



## Curriculum Vitae

# João Miguel Sousa da Silva

João Silva is a Senior Research Fellow at the Centre of Marine Sciences (CCMAR) since 2006 and his main area of expertise is marine plant ecology and ecophysiology. The main focus of his recent research has been on the ecological impacts of climate change on seagrasses and calcifying macroalgae. He has coordinated or participated in more than 35 national and EC-funded research projects and authored over 60 peer-reviewed publications (h=26). Most of his projects and publications involve the collaboration of international partners. Acts regularly as a reviewer of manuscripts and projects for several journals and funding agencies and is guest associate editor at *Frontiers in Marine Science* and member of the editorial board at *Oceans*. JS has supervised 1 Marie Skłodowska-Curie fellow, 2 post-docs, 5 PhDs and 8 masters students. He is also an Invited Assistant Professor at the Faculty of Sciences and Technology, University of Algarve, teaching Marine Plant Ecophysiology and Marine Botany at undergraduate and graduate levels. Has an active role in science dissemination, through educational talks, hands-on activities and implementation of citizen science programmes, all aimed at generating awareness for the need to value and preserve the ecosystem goods and services provided by marine macrophytes.

## Identification

### Personal identification

Full name

João Miguel Sousa da Silva

Gender

Male

Birth date

1968/03/24

### Citation names

Silva, João

Silva, J.

### Author identifiers

Ciência ID

8216-527E-1BD4

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Google Scholar ID

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Researcher Id

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Scopus Author Id

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### Email addresses

jmsilva@ualg.pt (Professional)

### Telephones

## Telephones

Telephone  
966859276 (Professional)

## Addresses

CCMAR - Centro de Ciências do Mar do Algarve. Universidade do Algarve, Campus de Gambelas, Building 7, 8005-139 Faro, Faro, Portugal (Professional)

## Websites

<https://www.ccmар.ualg.pt/users/jmsilva> (Professional)

## Knowledge fields

Natural sciences - Biological Sciences - Marine Biology

## Languages

Language	Speaking	Reading	Writing	Listening	Peer-review
Portuguese (Mother tongue)					
English	Proficiency (C2)	Proficiency (C2)	Proficiency (C2)	Proficiency (C2)	Proficiency (C2)
French	Advanced (C1)	Advanced (C1)	Upper intermediate (B2)	Advanced (C1)	Upper intermediate (B2)
Spanish; Castilian	Proficiency (C2)	Proficiency (C2)	Advanced (C1)	Advanced (C1)	Advanced (C1)

## Education

	Degree	Classification
2004 Concluded	Doutoramento em Ecologia (Doutoramento)	
	Universidade do Algarve, Portugal <i>"The photosynthetic ecology of Zostera noltii"</i> (THESIS/DISSERTATION)	
1998 Concluded	Mestrado em Aquacultura (Mestrado)	
	Universidade do Algarve, Portugal <i>"Ecophysiology of Gelidium sesquipedale: temperature and light effects on photosynthesis "</i> (THESIS/DISSERTATION)	

1995  
Concluded

Biologia Marinha e Pescas (Licenciatura)

Universidade do Algarve, Portugal

*"Crescimento de ameijoas-boa *Ruditapes decussatus* (Linnaeus, 1758) em efluentes de pisciculturas"*  
(THESIS/DISSERTATION)

## Affiliation

### Science

Category

Host institution/organization

Employer

2006 - Current

Auxiliary Researcher (Research)

Centro de Ciências do Mar, Portugal

2004 - 2006

Postdoc (Research)

Centro de Ciências do Mar, Portugal

Fundação para a Ciência e a Tecnologia,  
Portugal

### Teaching in Higher Education

Category

Host institution/organization

Employer

2019 - Current

Invited Assistant Professor (University  
Teacher)

Universidade do Algarve, Portugal

1999 - 2006

Invited Assistant Professor (University  
Teacher)

Universidade do Algarve Faculdade de  
Ciências e Tecnologia, Portugal

### Others

Category

Host institution/organization

Employer

1992 - 1996

High school teacher

Escola Profissional de Gestão e  
Tecnologias Marítimas, Portugal

## Projects

### Grant

Designation

Funders

2022 - 2024	BlueForests Seaforests for blue carbon - natural capital from nature-based solutions EEA.BG.CALL4.012.2020/PT-INNOVATION-0081  Researcher Centro de Ciências do Mar, Portugal	EEA Grants, Belgium   Ongoing
2021 - 2024	New tools and approaches to assist and asses seagrass ecosystem recovery: limiting factors and resistant genotypes PID2020-118144RB-C31  Researcher Instituto Español de Oceanografía Centro Oceanográfico de Murcia, Spain	España Ministerio de Ciencia e Innovación, Spain   Ongoing
2021 - 2023	Seahorse - Restoration of seagrass habitat and seahorse populations of Ria Formosa lagoon 1/2021  Researcher Centro de Ciências do Mar, Portugal	EDULOG Fundação Belmiro de Azevedo, Portugal   Ongoing
2021 - 2023	Atlantic rhodolith beds: Influence of latitude on biodiversity and community productivity 2019.00067.CBM  Researcher Centro de Ciências do Mar, Portugal	Fundação para a Ciência e a Tecnologia, Portugal   Ongoing
2021 - 2022	M3C: Madeira Maerl Mapping & Conservation 2020-M-44  Principal investigator AMACO - Associação Madeirense para a Conservação Marinha, Portugal	International Union for Conservation of Nature, Switzerland   Ongoing
2019 - 2021	Global and local impacts on Atlantic RHODOLith beds: Implications for estimates of blue CARbon ecosystem services 844703  Principal investigator Centro de Ciências do Mar, Portugal	European Commission, Belgium   Concluded
2018 - 2021	Algasole - Desenvolvimento e implementação de alimentos suplementados em macroalgas ricas em vitamina K no cultivo de linguado (Solea senegalensis) FMP-0058  Researcher Universidade do Algarve, Portugal	Ministério do Mar, Portugal   Ongoing

