



Curriculum Vitae

Miguel Pessanha Freitas Branco Pais

Miguel Pessanha Pais concluded the Licenciatura in Marine Environmental Biology in 2006, MSc in Ecology and Environmental Management in 2008 and the PhD in Marine Biology in 2013. He is a postdoctoral researcher at MARE - Marine and Environmental Sciences Centre and Faculty of Sciences, University of Lisbon. His research focuses on applied marine ecology, conservation and environmental management, particularly with coastal reef organisms (fish, invertebrates and algae). Research interests include marine conservation, environmental monitoring methods, ecological indicators and ecological modelling, particularly statistical models and agent-based models (spatial and networks).

Identification

Personal identification

Full name
Miguel Pessanha Freitas Branco Pais
Gender
Male
Birth date
1984/03/19

Citation names

Pais, Miguel Pessanha
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MARE - Centro de Ciências do Mar e do Ambiente. Faculdade de Ciências, Universidade de Lisboa, Campo Grande, 1749-016 Lisboa, Lisboa, Portugal (Professional)

Websites

<https://github.com/miguelppais> (Professional)
<http://www.miguelppais.com> (Professional)
<http://www.mare-centre.pt/pt/user/315> (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)
Spanish; Castilian	Intermediate (B1)	Intermediate (B1)	Elementary (A2)	Intermediate (B1)	Elementary (A2)
French	Beginner (A1)	Intermediate (B1)	Beginner (A1)	Elementary (A2)	Beginner (A1)

Education

	Degree	Classification
2019 - 2019 Concluded	SSI Master diver (Outros)	
	Scuba Schools International (SSI), United States	
2019 Concluded	Workshop on Ecological Network Analysis (Outros)	
	International Society for Ecological Modelling (ISEM), United States Universität Salzburg, Austria	
2019 Concluded	Open Water SCUBA Instructor (Outros)	
	Scuba Schools International (SSI), United States	
2018/01/02 - 2018/01/07 Concluded	Winter School on Agent-based modelling for social-ecological systems (Outros)	
	Arizona State University, United States	

2018 - 2018 Concluded	Workshop on Baited Remote Underwater Stereo Video calibration and analysis using EventMeasure (Outros)	
	Instituto Superior de Psicologia Aplicada, Portugal SeaGIS, Australia	
2018 - 2018 Concluded	Workshop on Marine Protected Area classification (Outros)	
	Sociedade Ibérica de Ictiologia (SIBIC), Spain	
2018 - 2018 Concluded	Dynamic Energy Budgets. Massive Open Online Course (Outros)	
	Universidade de Lisboa Instituto Superior Técnico, Portugal	
2017 Concluded	Online Course - Introduction to Agent-based modelling (Outros)	
	Santa Fe Institute, United States	
2013 Concluded	Biologia Marinha e Aquacultura (Doutoramento)	Distinção e louvor por unanimidade (maximum grade)
	Universidade de Lisboa Faculdade de Ciências, Portugal <i>"Dealing with uncertainty and heterogeneity in the assessment of structural and functional integrity in marine fish assemblages." (THESIS/DISSERTATION)</i>	
2012 Concluded	Short course on Modelling qualitative information with rule-based fuzzy cognitive maps (Outros)	
	Instituto Português do Mar e da Atmosfera, Portugal	
2011 Concluded	Workshop on Biogeography and Phylogeography of Atlantic Fishes (Outros)	
	Instituto Superior de Psicologia Aplicada, Portugal Centro de Ciências do Mar, Portugal	
2011 Concluded	Workshop on Mapping Seabed Habitats: GIS data management (Outros)	
	Universidade de Aveiro, Portugal	
2010 Concluded	Course on Geographic Information Systems Applied to Earth Sciences (SIGAIA V) (Outros)	
	Universidade de Lisboa Faculdade de Ciências, Portugal	

2008 Concluded	Ecologia e Gestão Ambiental (Mestrado)	19/20
	Universidade de Lisboa Faculdade de Ciências, Portugal "Marine Fish Assemblage Typologies for the Portuguese Coast in the Context of the European Marine Strategy Directive" (THESIS/DISSERTATION)	
2007 Concluded	Short course "Introduction to Geographic Information Systems" (Outros)	
	Liga para a Protecção da Natureza (LPN), Portugal ESRI Portugal, Portugal	
2006 Concluded	Biologia Ambiental - Variante Marinha (Licenciatura)	16/20
	Universidade de Lisboa Faculdade de Ciências, Portugal "n/a" (THESIS/DISSERTATION)	
2000 Concluded	Certificate in Advanced English (CAE) (Outros)	B
	Cambridge School, Portugal	

Affiliation

Science

2019/07/01 - Current	Contracted Researcher (Research) Universidade de Lisboa Faculdade de Ciências, Portugal
2014/02/01 - 2019/06/30	Postdoc (Research) Fundação para a Ciência e a Tecnologia, Portugal
2013/10/01 - 2014/01/31	Researcher (Research) Universidade de Lisboa Centro de Oceanografia, Portugal
2008/03/01 - 2009/02/01	Research Trainee (Research) Universidade de Lisboa Centro de Oceanografia, Portugal

Others

2009/03/01 - 2013/09/16	PhD student Universidade de Lisboa Faculdade de Ciências, Portugal
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Projects

