Asahara, Y., Rodriguez-Tovar, F.J., Balestra, B., Oliveira, D., Sanchez-Goñi, M.F., Grimalt, J.O., Hernandez-Molina, F.J., Xuan, C., Stow, D.A.V., Alvarez-Zarikian, C., 2014. Water masses changes and paleoenvironmental conditions during MIS 31 at site IODP U1385. IODP Exp. 339 2<sup>nd</sup> post-cruise meeting, Tarifa, Spain. (Poster)
- 6.** Desprat, S., Sánchez Goñi, M.F., Oliveira, D., Guillem, G., Daniau, A.L., Rodrigues, T., Ducassou, E., Eynaud, F., Hodell, D., Balestra, B., Flores, J.A., Grimalt, J.O., Sierro, F.J., 2014. Vegetation and fire regime changes in southwestern Europe during contrasting interglacials of the last 800 kyr. IODP Exp. 339 2<sup>nd</sup> post-cruise meeting, Tarifa, Spain. (Poster).
- 5.** Naughton, F., Keigwin, L., Desprat, S., Oliveira, D. Abrantes, F., 2013. Vegetation/oceanographic changes in the mid-latitudes of southwestern North Atlantic. EGU General Assembly, Vienna, Austria. (Oral presentation)
- 4.** Naughton, F., Keigwin, L., Oliveira, D. Abrantes, F. (2013). Holocene vegetation/oceanographic changes in the Cape Hatteras region (southwestern North Atlantic). Workshop “Holocene Climate changes”, London, UK. (Oral presentation)

3. Abrantes, F., Rodrigues, T., Naughton, F., Gil, I., Salgueiro, E., Stroynowski, Z., Santos, C., Oliveira, D., Domingues, S., Mil-Homens, M., Witt, L., Drago, T., 2013. The Latest Holocene Climate Record off Iberia. Conference “Holocene Climate changes”, London, UK. (Oral presentation)

2. Sanchez Goñi, M., Desprat, S., Daniau, A., Ducassou, E., Eynaud, F., Hodell, D.A., Balestra, B., Flores, J.A., Grimalt, J.O., Rodrigues, T., Sierro, F.J., Oliveira, D., Hernandez-Molina, F.J., Stow, D.A., and Alvarez Zarikian, C.A., 2013. Vegetation and fire activity changes in southwestern Europe during contrasting interglacials before and after the Middle Pleistocene Transition (MPT). American Geophysical Union Fall Meeting, San Francisco, USA. (Poster)

1. Naughton, F., Keigwin, L., Peteet, D., Desprat, S., Oliveira, D., Costas, S. Abrantes, F., 2013. Holocene climate changes in the Cape Hatteras region. American Geophysical Union Fall Meeting, San Francisco, USA. (Oral presentation)

## **Referee**

---

- 2018-2021: International journals (Quaternary Science Reviews, 3x).
- 2020: Chemus Rhus-Annual competition of scientific videos based on chemical knowledge for high school students, <https://www.spq.pt/news/chemrus-2020-vencedores>.

## **Organization of scientific meetings/moderator**

---

### **Conference Organizing Committee (Volunteer):**

- 2019: 42<sup>nd</sup> Mediterranean Science Commission (CIESM) Congress, Cascais, Portugal.
- 2019: Mediterranean Palynological Societies Symposium (MedPalyno), Bordeaux, France.

### **Moderator:**

- 2019: 3rd APOCEAN - Associação Portuguesa de Oceanografia – Meeting, Peniche, Portugal.

## **Marine Geophysical Cruises**

---

- 2019: MINEPLAT project “Assessment of the potential of mineral resources of the Alentejo continental shelf (metallic and non-metallic ores) formed during Pliocene-Quaternary times, ALT20-03-0145-FEDER-000013, ALENTEJO 2020. 30 March – 14 April 2019, Alentejo offshore (Sines – Odeceixe). Acquisition of geophysical data: Vessel: Noruega (47 m), IPMA.

## **Main dissemination and outreach activities**

---

### **To educational institutions:**

- "Cartas com ciência", <https://en.cartascomciencia.org/> (since 2021).
- Participation in the outreach program "IPMA-Escolas", PT, dedicated to 1st-grade students (since 2017).
- 2018: Presentation "Every grain of pollen has a story to tell" to 1st-grade students at EB1/JI Moinhos da Funcheira, PT.
- 2018: Presentation "Reconstruction of atmospheric and ocean circulation conditions from oceanic records" to high school students at Escola Secundária de Miraflares, PT.
- 2018: Presentation of the palynological work at IPMA to students of Aveiro University.