2016 - 2019	GrassMet - Climate change effects on seagrass secondary metabolism: ecological implications PTDC/MAR-EST/4257/2014  Principal investigator Centro de Ciências do Mar, Portugal	Fundação para a Ciência e a Tecnologia, Portugal  Concluded
2016 - 2019	Riavalue - Valuation of the ecosystem services delivered by Ria Formosa lagoon PTDC/MAR-EST/3223/2014  Researcher Centro de Ciências do Mar, Portugal	Fundação para a Ciência e a Tecnologia, Portugal  Concluded
2016 - 2019	Seaox - Using acoustics for monitoring the metabolism of marine ecosystems PTDC/EEI-PRO/2598/2014  Researcher Universidade do Algarve, Portugal	Fundação para a Ciência e a Tecnologia, Portugal  Concluded
2018 - 2018	Macrore - Carbon and nutrient cycling of marine macrophytes in Reunion Island 654182  Researcher Centro de Ciências do Mar, Portugal	European Comission, Belgium  Concluded
2014 - 2017	Metabolic feedbacks between rhodoliths and seagrasses in an acidified ocean 407365/2013-3  Principal investigator Universidade Federal de Santa Catarina, Brazil	Conselho Nacional de Desenvolvimento Científico e Tecnológico, Brazil Concluded
2013 - 2015	Highgrass – High-CO2 effects on seagrass photosynthetic ecology PTDC/MAR-EST/3687/2012  Principal investigator Centro de Ciências do Mar, Portugal	Fundação para a Ciência e a Tecnologia, Portugal  Concluded
2011 - 2014	Mäerl calcification, photosynthesis and metabolism in an acidified ocean PTDC/MAR/115789/2009  Principal investigator Centro de Ciências do Mar, Portugal	Fundação para a Ciência e a Tecnologia, Portugal
2010 - 2014	COST action ES0906 - Seagrass productivity: From genes to ecosystem management ES0906  Researcher Centro de Ciências do Mar, Portugal	European Comission, Belgium  Concluded

2010 - 2013	Shifts from seagrass to seaweed dominated systems (INVASEA) PTDC/MAR/098069/2008	Fundação para a Ciência e a Tecnologia, Portugal  Concluded
2010 - 2013	Whole-system metabolism and CO2 fluxes in a coastal lagoon dominated by saltmarsh and seagrass meadows PTDC/AAC-CLI/103348/2008  Centro de Ciências do Mar, Portugal	Fundação para a Ciência e a Tecnologia, Portugal
2009 - 2011	Ecolagunes - Gestion environnementale des zones lagunaires à vocation aquacole Interreg-Sudoe SOE1/P2/F153  Researcher Centro de Ciências do Mar, Portugal	European Comission, Belgium  Concluded
2010 - 2010	Carbon metabolism of a tropical seagrass community: The role of other community elements in the global carbon budget ASSEMBLE 2010  Principal investigator Centro de Ciências do Mar, Portugal	European Comission, Belgium  Concluded
2006 - 2009	Envirophyte - Improvement of the cost effectiveness of marine land-based aquaculture facilities through use of Constructed Wetlands with Salicornia as an environmentally friendly biofilter and a valuable by-product COOP-CT-2006 – 032167  Researcher Centro de Ciências do Mar, Portugal	European Comission, Belgium  Concluded
2006 - 2009	Maerlpicon - Estado de conservación de los fondos de maerl en el Atlántico de la Peninsula Ibérica CGL2006-03576/BOS  Researcher Universidade da Coruña, Spain	Ministerio de Educación y Ciencia, Spain  Concluded
2006 - 2009	Envirophyte - Improvement of the cost effectiveness of marine land-based aquaculture facilities through use of Constructed Wetlands with Salicornia as an environmentally friendly biofilter and a valuable by-product COOP-CT-2006 – 032167	European Comission, Belgium

2006 - 2009	Envirophyte - Improvement of the cost effectiveness of marine land-based aquaculture facilities through use of Constructed Wetlands with Salicornia as an environmentally friendly biofilter and a valuable by-product COOP-CT-2006 032167	European Comission, Belgium
2006 - 2008	Volatile organic carbon emissions by marine vegetation GRICES/CSIC 2006  Researcher Universidade do Algarve, Portugal	Fundação para a Ciência e a Tecnologia, Portugal  Concluded
2005 - 2008	Carbon uptake by Ria Formosa intertidal communities POCTI/MAR/58172/2004  Principal investigator Centro de Ciências do Mar, Portugal	Fundação para a Ciência e a Tecnologia, Portugal  Concluded
2005 - 2008	Green algal blooms in Ria Formosa and adjacent beaches POCTI/MAR/58427/2004  Researcher Centro de Ciências do Mar, Portugal	Fundação para a Ciência e a Tecnologia, Portugal  Concluded
2004 - 2006	Global change effects on the Portuguese marine flora on a long time scale POCTI/BSE/48918/2002  Researcher Centro de Ciências do Mar, Portugal	Fundação para a Ciência e a Tecnologia, Portugal  Concluded
2004 - 2006	Determinación del índice $\delta^{13}C$ y su relación con la actividad anhidrasa carbónica en productores primarios de la costa sur de la Península Ibérica E-131/04  Researcher Universidade do Algarve, Portugal	Conselho de Reitores das Universidades Portuguesas, Portugal Concluded
2001 - 2004	M&MS – Monitoring and management of European seagrasses EVK3-CT-2000-00044  Other Centro de Ciências do Mar, Portugal	European Comission, Belgium  Concluded
2001 - 2004	EpicaH – Ecological and population impact of commercial agarophyte harvesting PDCT/P/Mar/15299/1999  Other Centro de Ciências do Mar, Portugal	Fundação para a Ciência e a Tecnologia, Portugal  Concluded

2000 - 2004	Seapura – Species diversification and improvement of aquatic production in seaweeds purifying effluents from integrated fish farm EC-QLRT-1999-3133  Other Centro de Ciências do Mar, Portugal	European Commission, Belgium  Concluded
2002 - 2003	DOM production in contrasting communities in the Ria Formosa (South Portugal) and export to the Atlantic Ocean ICCTI/CSIC 2002  Researcher Universidade do Algarve, Portugal	Fundação para a Ciência e a Tecnologia, Portugal  Concluded
1999 - 2000	F-ECTS, Feed-back of estuarine circulation and transport of sediment on phyto-benthos MAS3-CT97-0145  Researcher Centro de Ciências do Mar, Portugal	European Commission, Belgium  Concluded

