



**Ciências
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Faculdade
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da Universidade
de Lisboa

CURRICULUM VITAE

Vanda Costa Brotas Gonçalves

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Identification

Name: Vanda Costa Brotas Gonçalves

Birth place and data: Lisbon, 14th January 1958

Nationality: Portugal

Institutional address: MARE, FCUL, Campo Grande, 1749-016
Lisboa, Portugal

Contact information: Tel: +351217500156, Fax: +351217500009, E-mail: vbrotas@fc.ul.pt

Web of knowledge Researcher: ID A-2410-2012, with an h index of 25.

<http://www.researcherid.com/rid/A-2410-2012>

<http://orcid.org/0000-0001-8612-4167>

<http://scholar.google.com/citations?hl=en&user=MLg0Y-oAAAAJ&cstart=0&pagesize=20>



Resumé

Since 1995, Vanda Brotas is leading a research group in the area of Marine Botany, with an emphasis on phytoplankton, fostering this scientific area in Portugal. Presently, her research interests include Coastal and Oceanic Phytoplankton Dynamics, Ocean Colour, Phytoplankton Functional Types, Primary production, Photosynthetic pigments, Interannual variability of phytoplankton communities, Climate change, Phenology of phytoplankton spring bloom; Ecology of Estuarine Ecosystems. She is the Coordinator of PhD-courses in Biology and Marine Sciences.

She has or is supervising a total of 8 pos-doctoral students, 14 PhDs and 16 MsC. She has been responsible for several national research projects and has been the Portuguese coordinator of two European projects, and three ESA projects. She has published more than 80 indexed journals. She has participated in several national and international evaluation panels. She has participated in numerous national (University of Lisbon, New University of Lisbon, University of Porto, University of Coimbra) and international PhD panels (Spain, France, United Kingdom, Holland, South Africa, Sweden).

Academic degrees:

Agregação (2004) in Biology (Ecology & Biossistematics) by Universidade de Lisboa

Ph.D. (1995) in Biology (Ecology & Biossistematics) by the Universidade de Lisboa and in Oceanography by the Université de la Méditerranée

Licenciatura in Biology (1982) – Faculdade de Ciências da Universidade de Lisboa (FCUL)

Current and previous scientific and professional activities

From August 2006 onwards - Professora Catedrática (Full Professor), Departamento de Biologia Vegetal, FCUL.

October 2014_October 2017 – Head of Plant Biology Department (Presidente do Departamento de Biologia Vegetal da FCUL)

From October 2014 to June 2018 – Member of the Scientific Council of Faculdade de Ciências da Universidade de Lisboa (FCUL)

January 2014 – October 2014 – Vice-President of Conselho de Escola da FCUL (Scholl Assembly), one of the governance organs of the Faculty.

From January 2013 to 2018 - Coordenadora da Linha temática Ocean dynamics and Coastal Processes do MARE research center

February 2019 onwards - Coordinator of the Master course in Marine Sciences

September 2011 – July 2014 – Coordinator of the Master course in Marine Sciences

September 2010 – July 2011 – Visiting Professor at Plymouth Marine Laboratory

From July 2009 onwards – Coordinator of PhD-courses in Biology and Marine Sciences

From April 2009 – December 2013 - Vice-President of Assembleia da FCUL

From January 2007 to July 2009 - Head of Plant Biology Departament (Departamento Biologia Vegetal da FCUL).

From May 2004 to December 2006 - Director of Centro de Oceanografia da FCUL (Centre of Oceanography of FCUL)

From January 2004 to 2018 – Coordinator of the Marine Botany Group in Centro de Oceanografia da FCUL

From June 2002 to August 2006 – Professora Associada, FCUL.

From December 1995 to June 2002 – Professora Auxiliar, FCUL.

From May 1984 to December 1995 – Assistente (Teaching assistant), FCUL

Domain of specialization

My PhD and "Agregação" were in Biology, (Ecology sub-area).

The PhD subject was in the ecology of microphytobenthos.

Phytoplankton spatial and seasonal distribution on coastal and ocean waters of a number of national and international ecosystems constitute a major issue, assessing questions such as bloom triggering, spatial distribution of functional groups, seasonal succession, carbon sequestration capacity, ocean colour remote sensing.

Present research interests

Remote sensing of phytoplankton. Phytoplankton functional types. Validation of satellite ocean colour with in situ data.

Climate change. Phenology of phytoplankton spring bloom

Long-term series of estuarine phytoplankton. Monitoring studies. Inter-influence of estuaries and adjacent coastal zones. Phytoplankton monitoring of transitional waters within Water Framework Directive.

Phytoplankton of Portuguese upwelling zones.

Phytoplankton of Patagonian Shelf; Phytoplankton of Antarctica peninsula, Mozambique. Factors driving phytoplankton spatial and temporal distribution

Modeling the effect of Internal waves on coastal waters Primary Production.