Grant

	Designation	Funders
2014/02 - 2019/06	<p>Spatially-explicit individual-based models as a decision-support tool for the study and monitoring of temperate reef fish assemblages SFRH/BPD/94638/2013</p> <p>Post-doc Fellow Centro de Ciências do Mar e do Ambiente, Portugal</p>	Fundação para a Ciência e a Tecnologia, Portugal
2013 - 2014	<p>BioConnect - Connectivity among estuarine and coastal fish populations: Natural tags as a tool for management and conservation PTDC/MAR/117084/2010</p> <p>Research Fellow Universidade de Lisboa Centro de Oceanografia, Portugal</p>	Universidade do Algarve Faculdade de Ciências e Tecnologia, Portugal
2009/03 - 2013/09	<p>Dealing with Uncertainty and Heterogeneity in the Assessment of Structural and Functional Integrity in Marine Fish Assemblages SFRH/BD/46639/2008</p> <p>PhD Student Fellow Universidade de Lisboa Centro de Oceanografia, Portugal</p>	Fundação para a Ciência e a Tecnologia, Portugal
2010 - 2010	<p>Aves invernantes e migradoras como indicadores da qualidade de ambientes estuarinos (MIGRATAGIS) PTDC/MAR/66319/2006</p> <p>Researcher Fundação da Faculdade de Ciências da Universidade de Lisboa, Portugal</p>	Fundação para a Ciência e a Tecnologia, Portugal
2008 - 2008	<p>Study for the requalification of the Melides Lagoon - Monitoring services NA</p> <p>Researcher Universidade de Lisboa Centro de Oceanografia, Portugal Universidade de Lisboa Faculdade de Ciências, Portugal</p>	

Contract

	Designation	Funders
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2020 - Current	<p>SCI-DIVE: Specialization on Scientific Diving</p> <p>NA</p> <p>Researcher</p> <p>Instituto Politécnico de Leiria, Portugal</p> <p>JustDive - Underwater experiences, Portugal</p>	
2019/09/03 - Current	<p>Collection of georeferenced information on the diversity and abundance of macrofauna and flora in the Cascais maritime area (AquaSig 3)</p> <p>359/DCOP/2019</p> <p>Principal investigator</p> <p>Centro de Ciências do Mar e do Ambiente, Portugal</p> <p>Instituto Superior de Psicologia Aplicada, Portugal</p> <p>FCiênciasID Associação para a Investigação e Desenvolvimento de Ciências, Portugal</p>	Câmara Municipal de Cascais, Portugal
2018 - Current	<p>FindRayShark: Applying innovative technologies to the conservation of rays and sharks</p> <p>NA</p> <p>Researcher</p> <p>Centro de Ciências do Mar e do Ambiente, Portugal</p> <p>Instituto Português do Mar e da Atmosfera, Portugal</p> <p>Universidade do Porto Centro de Investigação em Biodiversidade e Recursos Genéticos, Portugal</p> <p>Universidade dos Açores Departamento de Oceanografia e Pescas, Portugal</p>	Oceanário de Lisboa / Oceano Azul Foundation, Portugal
2018 - 2021	<p>REEFNETS: Using ecological networks to predict marine ecosystem responses to human threats</p> <p>PTDC/BIA-ECO/28687/2017</p> <p>Researcher</p> <p>Centro de Ciências do Mar e do Ambiente, Portugal</p>	Fundação para a Ciência e a Tecnologia, Portugal
2019 - 2020	<p>Improve and complement water bodies classification for coastal and transitional waters (MESCLA)</p> <p>POSEUR-03-2013-FC-000001</p> <p>Researcher</p> <p>Centro de Ciências do Mar e do Ambiente, Portugal</p> <p>Agência Portuguesa do Ambiente, Portugal</p>	
2016/07/01 - 2019/07/31	<p>BIOPHARMA: Medicating the environment: individual and population-level effects of long-term exposure to pharmaceuticals in estuaries</p> <p>PTDC/MAR-EST/3048/2014</p> <p>Researcher</p> <p>Centro de Ciências do Mar e do Ambiente, Portugal</p>	Fundação para a Ciência e a Tecnologia, Portugal

2013 - 2014	<p>Sensitivity and potential of the Cascais coastal area and its monitoring program: Marine fauna component (AquaSig 2)</p> <p>NA</p> <p>Researcher</p> <p>Centro de Ciências do Mar e do Ambiente, Portugal</p> <p>Cascais Ambiente, Portugal</p>	Cascais Ambiente, Portugal
2012 - 2014	<p>Seagrass and seahorses of the Sado estuary</p> <p>NA</p> <p>Researcher</p> <p>Centro de Ciências do Mar e do Ambiente, Portugal</p> <p>Instituto da Conservação da Natureza e das Florestas, Portugal</p>	Instituto da Conservação da Natureza e das Florestas, Portugal
2008/08 - 2011/07	<p>Spatial and temporal variability of fish assemblages in different estuarine habitats: dependence, adaptive plasticity and resilience (FISHEST)</p> <p>64982</p> <p>Provided by PTCRIS: 64982</p>	Fundação para a Ciência e a Tecnologia, I.P., Portugal
2010/07 - 2010/08	<p>EMEPC/M@rBis Expedition to the Selvagens Islands, Portugal</p> <p>NA</p> <p>Researcher</p> <p>Centro de Ciências do Mar e do Ambiente, Portugal</p> <p>Estrutura de Missão para a Extensão da Plataforma Continental, Portugal</p>	
2009 - 2010	<p>Sensitivity and potential of the Cascais coastal area and its monitoring program: Marine fauna component (AquaSig)</p> <p>NA</p> <p>Researcher</p> <p>Universidade de Lisboa Centro de Oceanografia, Portugal</p> <p>Agência Cascais Atlântico, Portugal</p>	
2008 - 2008	<p>Characterization and monitoring beach seine fisheries and bivalve dredging in the coastal area of the city of Almada</p> <p>NA</p> <p>Researcher</p> <p>Universidade de Lisboa Centro de Oceanografia, Portugal</p>	
2007 - 2008	<p>Evaluation of the impact of the Arrábida Marine Protected Area constraints on the commercial and recreational fisheries and recreational boating.</p> <p>NA</p> <p>Researcher</p> <p>Universidade de Lisboa Centro de Oceanografia, Portugal</p>	Câmara Municipal de Sesimbra, Portugal