## Contract

	Designation	Funders
2021 - 2022	Seagrass restoration in Gibraltar - Feasibility study O-S-ECO-01/2022  Principal investigator Centro de Ciências do Mar, Portugal	H.M. Government of Gibraltar, United Kingdom  Ongoing
2019 - 2020	Mescla - Melhorar e complementar os critérios de classificação do estado das massas de água de transição e costeiras POSEUR-03-2013-FC-000001  Researcher Centro de Ciências do Mar, Portugal	Agência Portuguesa do Ambiente, Portugal  Ongoing
2015 - 2015	Restoration of seagrass habitats in Gibraltar n.a.  Researcher Centro de Ciências do Mar, Portugal	H.M. Government of Gibraltar, United Kingdom  Concluded
2009 - 2011	Avaliação do Estado Ecológico das Massas de Água Costeiras e de Transição e do Potencial Ecológico das Massas de Água Fortemente Modificadas (EEMA) INAG/CCMAR  Researcher Centro de Ciências do Mar, Portugal	Concluded



## Outputs

### Publications

- Book chapter
- 1 Horta, P.A; Berchez, F.; Nunes, J.; Scherner, F.; Pereira, S.; Riul, P.; Lotufo, T.; et al. "Monitoramento de Banco de Rodolitos". In *Protocolos para o Monitoramento de Habitats Bentônicos Costeiros*, edited by Turra, A.; Denadai, M.R., 48-61. São Paulo, Brazil: IOUSP, 2015.  
Published
  - 2 Silva, J.; Santos, R.. "Comparative ecophysiology of *Gelidium sesquipedale* (Rhodophyta) erect fronds and prostrate system". edited by Chapman. A.R.O.; Anderson, R.J; Vreeland, V.J.; Davison, I.R., 417-424. Oxford, United Kingdom: Oxford University Press, 2003.  
Published
- 
- Journal article
- 1 Ruocco, Miriam; Jahnke, Marlene; Silva, João; Procaccini, Gabriele; Dattolo, Emanuela. "2b-RAD Genotyping of the Seagrass *Cymodocea nodosa* Along a Latitudinal Cline Identifies Candidate Genes for Environmental Adaptation". *Frontiers in Genetics* 13 (2022): <http://dx.doi.org/10.3389/fgene.2022.866758>.  
10.3389/fgene.2022.866758
  - 2 Deguette, Alizé; Barrote, Isabel; Silva, João. "Physiological and morphological effects of a marine heatwave on the seagrass *Cymodocea nodosa*". *Scientific Reports* 12 1 (2022): <http://dx.doi.org/10.1038/s41598-022-12102-x>.  
10.1038/s41598-022-12102-x
  - 3 Schubert, Nadine; Santos, Rui; Silva, João. "Living in a Fluctuating Environment Increases Tolerance to Marine Heatwaves in the Free-Living Coralline Alga *Phymatolithon lusitanicum*". *Frontiers in Marine Science* 8 (2021): <http://dx.doi.org/10.3389/fmars.2021.791422>.  
Published · 10.3389/fmars.2021.791422
  - 4 Ruocco, Miriam; Barrote, Isabel; Hofman, Jan Dirk; Pes, Katia; Costa, Monya M.; Procaccini, Gabriele; Silva, João; Dattolo, Emanuela. "Daily Regulation of Key Metabolic Pathways in Two Seagrasses Under Natural Light Conditions". *Frontiers in Ecology and Evolution* 9 (2021): <http://dx.doi.org/10.3389/fevo.2021.757187>.  
Published · 10.3389/fevo.2021.757187
  - 5 Pedro Neves; João Silva; Viviana Peña; Cláudia Ribeiro. ""Pink round stones" - Rhodolith beds: an overlooked habitat in Madeira Archipelago". *Biodiversity and Conservation* 30 12 (2021): 3359-3383. <https://doi.org/10.1007/s10531-021-02251-2>.  
10.1007/s10531-021-02251-2
  - 6 Monya M. Costa; João Silva; Isabel Barrote; Rui Santos. "Heatwave Effects on the Photosynthesis and Antioxidant Activity of the Seagrass *Cymodocea nodosa* under Contrasting Light Regimes". *Oceans* 2 3 (2021): 448-460. <https://doi.org/10.3390/oceans2030025>.  
10.3390/oceans2030025
  - 7 Olivé, I; Varela-Álvarez, E; Silva, J; Serrão, EA; Santos, R. "Physiological potential of the chlorophyte *Caulerpa prolifera* for proliferation across the Mediterranean-Atlantic basins in a warmer ocean". *Marine Ecology Progress Series* 668 (2021): 73-84. <http://dx.doi.org/10.3354/meps13719>.  
Published · 10.3354/meps13719