### **To general public:**

- 2019: Participation in "Noite Europeia dos Investigadores", Museu Nacional de História Natural e da Ciência, Lisboa, (<https://www.museus.ulisboa.pt/pt-pt/noite-europeia-dos-investigadores-2019>).
- 2019: Participation in "Dia Nacional do Mar", Museu Nacional de História Natural e da Ciência, Lisboa, (<https://www.ccmr.ualg.pt/news/indicadores-paleoclimaticos-em-destaque>).
- 2018: Press: Jornal Público <https://www.publico.pt/2018/03/21/ciencia/noticia/e-se-o-clima-do-passado-em-portugal-nos-dissesse-como-vai-ser-o-do-futuro-1807398>.
- 2018: Radio: Rádio Renascença <http://www.pt.cision.com/s/?l=2d828d40>,
- 2018: Radio: Rádio Antena 1: <http://www.pt.cision.com/s/?l=b67ce582>; TV: SIC <https://sic.pt/Programas/o-programa-da-cristina/videos/2019-05-29-Mulheres-Cientistas-Para-perceber-o-futuro-temos-de-saber-explicar-o-passado>.

## **Institutional activities**

---

- Co-responsible for the library's organization of Portuguese Institute for the Sea and Atmosphere-IPMA's Marine Geology and GeoResources Division, PT (since 2019).
- Responsible for the science communication of IPMA's Marine Geology and GeoResources Division to the Centre for Marine Sciences-CCMAR, PT (since 2019).
- Co-responsible for the bi-monthly scientific Paleo-Forums at IPMA's Marine Geology and GeoResources Division, PT (since 2014).

## **Member of research associations or working groups**

---

- APOCEAN (Associação Portuguesa de Oceanografia).
- APLF (Association des Palynologues de Langue Française).
- QRA (Quaternary Research Association).
- AFEQ-CNF INQUA (Association Française pour l'Etude du Quaternaire - CNF INQUA).

- EGU (European Geosciences Union).
- IODP Expedition 339 Shackleton Site pollen working group.
- Oceanography and Climate Change Group of CCMAR.

## Languages

---

Portuguese: native speaker

English: fluent (speaking, reading, writing)

French: independent user - reading; basic user - writing and speaking

Spanish: independent user - speaking and reading; basic user - writing

## Main workshops, symposiums, specialized courses & training (after 2010):

---

- 2020: S4D4C European Science Diplomacy Online Course (<https://www.s4d4c.eu/european-science-diplomacy-online-course/>).
- 2020: Certified Peer Reviewer Course. Elsevier Researcher Academy ([researcheracademy.com](https://researcheracademy.com)).
- 2019: Training in Science Communication: CCMAR Communication Toolbox, Universidade do Algarve - Campus de Gambelas, Faro, Portugal.
- 2019: CCMAR Symposium “discover CCMAR from the inside”. Universidade do Algarve - Campus de Gambelas, Faro, Portugal.
- 2018: Marine Biogeochemistry Training School on Biogeochemical and ecological dimensions of a changing ocean. Universidade do Algarve - Campus de Gambelas, Faro, Portugal.
- 2017: South Korean and French project PHC STAR MEDKO workshop. Abrupt climate events in the past Mediterranean and Korean basins. University of Bordeaux, France.
- 2015: "Dynamique du climat passé - UE Master 2 Océano" course. University of Bordeaux, France.
- 2015: Training on different lipid biomarkers from the Mediterranean cores in the context of the project PHC STAR MEDKO (Abrupt climate events in the past Mediterranean and Korean basins), at the University of Hanyang, South Korea.
- 2015: Science Communication and Public Engagement Workshop, IPMA - Portuguese Institute for the Sea and Atmosphere, Lisbon, Portugal.
- 2014: 11<sup>th</sup> Urbino Summer School in Paleoclimatology; University of Urbino, Italy.
- 2013: CLIMHOL Workshop “Holocene climatic variability in the North Atlantic and adjacent landmasses: land-sea direct correlation”; duration: 2 days; LNEG Alfragide, Portugal.

- 2012: Author Workshop at European Geosciences Union (EGU) General Assembly; Earth and Planetary Sciences, Elsevier; Vienna, Austria.
- 2011: Course of Oceanography. Basic principles and main processes; duration: 2 days; LNEG, Portugal.
- 2011: Course of basic Microscopy; duration: 1 day; LNEG, Portugal.
- 2011: Paleoclimatology and terrestrial environments; duration: 2 weeks; Université de Bordeaux I, France.
- 2010: Technical Scientific Writing Workshop; duration: 2 days; Faculdade de Ciências de Lisboa, Portugal.

Lisbon, 20/01//2021

A handwritten signature in blue ink that reads "Dulce da Silva Oliveira". The signature is written in a cursive style and is positioned above a horizontal line.

Dulce da Silva Oliveira