Other

	Designation	Funders
2007 - 2008	Programa de monitorização dos ecossistemas terrestre e estuarino, na envolvente à CTRSU de S. João da Talha NA Researcher Universidade de Lisboa Centro de Oceanografia, Portugal	Valorsul, Portugal
2006 - 2006	Plano de Valorização e Gestão de Zonas Húmidas – Algarve (componente Ecologia Aquática) NA Researcher	Comissão de Coordenação e Desenvolvimento Regional do Algarve, Portugal

Outputs

Publications

Book	1	Pais, Miguel. <i>BIOgrafias. Vidas de quem estuda a vida..</i> Portugal. 2014.
Conference poster	1	Luca Caminiti; Ana Veríssimo; Pais, Miguel Pessanha; Jorge Fontes; Rita P. Vasconcelos; Sofia Henriques. "Development and validation of an eDNA metabarcoding protocol to survey Elasmobranch diversity". Paper presented in <i>European Elasmobranch Association 23rd Annual Conference</i> , 2019.
	2	Pais, Miguel Pessanha; Rita P. Vasconcelos; Susanne E. Tanner; Ferenc Jordan; Marta Coll; Hilmar Hinz; M. Hidalgo; Emanuel J. Gonçalves; Sofia Henriques. "ReefNets project: Disentangling anthropogenic effects in temperate reef networks". Paper presented in <i>International Society for Ecological Modelling Global Conference 2019</i> , 2019.
	3	Pais, Miguel Pessanha; Ana Veríssimo; Rita P. Vasconcelos; Jorge Fontes; Sofia Henriques. "FindRayShark Project: testing non-invasive technologies to monitor sharks and rays". Paper presented in <i>European Elasmobranch Association Annual Conference</i> , 2018.
	4	Irina A. Duarte; Pais, Miguel Pessanha; Patrick Reis-Santos; Henrique Nogueira Cabral; Vanessa F. Fonseca. "Effects of pharmaceuticals in estuarine fish: the BIOPHARMA project". Paper presented in <i>11th Iberian and 8th Ibero-American Congress of Pollution and Environmental Toxicology</i> , 2018.
	5	Ana Veríssimo; Jorge Fontes; Pais, Miguel Pessanha; Rita P. Vasconcelos; Sofia Henriques. "FindRayShark – Applying innovative technologies to the conservation of rays and sharks". Paper presented in <i>VII Iberian Congress of Ichthyology</i> , 2018.

- 6 Irina A. Duarte; Pais, Miguel Pessanha; Patrick Reis-Santos; Henrique Nogueira Cabral; Vanessa F. Fonseca. "Biomarker and behavioural responses of an estuarine fish following short-term exposure to fluoxetine". Paper presented in *SETAC Europe Annual Meeting*, 2018.
- 7 Sara Leston; A. Freitas; A.S. Vila Pouca; J. Rosa; J. Barbosa; F. Ramos; Patrick Reis-Santos; et al. "Environmental assessment of multi-class antibiotic residues in a temperate estuary". Paper presented in *SETAC Europe Annual Meeting*, 2018.
- 8 Sara Leston; A. Freitas; A.S. Vila Pouca; J. Rosa; J. Barbosa; F. Ramos; Patrick Reis-Santos; et al. "Occurrence of selected pharmaceuticals in the Tejo Estuary". Paper presented in *8th International Symposium on Recent Advances in Food Analysis - RAFA 2017*, 2017.
- 9 Pais, Miguel Pessanha; Patrick Reis-Santos; Henrique Nogueira Cabral; Vanessa F. Fonseca. "Population effects of pharmaceuticals in estuarine fish: the BIOPHARMA project". Paper presented in *International Society for Ecological Modelling Global Conference 2017*, 2017.
- 10 David Jacinto; Sofia Henriques; Pais, Miguel Pessanha; Henrique Nogueira Cabral. "Scientific diving at MARE - Marine and Environmental Sciences Centre (Portugal): Overview of current status and commitment to European standards for safer and collaborative scientific diving operations". Paper presented in *2nd European Conference on Scientific Diving*, 2016.
- 11 Pais, Miguel Pessanha; Henrique Nogueira Cabral. "FishCensus: An individual-based simulation of underwater visual census of fish populations with realistic behavior". Paper presented in *International Society for Ecological Modelling Global Conference 2016*, 2016.
- 12 Henrique Nogueira Cabral; Susana França; Vera Sequeira; Susanne E. Tanner; Vanessa F. Fonseca; Patrick Reis-Santos; Rita P. Vasconcelos; et al. "Researchers and public perspectives on the effectiveness of marine science communication tools and subjects". Paper presented in *1st International Marine Science Communication Conference (IMSCC 2014)*, 2014.
- 13 Sofia Henriques; Pais, Miguel Pessanha; Rita P. Vasconcelos; Alberto Murta; Manuela Azevedo; Maria José Costa; Henrique Nogueira Cabral. "Structural and functional trends indicate fishing pressure on marine fish assemblages". Paper presented in *ECSA 54*, 2014.
- 14 Marisa I. Batista; Sofia Henriques; Pais, Miguel Pessanha; Henrique Nogueira Cabral. "Anthropogenic Pressures along the Portuguese Coast: Integrating Information for MPA Planning". Paper presented in *Simpósio de Ciências Marinhas*, 2014.