- 8 Schubert, Nadine; Hofmann, Laurie C.; Almeida Saá, Antonella C.; Moreira, Anderson Camargo; Arenhart, Rafael Güntzel; Fernandes, Celso Peres; de Beer, Dirk; Horta, Paulo A.; Silva, João. "Calcification in free-living coralline algae is strongly influenced by morphology: Implications for susceptibility to ocean acidification". *Scientific Reports* 11 1 (2021): <http://dx.doi.org/10.1038/s41598-021-90632-6>.  
Published · 10.1038/s41598-021-90632-6
- 9 Piro, Amalia; Bernardo, Letizia; Serra, Ilia Anna; Barrote, Isabel; Olivé, Irene; Costa, Monya M.; Lucini, Luigi; et al. "Leaf proteome modulation and cytological features of seagrass *Cymodocea nodosa* in response to long-term high CO<sub>2</sub> exposure in volcanic vents". *Scientific Reports* 10 1 (2020): <http://dx.doi.org/10.1038/s41598-020-78764-7>.  
10.1038/s41598-020-78764-7
- 10 de los Santos, Carmen B.; Olivé, Irene; Moreira, Márcio; Silva, André; Freitas, Cátia; Araújo Luna, Ravi; Quental-Ferreira, Hugo; et al. "Seagrass meadows improve inflowing water quality in aquaculture ponds". *Aquaculture* 528 (2020): 735502. <http://dx.doi.org/10.1016/j.aquaculture.2020.735502>.  
10.1016/j.aquaculture.2020.735502
- 11 Ruocco, Miriam; Ambrosino, Luca; Jahnke, Marlene; Chiusano, Maria Luisa; Barrote, Isabel; Procaccini, Gabriele; Silva, João; Dattolo, Emanuela. "m6A RNA Methylation in Marine Plants: First Insights and Relevance for Biological Rhythms". *International Journal of Molecular Sciences* 21 20 (2020): 7508. <http://dx.doi.org/10.3390/ijms21207508>.  
10.3390/ijms21207508
- 12 Schubert, Nadine; Schoenrock, Kathryn M.; Aguirre, Julio; Kamenos, Nicholas A.; Silva, João; Horta, Paulo A.; Hofmann, Laurie C.. "Editorial: Coralline Algae: Globally Distributed Ecosystem Engineers". *Frontiers in Marine Science* 7 (2020): <http://dx.doi.org/10.3389/fmars.2020.00352>.  
10.3389/fmars.2020.00352
- 13 Carvalho, V. F.; Silva, J.; Kerr, R.; Anderson, A. B.; Bastos, E. O.; Cabral, D.; Gouvêa, L. P.; et al. "When descriptive ecology meets physiology: a study in a South Atlantic rhodolith bed". *Journal of the Marine Biological Association of the United Kingdom* (2020): 1-14. <http://dx.doi.org/10.1017/s0025315420000284>.  
10.1017/s0025315420000284
- 14 Sordo, Laura; Santos, Rui; Barrote, Isabel; Freitas, Cátia; Silva, João. "Seasonal Photosynthesis, Respiration, and Calcification of a Temperate Maërl Bed in Southern Portugal". *Frontiers in Marine Science* 7 (2020): <http://dx.doi.org/10.3389/fmars.2020.00136>.  
10.3389/fmars.2020.00136
- 15 Carvalho, Vanessa F.; Assis, Jorge; Serrão, Ester A.; Nunes, José M.; Anderson, Antônio B.; Batista, Manuela B.; Barufi, José B.; et al. "Environmental drivers of rhodolith beds and epiphytes community along the South Western Atlantic coast". *Marine Environmental Research* 154 (2020): 104827. <http://dx.doi.org/10.1016/j.marenvres.2019.104827>.  
10.1016/j.marenvres.2019.104827
- 16 Richir, Jonathan; Champenois, Willy; Engels, Guyliann; Abadie, Arnaud; Gobert, Sylvie; Lepoint, Gilles; Silva, João; et al. "A 15-Month Survey of Dimethylsulfoniopropionate and Dimethylsulfoxide Content in *Posidonia oceanica*". *Frontiers in Ecology and Evolution* 7 (2020): <http://dx.doi.org/10.3389/fevo.2019.00510>.  
10.3389/fevo.2019.00510

- 17 Sissini, M.N.; Berchez, F; Hall-Spencer, J.; Ghilardi-Lopes, N.; Carvalho, V.F.; Schubert, N.; Koerich, G.; et al. "Brazil oil spill response: Protect rhodolith beds". *Science* 367 6474 (2020):  
10.1126/science.aba2582
- 18 Sordo, Laura; Santos, Rui; Barrote, Isabel; Silva, João. "Temperature amplifies the effect of high CO<sub>2</sub> on the photosynthesis, respiration, and calcification of the coralline algae *Phymatolithon lusitanicum*". *Ecology and Evolution* 9 19 (2019): 11000-11009. <http://dx.doi.org/10.1002/ece3.5560>.  
10.1002/ece3.5560
- 19 Schubert, N.; Salazar, V.W.; Rich, W.A.; Vivanco Bercovich, M.; Almeida Saá, A.C.; Fadigas, S.D.; Silva, J.; Horta, P.A.. "Rhodolith primary and carbonate production in a changing ocean: The interplay of warming and nutrients". *Science of The Total Environment* 676 (2019): 455-468. <http://dx.doi.org/10.1016/j.scitotenv.2019.04.280>.  
10.1016/j.scitotenv.2019.04.280
- 20 Vivanco Bercovich, Manuel; Schubert, Nadine; Almeida Saá, Antonella C.; Silva, João; Horta, Paulo A.. "Multi-level phenotypic plasticity and the persistence of seagrasses along environmental gradients in a subtropical lagoon". *Aquatic Botany* 157 (2019): 24-32. <http://dx.doi.org/10.1016/j.aquabot.2019.06.003>.  
10.1016/j.aquabot.2019.06.003
- 21 Bergstrom, Ellie; Silva, João; Martins, Cíntia; Horta, Paulo. "Seagrass can mitigate negative ocean acidification effects on calcifying algae". *Scientific Reports* 9 1 (2019): <http://dx.doi.org/10.1038/s41598-018-35670-3>.  
10.1038/s41598-018-35670-3
- 22 Schubert, Nadine; Freitas, Cátia; Silva, André; Costa, Monya M.; Barrote, Isabel; Horta, Paulo A.; Rodrigues, Ana Claudia; Santos, Rui; Silva, João. "Photoacclimation strategies in northeastern Atlantic seagrasses: Integrating responses across plant organizational levels". *Scientific Reports* 8 1 (2018): <http://dx.doi.org/10.1038/s41598-018-33259-4>.  
10.1038/s41598-018-33259-4
- 23 Alexandre, Ana; Silva, João; Santos, Rui. "Light Is More Important Than Nutrient Ratios of Fertilization for *Cymodocea nodosa* Seedling Development". *Frontiers in Plant Science* 9 (2018): <http://dx.doi.org/10.3389/fpls.2018.00768>.  
10.3389/fpls.2018.00768
- 24 Sordo, Laura; Santos, Rui; Barrote, Isabel; Silva, João. "High CO<sub>2</sub> decreases the long-term resilience of the free-living coralline algae *Phymatolithon lusitanicum*". *Ecology and Evolution* 8 10 (2018): 4781-4792. <http://dx.doi.org/10.1002/ece3.4020>.  
10.1002/ece3.4020
- 25 Mishra, Amrit K.; Silva, João; Santos, Rui. "Short Term CO<sub>2</sub> Enrichment Increases Carbon Sequestration of Air-Exposed Intertidal Communities of a Coastal Lagoon". *Frontiers in Marine Science* 4 (2018): <http://dx.doi.org/10.3389/fmars.2017.00439>.  
10.3389/fmars.2017.00439
- 26 Ceccherelli, Giulia; Oliva, Silvia; Pinna, Stefania; Piazzini, Luigi; Procaccini, Gabriele; Marin-Guirao, Lazaro; Dattolo, Emanuela; et al. "Seagrass collapse due to synergistic stressors is not anticipated by phenological changes". *Oecologia* 186 4 (2018): 1137-1152. <http://dx.doi.org/10.1007/s00442-018-4075-9>.  
10.1007/s00442-018-4075-9

- 27 Olivé, Irene; Silva, João; Lauritano, Chiara; Costa, Monya M.; Ruocco, Miriam; Procaccini, Gabriele; Santos, Rui. "Linking gene expression to productivity to unravel long- and short-term responses of seagrasses exposed to CO<sub>2</sub> in volcanic vents". *Scientific Reports* 7 1 (2017): <http://dx.doi.org/10.1038/srep42278>.  
10.1038/srep42278
- 28 Procaccini, G.; Ruocco, M.; Marín-Guirao, L.; Dattolo, E.; Brunet, C.; D'Esposito, D.; Lauritano, C.; et al. "Depth-specific fluctuations of gene expression and protein abundance modulate the photophysiology in the seagrass *Posidonia oceanica*". *Scientific Reports* 7 (2017): <http://www.scopus.com/inward/record.url?eid=2-s2.0-85013339879&partnerID=MN8TOARS>.  
10.1038/srep42890
- 29 Alexandre, A.; Silva, J.; Ferreira, R.; Paulo, D.; Serrão, E.A.; Santos, R.. "First description of seagrass distribution and abundance in São Tomé and Príncipe". *Aquatic Botany* 142 (2017): 48-52. <http://www.scopus.com/inward/record.url?eid=2-s2.0-85021771688&partnerID=MN8TOARS>.  
10.1016/j.aquabot.2017.06.008
- 30 Schneider, G.; Horta, P.A.; Calderon, E.N.; Castro, C.; Bianchini, A.; da Silva, C.R.A.; Brandalise, I.; et al. "Structural and physiological responses of *Halodule wrightii* to ocean acidification". *Protoplasma* (2017): 1-13. <http://www.scopus.com/inward/record.url?eid=2-s2.0-85031504247&partnerID=MN8TOARS>.  
10.1007/s00709-017-1176-y
- 31 Ruocco, M.; Musacchia, F.; Olivé, I.; Costa, M.M.; Barrote, I.; Santos, R.; Sanges, R.; Procaccini, G.; Silva, J.. "Genomewide transcriptional reprogramming in the seagrass *Cymodocea nodosa* under experimental ocean acidification". *Molecular Ecology* 26 16 (2017): 4241-4259. <http://www.scopus.com/inward/record.url?eid=2-s2.0-85022346359&partnerID=MN8TOARS>.  
10.1111/mec.14204
- 32 Alexandre, A.; Silva, J.; Santos, R.. "Nitrogen uptake in light versus darkness of the seagrass *Zostera noltei*: integration with carbon metabolism". *Marine Ecology* 37 5 (2016): 1050-1056. <http://www.scopus.com/inward/record.url?eid=2-s2.0-84991380299&partnerID=MN8TOARS>.  
10.1111/maec.12351
- 33 Olivé, I.; Silva, J.; Costa, M.M.; Santos, R.. "Estimating Seagrass Community Metabolism Using Benthic Chambers: The Effect of Incubation Time". *Estuaries and Coasts* 39 1 (2016): 138-144. <http://www.scopus.com/inward/record.url?eid=2-s2.0-84952983274&partnerID=MN8TOARS>.  
10.1007/s12237-015-9973-z
- 34 Sordo, L.; Santos, R.; Reis, J.; Shulika, A.; Silva, J.. "A direct CO<sub>2</sub> control system for ocean acidification experiments: Testing effects on the coralline red algae *Phymatolithon lusitanicum*". *PeerJ* 2016 9 (2016): <http://www.scopus.com/inward/record.url?eid=2-s2.0-84991290225&partnerID=MN8TOARS>.  
10.7717/peerj.2503
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## Activities

### Oral presentation

	Presentation title	Event name Host (Event location)
2020	M6A RNA methylation in seagrasses: first insights and relevance for biological rhythms	Italian Conference on Marine Evolution (Naples, Italy)
2019	Seagrass productivity and contribution to the community biogeochemistry in Reunion Island (West Indian ocean)	Coastal and Estuarine Research Federation's 25th Biennial International Conference (Mobile, United States)
2018	Short- and long-term effects of high CO <sub>2</sub> on the photosynthesis and calcification of the free-living coralline algae <i>Phymatolithon lusitanicum</i>	6th International Rhodolith Workshop (Roscoff, France)
2018	Rhodolith communities in a changing ocean: species-specific responses of Brazilian subtropical rhodoliths to global and local stressors	6th International Rhodolith Workshop (Roscoff, France)
2017	Mapping maërl beds using SCUBA and open-source software	III European Conference on Scientific Diving (Funchal, Portugal)
2015	<i>Cymodocea nodosa</i> response to simulated CO <sub>2</sub> -driven ocean acidification: a first insight from global transcriptome profiling	Mediterranean Seagrass Workshop (Oristano, Italy)
2015	Long-term effects of ocean acidification on free-living coralline algae	Third International Symposium on the Effects of Climate Change on the World's Oceans (Santos, Brazil)
2015	Seagrass photosynthetic responses to a natural high-CO <sub>2</sub> environment: physiology meets gene expression	ASLO - Aquatic Sciences Meeting (Granada, Spain)
2014	Chlorophyll a fluorescence: the potential of continuous measurements	Brazilian Phycological Congress (São Lourenço, Brazil)
2014	Seagrass photo-physiological responses in a natural high-CO <sub>2</sub> environment	Seagrasses in Europe: Threats, Responses and Management (Olhão, Portugal)
2013	CO <sub>2</sub> effects on the seagrass <i>Cymodocea nodosa</i> : two different approximations	Coastal and Estuarine Research Federation's 22th Biennial International Conference (San Diego, United States)
2012	High CO <sub>2</sub> research in marine mesocosm systems: key points of the experimental design	National Botanical Congress (Joinville, Brazil)