- 15 Pais, Miguel Pessanha; Sofia Henriques; Marisa I. Batista; Maria José Costa; Henrique Nogueira Cabral. "Seasonal variation and monitoring designs in quality assessment of temperate reef fish assemblages". Paper presented in *9th International Temperate Reefs Symposium*, 2011.
- 16 Sofia Henriques; Pais, Miguel Pessanha; Marisa I. Batista; Maria José Costa; Henrique Nogueira Cabral. "The establishment of reference values in a multimetric approach to the assessment of temperate reef fish assemblages". Paper presented in *9th International Temperate Reefs Symposium*, 2011.
- 17 Pais, Miguel Pessanha; Sofia Henriques; Maria José Costa; Henrique Nogueira Cabral. "Implications of sampling designs in the assessment of marine fish assemblages for management and conservation purposes". Paper presented in *International Conference of Coastal Conservation and Management ICCCM10*, 2010.
- 18 Sofia Henriques; Pais, Miguel Pessanha; Ana Margarida Ferreira; M. J. Faria; Maria José Costa; Henrique Nogueira Cabral. "Influence of habitat complexity in the assessment of environmental quality at the fish community level". Paper presented in *International Conference of Coastal Conservation and Management ICCCM10*, 2010.
- 19 Pais, Miguel Pessanha; Rita Castro; Vanessa F. Fonseca; Catarina Vinagre; Henrique Nogueira Cabral. "Behaviour of the Senegalese sole, *Solea senegalensis* Kaup, 1858, in experimental conditions". Paper presented in *VI Congresso Nacional de Etologia*, 2004.

Journal article

- 1 Fonseca, V.F.; Reis-Santos, P.; Duarte, B.; Cabral, H.N.; Caçador, M.I.; Vaz, N.; Dias, J.M.; Pais, M.P.. "Roving pharmacies: Modelling the dispersion of pharmaceutical contamination in estuaries". *Ecological Indicators* 115 (2020): <http://www.scopus.com/inward/record.url?eid=2-s2.0-85083804142&partnerID=MN8TOARS>.
10.1016/j.ecolind.2020.106437
- 2 Irina A. Duarte; Miguel P. Pais; Patrick Reis-Santos; Henrique N. Cabral; Vanessa F. Fonseca. "Biomarker and behavioural responses of an estuarine fish following acute exposure to fluoxetine". *Marine Environmental Research* 147 (2019): 24-31. <https://doi.org/10.1016/j.marenvres.2019.04.002>.
10.1016/j.marenvres.2019.04.002
- 3 Reis-Santos, Patrick; Pais, Miguel; Duarte, Bernardo; Caçador, Isabel; Freitas, Andreia; Vila Pouca, Ana S.; Barbosa, Jorge; et al. "Screening of human and veterinary pharmaceuticals in estuarine waters: A baseline assessment for the Tejo estuary". *Marine Pollution Bulletin* 135 (2018): 1079-1084. <http://dx.doi.org/10.1016/j.marpolbul.2018.08.036>.
Published - 10.1016/j.marpolbul.2018.08.036
- 4 Pais, Miguel. "Effect of underwater visual survey methodology on bias and precision of fish counts: a simulation approach". *PeerJ* 6 (2018): e5378-e5378. <https://peerj.com/articles/5378>.
10.7717/peerj.5378
- 5 Pais, M.P.; Cabral, H.N.. "Fish behaviour effects on the accuracy and precision of underwater visual census surveys. A virtual ecologist approach using an individual-based model". *Ecological Modelling* 346 (2017): 58-69. <http://www.scopus.com/inward/record.url?eid=2-s2.0->

85007529949&partnerID=MN8TOARS.