2012	European seagrass network: "Seagrass productivity, from genes to ecosystem management"	Mediterranean Seagrass Workshop (Essaouira, Morocco)
2012	High CO <sub>2</sub> research in mesocosm systems: key points in the experimental design	COST Action ES0906 Workshop: CO <sub>2</sub> /OA effects on seagrass meadows (Nottingham, United Kingdom)
2012	Compared photophysiology of native seagrasses with an invasive macroalga in Sydney Harbour, Australia	10th International Seagrass Biology Workshop (Búzios, Brazil)
2010	From seagrass photosynthesis to community metabolism	Interuniversity Institute for Marine Sciences (Eilat, Israel)
2008	Seagrass photosynthesis: levels of approach (an ecologist view)	8th GAP International Workshop on Gross and Net Primary Production (Eilat, Israel)

## Supervision

	Thesis Title Role	Degree Subject (Type) Institution / Organization
2021 - 2021	The effects of a marine heatwave on seagrasses <i>Cymodocea nodosa</i> and <i>Zostera marina</i> in Ria Formosa, Portugal: photosynthetic activity & oxidative stress indicators Supervisor of Alizé Pauline Jeanne Deguette	Biologia Marinha (Master) Universidade do Algarve Faculdade de Ciências e Tecnologia, Portugal
2021 - 2021	Optimizing the growth of the red seaweed <i>Asparagopsis taxiformis</i> by managing light quality and intensity Supervisor of Jacob David Goldman	Aquacultura e Pescas (Master) Universidade do Algarve Faculdade de Ciências e Tecnologia, Portugal
2019 - 2021	Global and local impacts on Atlantic rhodolith beds: Implications for estimates of blue carbon ecosystem services Supervisor of Nadine Schubert	Marie Skłodowska-Curie Individual Fellowship (Other) Centro de Ciências do Mar, Portugal
2018 - 2020	Enrichment of CO <sub>2</sub> in aquatic ecosystems: Ocean Acidification impacts on the benthic macroinvertebrate community Supervisor of Karyna Cristiliane Pereira	Erasmus Mundus PhD in Marine and Coastal Management (PhD) Universidad de Cádiz, Spain
2019 - 2019	Herbicide effects on Ria Formosa seagrasses Co-supervisor of Bernard Vasconcellos	Honours in Agronomy (Degree) Universidade do Algarve, Portugal

2019 - 2019	Climate change effects on seagrass ecophysiology Supervisor of Sophie Leonie Steinhausen	IMBRSea professional practice (Other) Centro de Ciências do Mar, Portugal
2019 - 2019	Global change effects on marine macrophytes Supervisor of Katia Pes	Erasmus+ Traineeship (Other) Centro de Ciências do Mar, Portugal
2018 - 2019	Physiological competition: Caulerpa prolifera vs. native seagrass species Supervisor of Jan Dirk Hofman	Masters in Marine Biology (Master) Universidade do Algarve, Portugal
2017 - 2018	Efeitos das alterações climáticas e ação de herbívoros na estrutura anatômica e histoquímica foliar de Cymodocea nodosa (Cymodocea) Supervisor	Post Doc Researcher Centro de Ciências do Mar, Portugal
2012 - 2017	Mäerl calcification, photosynthesis and metabolism in an acidified ocean Supervisor of Laura Nieves	PhD in Marine Sciences (PhD) Centro de Ciências do Mar, Portugal
2011 - 2017	Ocean acidification effects on seagrass productivity Supervisor of Irene Olive Samarra	Post Doc Researcher Centro de Ciências do Mar, Portugal
2014 - 2015	Effect of elevated carbon dioxide (CO <sub>2</sub> ) concentrations and different irradiances on the photosynthetic performance on the seagrass Cymodocea nodosa Co-supervisor of Cátia Freitas	Masters in Marine Biology (Master) Universidade do Algarve, Portugal
2014 - 2014	Pigmentos fotossintéticos da alga cálcarea Phymatholithon calcareum Supervisor of Adriana Viegas Gonçalves	Honours in Marine Biology (Degree) Universidade do Algarve, Portugal
2013 - 2014	Effects of high CO <sub>2</sub> on growth, photosynthesis and respiration of Phymatolithon calcareum Supervisor of Al'ona Shulika	Masters in Marine Biology (Master) Universidade do Algarve, Portugal
2009 - 2014	Increased CO <sub>2</sub> and ocean acidification effects on oxidative stress responses in seagrasses Supervisor of Monya Costa	PhD in Marine Sciences (PhD) Centro de Ciências do Mar, Portugal
2013 - 2013	Effect of high CO <sub>2</sub> on the metabolism of marine primary producers Supervisor of María Dolores Rodríguez López	Erasmus internship (Other) Centro de Ciências do Mar, Portugal

2012 - 2012	O efeito da temperatura nas taxas de respiração mitocondrial e nas respostas fotossintéticas da alga calcárea <i>Phymatolithon calcareum</i> Co-supervisor of Cátia Freitas	Honours in Marine Biology (Degree) Universidade do Algarve, Portugal
2008 - 2009	Maërl calcification in an acidified ocean Co-supervisor of Liliana Teixeira	Masters in Marine Biology (Master) Universidade do Algarve, Portugal
2008 - 2009	The invasive alga <i>Sargassum muticum</i> and the native macrophytes of southern Portugal – compared photosynthetic performances Co-supervisor of Diogo Paulo	Masters in Marine Biology (Master) Universidade do Algarve, Portugal
2005 - 2006	Field Guide of the Intertidal Macroalgae of Praia da Vigia Co-supervisor of Ana Saavedra	Masters thesis in Biology and Geology (Master) Universidade do Algarve, Portugal
2005 - 2006	Intertidal macroalgae of São Vicente island, Cabo Verde Co-supervisor of André Possante	Honours in Marine Biology (Degree) Universidade do Algarve, Portugal
2003 - 2004	Non-structural carbohydrate metabolism of <i>Zostera noltii</i> Co-supervisor of Rodrigo Delgado	Honours in Marine Biology (Degree) Universidade do Algarve, Portugal

## Event participation

	Activity description Type of event	Event name Institution / Organization
2007 - Current	Supervision of high-school students in the framework of the “Science in the Summer” programme. <i>Ciência Viva/CCMar</i> , Faro, Portugal. Other	Centro de Ciências do Mar, Portugal
2006 - Current	“Plantas marinhas num oceano em mudança” (“Marine plants in a changing ocean”). Educational talk for elementary and high-school students, offered year-round as part of CCMar’s outreach program. Seminar	Centro de Ciências do Mar, Portugal
2018 - 2018	Trait-based approach to seagrass ecosystems – TRAITGRASS. Euromarine Workshop. Naples, Italy. Workshop	Stazione Zoologica Anton Dohrn, Italy