10.1016/j.ecolmodel.2016.12.011

- 6 Pais, Miguel. "From a local observation to a European-wide phenomenon: Amphibian deformities at Serra da Estrela Natural Park, Portugal". *Basic and Applied Herpetology* (2016):
10.11160/bah.15003
- 7 Marisa I. Batista; Sofia Henriques; Miguel P. Pais; Henrique N. Cabral. "A framework for the assessment of MPA effectiveness based on life history of fishes". *Ocean & Coastal Management* 118 (2015): 75-87. <http://dx.doi.org/10.1016/j.ocecoaman.2015.11.010>.
10.1016/j.ocecoaman.2015.11.010
- 8 Almada, F.; Abecasis, D.; Villegas-Ríos, D.; Henriques, S.; Pais, M.P.; Batista, M.; Costa, B.H.; et al. "Ichthyofauna of the Selvagens Islands. Do small coastal areas show high species richness in the northeastern Atlantic?". *Marine Biology Research* 111 (2015): 49-61. <http://www.scopus.com/inward/record.url?eid=2-s2.0-84911445262&partnerID=MN8TOARS>.
10.1080/17451000.2014.889306
- 9 Pais, Miguel. "Conservation beyond science: Scientists as storytellers". *Journal of Threatened Taxa* (2014): <http://dx.doi.org/10.11609/JoTT.o4103.6529-33>.
10.11609/JoTT.o4103.6529-33
- 10 Pais, Miguel. "Topographic complexity and the power to detect structural and functional changes in temperate reef fish assemblages: The need for habitat-independent sample sizes". *Ecological Indicators* (2014):
10.1016/j.ecolind.2014.03.018
- 11 Henriques, S.; Pais, M.P.; Vasconcelos, R.P.; Murta, A.; Azevedo, M.; Costa, M.J.; Cabral, H.N.. "Structural and functional trends indicate fishing pressure on marine fish assemblages". *Journal of Applied Ecology* 51 3 (2014): 623-631. <http://www.scopus.com/inward/record.url?eid=2-s2.0-84900553658&partnerID=MN8TOARS>.
10.1111/1365-2664.12235
- 12 Batista, M.I.; Henriques, S.; Pais, M.P.; Cabral, H.N.. "Assessment of cumulative human pressures on a coastal area: Integrating information for MPA planning and management". *Ocean and Coastal Management* 102 PA (2014): 248-257. <http://www.scopus.com/inward/record.url?eid=2-s2.0-84908314796&partnerID=MN8TOARS>.
10.1016/j.ocecoaman.2014.09.020
- 13 Henriques, S.; Pais, M.P.; Batista, M.I.; Teixeira, C.M.; Costa, M.J.; Cabral, H.. "Can different biological indicators detect similar trends of marine ecosystem degradation?". *Ecological Indicators* 37 PART A (2014): 105-118. <http://www.scopus.com/inward/record.url?eid=2-s2.0-84888373885&partnerID=MN8TOARS>.
10.1016/j.ecolind.2013.10.017
- 14 Pais, M.P.; Henriques, S.; Murta, A.G.; Azevedo, M.; Costa, M.J.; Cabral, H.N.. "Identifying functional homogeneity in a dynamic environment: Application to soft-substrate fish assemblages off the Portuguese coast". *Journal of Sea Research* 89 (2014): 30-43. <http://www.scopus.com/inward/record.url?eid=2-s2.0-84895748115&partnerID=MN8TOARS>.
10.1016/j.seares.2014.02.004

- 15 Pais, M.P.; Henriques, S.; Batista, M.I.; Costa, M.J.; Cabral, H.. "Seeking functional homogeneity: A framework for definition and classification of fish assemblage types to support assessment tools on temperate reefs". *Ecological Indicators* 34 (2013): 231-245. <http://www.scopus.com/inward/record.url?eid=2-s2.0-84879118403&partnerID=MN8TOARS>.
10.1016/j.ecolind.2013.05.006
- 16 Henriques, S.; Pais, M.P.; Costa, M.J.; Cabral, H.N.. "Seasonal variability of rocky reef fish assemblages: Detecting functional and structural changes due to fishing effects". *Journal of Sea Research* 79 (2013): 50-59. <http://www.scopus.com/inward/record.url?eid=2-s2.0-84875584453&partnerID=MN8TOARS>.
10.1016/j.seares.2013.02.004
- 17 Pais, M.P.. "Ecosystems: Marine monitoring is hard and costly". *Nature* 495 7440 (2013): <http://www.scopus.com/inward/record.url?eid=2-s2.0-84874996886&partnerID=MN8TOARS>.
10.1038/495174d
- 18 Henriques, S.; Pais, M.P.; Batista, M.I.; Costa, M.J.; Cabral, H.N.. "Response of fish-based metrics to anthropogenic pressures in temperate rocky reefs". *Ecological Indicators* 25 (2013): 65-76. <http://www.scopus.com/inward/record.url?eid=2-s2.0-84866841914&partnerID=MN8TOARS>.
10.1016/j.ecolind.2012.09.003
- 19 Pais, M.P.; Henriques, S.; Costa, M.J.; Cabral, H.N.. "Improving the "chain and tape" method: A combined topography index for marine fish ecology studies". *Ecological Indicators* 25 (2013): 250-255. <http://www.scopus.com/inward/record.url?eid=2-s2.0-84868330074&partnerID=MN8TOARS>.
10.1016/j.ecolind.2012.10.010
- 20 Pais, M.P.; Henriques, S.; Costa, M.J.; Cabral, H.N.. "A critical approach to the use of published data for baseline characterisation of marine fish assemblages: An exercise on Portuguese coastal waters". *Ocean and Coastal Management* 69 (2012): 173-184. <http://www.scopus.com/inward/record.url?eid=2-s2.0-84866879713&partnerID=MN8TOARS>.
10.1016/j.ocecoaman.2012.06.009
- 21 Cardoso, I.; França, S.; Pais, M.P.; Henriques, S.; Cancela da Fonseca, L.; Cabral, H. N.. "Fish assemblages of small estuaries of the Portuguese coast: A functional approach". *Estuarine, Coastal and Shelf Science* 93 1 (2011): 40-46. <http://www.scopus.com/inward/record.url?eid=2-s2.0-79955954226&partnerID=MN8TOARS>.
10.1016/j.ecss.2011.03.016
- 22 Cardoso, I.; Pais, M.P.; Henriques, S.; da Fonseca, L.C.; Cabral, H.N.. "Ecological quality assessment of small estuaries from the Portuguese coast based on fish assemblages indices". *Marine Pollution Bulletin* 62 5 (2011): 992-1001. <http://www.scopus.com/inward/record.url?eid=2-s2.0-79955633399&partnerID=MN8TOARS>.
10.1016/j.marpolbul.2011.02.037
- 23 Henriques, S.; Pais, M.P.; Costa, M.J.; Cabral, H.. "Development of a fish-based multimetric index to assess the ecological quality of marine habitats: the Marine Fish Community Index". *Marine Pollution Bulletin* 56 11 (2008): 1913-1934. <http://www.scopus.com/inward/record.url?eid=2-s2.0-54549127041&partnerID=MN8TOARS>.
10.1016/j.marpolbul.2008.07.009
- 24 Henriques, S.; Pais, M.P.; Costa, M.J.; Cabral, H.. "Efficacy of adapted estuarine fish-based multimetric indices as tools for evaluating ecological status of the marine environment". *Marine Pollution Bulletin* 56 10 (2008): 1696-1713. <http://www.scopus.com/inward/record.url?eid=2-s2.0-52949148554&partnerID=MN8TOARS>.

Thesis /
Dissertation

- 1 Pais, Miguel Pessanha. "Dealing with Uncertainty and Heterogeneity in the Assessment of Structural and Functional Integrity in Marine Fish Assemblages". PhD, Universidade de Lisboa Faculdade de Ciências, 2013. <http://hdl.handle.net/10451/9616>.
- 2 Pais, Miguel Pessanha. "Marine fish assemblage typologies for the Portuguese coast in the context of the European Marine Strategy Directives". Master, Universidade de Lisboa Faculdade de Ciências, 2008. <http://hdl.handle.net/10451/1396>.

Other

Other output

- 1 Pais, Miguel Pessanha; Christine Ward-Paige. 2020. Model - "AnimDens NetLogo". CoMSES Computational Model Library. This is a model that simulates surveyors counting animals while deploying belt-transect, stationary-point-count and roving (random path) techniques. The model demonstrates how non-instantaneous sampling techniques produce bias by overestimating the number of counted animals, when they move relative to the surveyor.. <https://www.comses.net/codebases/5445/>.
- 2 Pais, Miguel Pessanha. 2018. Model - "Estuariescape". Modeling Commons Model Library. http://modelingcommons.org/browse/one_model/4812.
- 3 Pais, Miguel Pessanha. 2017. Model - "FishCensus". CoMSES Computational Model Library.. FishCensus is an agent-based model that simulates underwater visual census of fish populations, a method used worldwide to survey shallow marine and freshwater habitats that involves a diver counting fish species to estimate their density. It can help estimate sampling bias, apply correction factors to field surveys and decide on the best method to survey a particular species.. <https://www.comses.net/codebases/5305/>.

Activities

Oral presentation

	Presentation title	Event name Host (Event location)
2019/10/01	Pharmaceuticals on estuarine fish populations: modelling potential effects from the organism to the ecosystem	International Society for Ecological Modelling Global Conference 2019 International Society for Ecological Modelling (ISEM) (Salzburg, Austria)

2019/07/15	Testing non-invasive technologies to monitor sharks and rays – a combined approach using eDNA metabarcoding and BRUV	FSBI Symposium 2019 Fisheries Society of the British Isles (FSBI) (Hull, United Kingdom)
2018/09/20	FishCensus: A simulation to improve underwater visual surveys of fish populations.	Ocean Business 2018 (Lisbon, Portugal)
2018/07/11	Biomarker responses of an estuarine fish following acute exposure to an antidepressant	11th Iberian and 8th Ibero-American Congress of Pollution and Environmental Toxicology (Madrid, Spain)
2018/06/12	Visual surveys: spatial modelling of fish behaviour helps understand our mistakes.	VII Iberian Congress of Ichthyology Iberian Society of Ichthyology (Faro, Portugal)
2018/05/22	Analytical approach to assess environmental contamination by UHPLC-TOF-MS	8th International Symposium on Hormone and Veterinary Drug Residue Analysis (Ghent, Belgium)
2017/10/02	A model to simulate underwater visual surveys of fish populations	Computational Modelling for Socioecological Science (CoMSES) Virtual Conference 2017 Computational Modelling for Socioecological Science (CoMSES) (Online peer-reviewed international conference)
2017/09/17	The quest for the perfect method: Optimizing fish visual census techniques with an individual-based simulation model	International Society for Ecological Modelling Global Conference 2017 International Society for Ecological Modelling (ISEM) (Jeju, South Korea)
2017/03/22	FishCensus: A simulation model to quantify precision, bias and support sampling design in underwater visual census of fish	European Conference on Scientific Diving European Scientific Diving Panel (Funchal, Portugal)
2016/05/08	Influence of fish behavior on the accuracy and precision of underwater visual census surveys. A virtual ecologist approach using an individual-based model	International Society for Ecological Modelling Global Conference 2016 International Society for Ecological Modelling (ISEM) (Towson, MD, United States)
2014/05/12	Functional homogeneity in marine fish assemblages: letting the data speak for themselves	ECSA 54 Centro de Ciências do Mar e do Ambiente (Sesimbra, Portugal)
2013/07/17	Influence of habitat complexity on the statistical power to detect structural and functional changes in reef fish assemblages along the Portuguese	Simpósio de Ciências Marinhas Centro de Oceanografia (Lisboa, Portugal)