2013 - 2013	Training school "Effects of CO <sub>2</sub> /Ocean Acidification on Seagrass Meadows", European COST Action ES0906 "Seagrass productivity from genes to ecosystem management". Aeolian Islands, Italy Workshop	Centro de Ciências do Mar, Portugal
2011 - 2011	Linking seagrass productivity, community metabolism and ecosystem carbon fluxes. Training School, COST-SCHOOLS-ES0909-00318, STARESO, Corsica. Workshop	Centro de Ciências do Mar, Portugal
2011 - 2011	Bioptical Model Workshop, COST Action ES0906 Training School. National Oceanic and Atmospheric Administration (NOAA), Beaufort NC, United States. Workshop	National Oceanic and Atmospheric Administration, United States
2009 - 2011	"Ervas marinhas: Biologia, Ecologia, monitorização e investigação" ("Seagrasses: Biology, ecology, monitoring and research"). Theoretical and practical training programme for high-school teachers. Project LABO, CCMar, Faro, Portugal. Workshop	Centro de Ciências do Mar, Portugal
2010 - 2010	"Sampling Protocol of Zostera in l'étang de Thau". Training workshop for high-school teachers. Sète, France. Workshop	Centro de Ciências do Mar, Portugal
2010 - 2010	Advanced Science Communication Training Course. COST/ECSITE, Lisbon, Portugal. Workshop	European Commission, Belgium
2009 - 2009	"Ervas marinhas: Ecologia e produção primária" ("Seagrasses – Ecology and primary production"). Training lecture for high-school teachers. "Explorando o Mar na Escola" Workshop. NOAA/Agência Nacional para a Cultura Científica e Tecnológica, Ciência Viva and CCMar, Faro, Portugal. Workshop	Centro de Ciências do Mar, Portugal
2009 - 2009	SeagrassNet workshop Workshop	Centro de Ciências do Mar, Portugal

2002 - 2002	Field-related techniques for the use of stable isotopes in the study of ecosystem functioning. NETCARB Summer-School, ITQB, Oeiras, Portugal. Workshop	Universidade Nova de Lisboa Instituto de Tecnologia Química e Biológica, Portugal
2001 - 2001	Ecological modelling: Approaches and attitudes. Advanced course by William Silvert. CCMAR, Universidade do Algarve, Faro, Portugal. Seminar	Universidade do Algarve, Portugal
2000 - 2000	Experimental methods in marine macrophytes ecophysiology. Lab course by Xavier Niell. Ecology Department, Malaga University, Malaga, Spain. Workshop	Universidad de Málaga, Spain
1999 - 1999	IVth European marine macroalgal photobiology working group meeting. A comparison of measuring techniques for estimating rates of macroalgal photosynthesis. Biological Station, Roscoff, France. Workshop	Station Biologique de Roscoff, France
1999 - 1999	International Symposium: Photosynthesis, a landmark in the history of life. Fundación Ramón Areces/CSIC-Universidad de Sevilla, Seville, Spain. Symposium	Universidad de Sevilla, Spain

## Jury of academic degree

	Theme Role	Candidate name (Type of degree) Institution / Organization
2022	Plastic debris on the Mediterranean seafloor President of the jury	Teresa Magdalena Navarrete Fernández (PhD) Universidad de Cádiz, Spain
2020	Estuaries as carbon sinks: Photosynthetic activity, photoinhibition and resilience in pelagic-benthic primary production (Thesis) Main arguer	Silja Frankenbach (PhD) Universidade de Aveiro, Portugal
2020	Impactos das mudanças climáticas nas florestas marinhas e costeiras: cenário actual e perspectivas futuras (Thesis) Main arguer	Lidiane Pires Gouvêa (PhD) Universidade Federal de Santa Catarina Centro de Ciências Biológicas, Brazil

2019	Effects of disturbance and stress on the reproductive modes of marine plants (Thesis) Main arguer	Diogo Soares Paulo (PhD) Universidade do Algarve, Portugal
2019	Marine macrophytes as carbon sinks: comparison between two endemic plants and the invasive alga <i>Halimeda incrassata</i> (Thesis) Main arguer	Lukas Marx (Master) Universiteit Gent, Belgium
2018	Photoprotection, oxidative stress and photoinhibition in estuarine microphytobenthos (Thesis) Main arguer	João Paulo Ferreira Ezequiel (PhD) Universidade de Aveiro, Portugal
2018	Implicações fisiológicas e ecológicas de interações interespecíficas nos bentos marinho – subsídio para o entendimento de cenários atuais e futuros (Thesis) Main arguer	Walter Ambrose Rich IV (Master) Universidade Federal de Santa Catarina, Brazil
2017	Response to simulated El Niño stress by <i>Macrocystis pyrifera</i> (Thesis) Main arguer	Luís Barreto (Master) Universidade do Algarve, Portugal
2017	Compostos fotoprotetores de algas pardas (Phaeophyceae) da costa do Brasil (Thesis) Main arguer	Caroline Schmitz (Master) Universidade Federal de Santa Catarina, Brazil
2016	Ecophysiological study of the intertidal zonation of the estuarine rhodophytes <i>Bostrychia</i> (Thesis) Arguer	Raquel Sánchez Crespo (PhD) Universidad de Málaga, Spain
2016	Role of spawning synchrony on hybridization barriers in sympatric intertidal furoid algae (Thesis) Main arguer	Carla Monteiro (PhD) Universidade do Algarve, Portugal
2016	Interactive effects of ocean acidification and declining water quality on tropical seagrass physiology (Thesis) Main arguer	Yan Xiang Ow (PhD) James Cook University, Australia
2015	Vulnerability and acclimation of Mediterranean Sea macroalgae to environmental stress related to climate change: use of indicator physiological state indicators (Thesis) Main arguer	Paula Celis Plá (PhD) Universitat de Barcelona Facultat de Farmacia, Spain