coast

2011/06/30	Anthropogenic pressures along the Portuguese coast: integrating information for MPA planning	9th International Temperate Reefs Symposium Marine Biological Association of the United Kingdom (Plymouth, United Kingdom)
2011/06/30	Evaluating the integrity of fish communities in temperate reefs	9th International Temperate Reefs Symposium Marine Biological Association of the United Kingdom (Plymouth, United Kingdom)
2008/02/25	Marine fish assemblage typologies for the Portuguese continental shelf in the context of the Marine Strategy Framework Directive.	Bioeconomia, III Congresso da Ordem dos Biólogos Universidade de Lisboa (Lisboa, Portugal)
2008/02/25	"Marine Fish Community Index": Challenges of assessing ecological status in the context of the Marine Strategy Framework Directive	Bioeconomia, III Congresso da Ordem dos Biólogos Universidade de Lisboa (Lisboa, Portugal)
2007/03/30	Metrics evaluation and proposal of reference limits for assessing the ecological status of estuarine fish communities.	Technical workshop - Intercalibration for fish community metrics in estuarine systems in the context of the Water Framework Directive INAG - Instituto da água (Lisboa, Portugal)
2006/12/15	Anthropogenic impacts on fish fauna and metrics for their assessment.	Technical workshop: Assessment of ecological and/or chemical impacts from anthropogenic pressures in coastal and transitional waters in the context of the Water Framework Directive INAG - Instituto da Água (Lisboa, Portugal)

Supervision

	Thesis Title Role	Degree Subject (Type) Institution / Organization
2019/12/01 - Current	Non-indigenous marine species proliferation: underlying impacts on ecological processes and potential socioeconomic consequences Co-supervisor	Ciências do Mar (PhD) Universidade de Lisboa Faculdade de Ciências, Portugal
2019 - Current	Elasmobrânquios na costa portuguesa: ocorrências e conservação Co-supervisor	Biologia marinha e conservação (Master) Instituto Superior de Psicologia

2019 - Current	Influência do micro-habitat nas características das comunidades bentónicas em recifes rochosos Co-supervisor	Ecologia Marinha (Master) Universidade de Lisboa Faculdade de Ciências, Portugal
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Event organisation

	Event name Type of event (Role)	Institution / Organization
2019 - Current	Outreach: awareness-raising activities for the FindRayShark project in schools for students and teachers, including presentations about shark conservation and self-produced VR video: Over 15 schools reached, more than 1000 students and teachers from kindergarten to high school. (2019) Other (Co-organisor)	Centro de Ciências do Mar e do Ambiente, Portugal
2019/07/12 - 2019/07/12	Workshop "Virtual Dive" with 70 teachers split into 2 sessions, using our VR video footage and goggles. COASTWATCH Seminar 2019, Peniche. (2019/07/12 - 2019/07/12) Workshop (Co-organisor)	Instituto Politécnico de Leiria Escola Superior de Turismo e Tecnologia do Mar de Peniche, Portugal
2014/06 - 2014/06	Organisation of the "MARE Day" in Sesimbra, Portugal with the participation of local students and SCUBA divers. Included research demonstrations, a boat trip and an underwater photography contest. (2014/06 - 2014/06) Exhibition (Member of the Organising Committee)	Centro de Ciências do Mar e do Ambiente, Portugal
2014 - 2014	ECSA 54 Conference - Coastal systems under change: tuning assessments and management tools in Sesimbra, Portugal (2014 - 2014) Conference (Member of the Organising Committee)	Centro de Ciências do Mar e do Ambiente, Portugal
2013 - 2014	Organised and ran a successful online crowdfunding campaign to fund the publication of science storytelling book by 18 Portuguese biologists, which I also co-authored and co-edited (https://ppl.com.pt/prj/biografias). 500 books were printed and the edition sold out. The book is now available for free at Google	Escola de Mar, Portugal

Books. (2013 - 2014)

Other (Co-organisator)

Event participation

	Activity description Type of event	Event name Institution / Organization
2019/10/01 - 2019/10/05	Member of the Poster Award evaluation panel Conference	ISEM Global Conference 2019, Salzburg International Society for Ecological Modelling (ISEM), United States
2019/10/01 - 2019/10/05	Session chair for three sessions of the Marine Ecology theme Conference	ISEM Global Conference 2019, Salzburg. International Society for Ecological Modelling (ISEM), United States

Jury of academic degree

	Theme Role	Candidate name (Type of degree) Institution / Organization
2019/10/01	Effects of pharmaceuticals on the reproduction of aquatic organisms: a meta-analysis (Thesis) Main arguer	David Gil Valente Lopes (Master) Universidade de Lisboa Faculdade de Ciências, Portugal
2018/12/17	Environmental factors influencing the settlement of Diplodus spp. juveniles in a temperate marine rocky shore (Thesis) Main arguer	Pedro Miguel Janeiro Duarte Coelho (Master) Universidade de Évora, Portugal
2016/11/18	Caraterização do mergulho recreativo no Parque Marinho Professor Luiz Saldanha: desafios para a gestão da área (Thesis) Main arguer	Luísa Lopes Pereira Jorge Paulos (Master) Universidade de Lisboa Faculdade de Ciências, Portugal

Association member

	Society Organization	Role
2018 - Current	Sociedade Ibérica de Ictiologia (Iberian Society of Ichthyology) - SIBIC	Board member
2017 - Current	CoMSES Network (COmputational Modeling for SocioEcological Science)	Full Member
2016 - Current	International Society for Ecological Modelling (ISEM)	Member
2012 - Current	Associação Portuguesa de Mergulho Científico (Portuguese Scientific Diving Association) - APorMC	Board member

Committee member

Activity description
Role

Institution / Organization

2015 - Current

Marine Strategy Framework Directive
(MSFD) National Monitoring Committee
MemberCentro de Ciências do Mar e do
Ambiente, Portugal**Consulting**

Activity description

Institution / Organization

2014 - 2015

Participation as a consultant in the
workshops that led to support
elaboration of monitoring plans and
plans of measures for the Marine
Strategy Framework Directive (MSFD)
in collaboration with the coordinating
institutions for Portugal.Instituto Português do Mar e da
Atmosfera, Portugal
Direção-Geral de Recursos Naturais,
Segurança e Serviços Marítimos
(DGRM), Portugal

2008 - 2008

Collaboration as a scientific adviser in
the project "Aquário Virtual para o
Centro de Monitorização e
Interpretação Ambiental da Costa da
Caparica" (Interactive Virtual Aquarium
Exhibition)YDreams, Portugal
Câmara Municipal de Almada,
Portugal**Course / Discipline taught**

Academic session

Degree Subject (Type)

Institution / Organization

2019 - 2019

Single 3-hour lecture on
Agent-based modelling, as
part of the Ecological
Modelling subject for MSc
studentsEcological Modelling
(Mestrado)Universidade de
Lisboa Faculdade de
Ciências, Portugal

2018 - 2018

Single 3-hour lecture on agent-
based modelling, as part of the
Ecological Modelling subject
for MSc students. Faculty of
Sciences, University of Lisbon,
Portugal.Ecological Modelling
(Mestrado)Universidade de
Lisboa Faculdade de
Ciências, Portugal

2017 - 2017

2-hour workshop "Population
census: Can virtual fish help?"
- Using FishCensus model to
understand and calculate
sampling bias in fish
population census.

(Outros)

Universidade do Porto
Instituto de Ciências
Biomédicas Abel
Salazar, Portugal

2017 - 2017

Workshop on Demersal and
pelagic fish identification and
underwater sampling
methods. - Including a 1 hour
theory session and 1 dive.

(Outros)

Universidade de
Lisboa Faculdade de
Ciências, Portugal**Interview (tv / radio show)**

	Program	Theme
2019 - Current	Our research was featured in the documentary "Mar: A Última Fronteira" ("Ocean: The Last Frontier") by Nuno Sá in national TV channel RTP 1, including footage of shark diving and water collection for eDNA analysis.	Ocean research in Portugal, particularly shark research and eDNA.

Journal scientific committee

	Journal title (ISSN)	Publisher
2020 - Current	Mediterranean Marine Science (1791-6763)	National Documentation Centre (EKT)
2019 - Current	Marine Biology Research (1745-1019)	Informa UK (Taylor & Francis)
2019 - Current	Marine Ecology (1439-0485)	Wiley (Blackwell Publishing)
2019 - Current	Ecological Modelling (0304-3800)	Elsevier
2018 - Current	Ecological Modelling (0304-3800)	Elsevier
2018 - Current	Fisheries Research (0165-7836)	Elsevier
2018 - Current	PeerJ (2167-8359)	PeerJ
2018 - Current	The Science of The Total Environment (0048-9697)	Elsevier
2018 - Current	Scientific Reports (2045-2322)	Nature Publishing Group
2016 - Current	Marine Pollution Bulletin (0025-326X)	Elsevier
2014 - Current	Ecological Indicators (1470-160X)	Elsevier
2013 - Current	Marine Environmental Research (0141-1136)	Elsevier
2012 - Current	Ocean & Coastal Management (0964-5691)	Elsevier

Other jury / evaluation

	Activity description	Institution / Organization
2019 - Current	Model reviewer for the CoMSES Net Computational Model Library, checking models for documentation, ability to run as intended and cleanness of code.	

Distinctions

Award

2017	ISEM Biennial Best Young Researcher Paper Award - 3rd Prize International Society for Ecological Modelling (ISEM), United States
2017	ISEM Global Conference 2017 Best Poster Award - 1st Prize International Society for Ecological Modelling (ISEM), United States
2016	ISEM Global Conference 2016 Best Poster Award - 2nd Prize International Society for Ecological Modelling (ISEM), United States
2005	Academic Merit Grant Universidade de Lisboa Faculdade de Ciências, Portugal