2015	Tracking environmental change in seagrass meadows: understanding indicator behaviour across space and time (Thesis) Main arguer	Guillem Roca Carceller (PhD) Universitat de Barcelona Facultat de Biologia, Spain
2015	Avaliação dos efeitos de temperatura e nutrientes sobre a ecofisiologia de <i>Laurencia catarinensis</i> (Ceramiales, Rhodophyta) (Thesis) Main arguer	Lidiane Pires Gouvêa (Master) Universidade Federal de Santa Catarina, Brazil
2014	Incorporación de carbono inorgánico en <i>Bostrychia scorpioides</i> (Hudson) Montagne ex Kutzing y <i>Catenella caespitosa</i> (Withering) L.M. Irvine (Thesis) Main arguer	Miriam Ruiz Nieto (PhD) Universidad de Málaga, Spain
2014	Ecophysiological responses to ammonium enrichment in seagrasses (Thesis) Main arguer	Beatriz Villazán Peñalosa (PhD) Universidad de Cádiz, Spain
2014	Caracterização temporal e espacial da pradaria marinha na Ria de Alvor (Portugal) aplicando Sistemas de Informacao Geográfica (Thesis) Arguer	Renato Martins (Master) Universidade do Algarve, Portugal
2014	Efeitos do aumento de CO <sub>2</sub> na fisiologia, anatomia e ultraestrutura de <i>Halodule wrightii</i> Ascherson (Thesis) Main arguer	Geniane Schneider (Master) Universidade Federal de Santa Catarina, Brazil
2012	Ecophysiological responses of the Mediterranean seagrasses ( <i>Posidonia oceanica</i> and <i>Cymodocea nodosa</i> ) under hypersaline stress conditions (Thesis) Main arguer	Jose Miguel Sandoval Gil (PhD) Universitat d'Alacant, Spain
2012	Seagrass systems under human pressure: responses and assessment tools (Thesis) Main arguer	Silvia Oliva Perez (PhD) Universitat de Barcelona Facultat de Biologia, Spain
2011	From the physiology to the seascape: a multi-scale approach to the ecology of the seagrass <i>Cymodocea nodosa</i> (Thesis) Arguer	Oriol Mascaró Vidal (PhD) Universitat de Barcelona Facultat de Biologia, Spain
2009	Análise do efeito da halófito <i>Salicornia ramosissima</i> na remoção de nutrientes em substrato sólido e em meio hidropónico (Thesis) Arguer	Carmen Mateus (Master) Universidade do Algarve, Portugal

2009	Composição dos ninhos de Labrídeos do género <i>Symphodus</i> na costa da Arrábida (Thesis) Arguer	Maria João Tavares (Master) Universidade de Lisboa Faculdade de Ciências, Portugal
2008	Ecofisiología de la aclimatación a la luz, los nutrientes y la materia orgánica en angiospermas marinas (Thesis) Arguer	Irene Olivé Samarra (PhD) Universidad de Cádiz, Spain
2007	Impact of anthropogenic activities on the seagrass <i>Zostera noltii</i> (Thesis) Arguer	Susana Cabaço (PhD) Universidade do Algarve, Portugal

### Association member

	Society Organization	Role
2020 - Current	AMACO - Associação Madeirense para a Conservação Marinha	Vice-President
2018 - Current	Portuguese Association of Scientific Diving	Vice-President

### Committee member

	Activity description Role	Institution / Organization
2014 - 2014	"Seagrasses in Europe: Threats, Responses and Management". Final conference of the European COST Action ES0906 "Seagrass productivity from genes to ecosystem management". March 4-6, 2014, Olhão, Portugal. Member	Centro de Ciências do Mar, Portugal
2013 - 2013	"Effects of CO <sub>2</sub> /Ocean Acidification on Seagrass Meadows". Training school under the framework of the European COST Action ES0906 "Seagrass productivity from genes to ecosystem management". Aeolian Islands, Italy. Member	Centro de Ciências do Mar, Portugal
2012 - 2012	3rd Mediterranean Seagrass Workshop, Essaouira, Morocco. Member	Seagrass 2000, France

### Conference scientific committee

	Conference title	Conference host
2017 - 2017	3rd European Conference on Scientific Diving	Ciimar-Madeira, and Marine Biology Station of Funchal



2015 - 2015	4th Mediterranean Seagrass Workshop	International Marine Centre, Oristano, Sardinia, Italy
2012 - 2012	9th GAP International Workshop on Gross and Net Primary Production	University of Malaga, Spain
2008 - 2008	8th GAP International Workshop on Gross and Net Primary Production: Closing the Gap between Concepts and Measurements	Inter-University Institute, Eilat, Israel

## Course / Discipline taught

	Academic session	Degree Subject (Type)	Institution / Organization
2014 - Current	Marine Plant Ecophysiology	Mestrado em Biologia Marinha (Mestrado)	Universidade do Algarve, Portugal
2022 - 2022	Marine Botany	Biologia Marinha (Licenciatura)	Universidade do Algarve - Campus de Gambelas, Portugal
2010 - 2010	Methods in Science	Biologia Marinha e Pescas (Licenciatura)	Universidade do Algarve, Portugal
1999 - 2006	Plant Biology (Biologia Vegetal)	Biologia Marinha e Pescas (Licenciatura)	Universidade do Algarve, Portugal
2002 - 2002	Photosynthesis measurements	UNESCO IHP-VI - Advanced Study Course in Ecohydrology and Coastal Management (Especialização pós-licenciatura)	Universidade do Algarve, Portugal
1999 - 2001	Marine Botany (Botânica Marinha)	Biologia Marinha (Licenciatura)	Instituto Superior de Engenharia e Ciências do Mar, Cape Verde
1999 - 2000	Botany (Botânica Geral)	Ensino de Biologia e Geologia (Licenciatura)	Universidade do Algarve, Portugal

## Evaluation committee

	Activity description Role	Institution / Organization	Funding entity
2019 - Current	Evaluation of post-doctoral proposals for the Spanish Researchers' Incorporation Program Evaluator	Universitat de les Illes Balears, Spain	

2010 - 2010	Project evaluation, Programme Blanc, Agence Nationale de la Recherche, France. Evaluator	Agence nationale de la recherche, France
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## Journal scientific committee

	Journal title (ISSN)	Publisher
2020 - Current	Oceans (2673-1924)	MDPI AG
2018 - 2020	Frontiers in Marine Science (2296-7745)	Frontiers
2005 - 2008	Botanica Marina (1437-4323)	De Gruyter

## Distinctions

### Award

2004	Business Ideas Contest: Production and valorisation of marine macroalgae CRIA/INOVALGARVE, Portugal
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