Biodiversity patterns of microphytobenthos

Photosynthetic pigments of microalgal species. Response of cell pigment content to changing light levels.

Referee and Evaluations Panels

Belongs to STAB committee of Danubius project, 2017 onwards. Pertence ao "Technical Advisory Board committee" of Danubius project, 2017-2019, <https://danubius-pp.eu/>.

Participação na avaliação dos docentes da Biologia, ao abrigo do processo de avaliação do CCAD, em 3 períodos de avaliação

Participation in FCT Space Agenda, January- July 2017.

<https://www.fct.pt/agendastematicas/espaco.phtml>

Participation in the evaluation panel Oceans/Mass Transport/Geodetic (OMTG) for the Earth Explorer Mission EE-9, July 2016

Participation in numerous national (University of Lisbon, New University of Lisbon, University of Porto, University of Coimbra) and international PhD panels (Spain, France, United Kingdom, Holland, South Africa).

Participation in Agregação panels in University of Lisbon, University of Azores, University of Aveiro, and University of Algarve.

Participation in panels for Associate Professor position in several national Universities.

Panel for the Prémio Científico Universidade de Lisboa, Santander Julho 2016

Other Evaluation Panels: Fundação para a Ciência e Tecnologia (FCT) panels for PhD and post-doctoral grants, Natural Environment Research Council (NERC), UK, National Research Foundation NRF), South Africa, Program FLAD-IMAR. Painel do Juri do Prémio IMAR – Luiz Saldanha. Contracts Ciência 2007 for IMAR-FCTUNL, PhD grants for Universidade de Coimbra, Panel for the APRH (Associação Portuguesa Recursos Hídricos) Prize, Panel for Prémio Jovem Cientista 2010 Fluvial de Mora, reviewer of Project COSELMAR, Université de Nantes.

Referee for papers submitted to: Remote Sensing of Environment, Remote Sensing, Marine Biology Research, Marine Ecology Progress Series, Continental Shelf Research, Estuarine Coastal and Shelf Science, Journal of Sea Research, Polar Biology, Ecological Indicators, ICES Journal of Marine Science, Journal of the Marine Biological Association of the United Kingdom, Acta Oecologica, Oceanologica Acta, Aquatic Sciences, Scientia Marina, Limnetica, Annales de Limnologie, Hydrobiologia.

Participation in numerous national master thesis panels and for international master Erasmus Mundus on Marine Biodiversity and Conservation

Supervising experience

Pos-doc supervision

- 1) Carolina Sá - Development of ocean-colour products for the monitoring of water quality of Portuguese WATERS from SPACE [PTWATERS-SPACE]”, SFRH/BPD/118760/2016. A decorrer desde Abril 2017
- 2) André Valente - no âmbito do projeto da ESA, Ocean Colour Climate Change Initiative, a decorrer desde Fevereiro 2013.
- 3) André Belo Couto – no âmbito do projeto da ESA, Ocean Colour Climate Change Initiative, Fevereiro 2013 – Maio 2015
- 4) Ana Sutcliffe – no âmbito do projeto SOPHIA, Julho 2015 até setembro 2016.

- 5) Rita Isabel de Oliveira Soares Branco Domingues - Impacts of climate change on phytoplankton in the Ria Formosa coastal lagoon: effects of ultraviolet radiation, CO₂ and temperature – 2011-2016, SFRH/BPD/68688/2010
- 6) Alexandra Maria Azinheira Duarte Silva - New Harmful Algal Bloom (HAB) species in continental Portugal, Azores and Madeira coastal waters: biogeographic and seasonal distribution, structure of the accompanying phytoplankton community and implementation of molecular identification tools. - 2010-2016, program SFRH/BPD/63106/2009.
- 7) Ana Cristina Florindo de Brito – The Development of an Integrated Approach for the Assessment of Ecological Quality in Coastal and Transitional Waters – 2010-2013, program SFRH/BPD/63017/2009. Finished. Current position Investigator FCT.
- 8) Bruno Miguel Boa de Jesus – Estuarine benthic primary production: from photophysiology to ecosystem function – program SFRH/BPD/20993/2004, 2006-2011. Finished. Current position: Researcher at Université de Nantes, Equipe Mer, Molecules et Santé.
- 9) Paulo J. S. D. Cartaxana – Chlorophyll degradation pathways in intertidal sediments - program PRAXIS XXI/ BPD / 20191/99. 1999-2002. Finished.

PhD Thesis

Ongoing PhD Thesis

- 12) Maria Castelo Lino Paulo - Cultivo heterotrófico de microalgas marinhas produtoras de DHA e esqualeno para aplicação na indústria alimentar e nutracêutica –in co-supervision with Dr. Narcisa Bandarra, IPMA, 2016-onwards.
- 13) Rui Cereja – Water Quality Indexes for Estuarine Waters: assessment of temporal and spatial variability, Earthsystems programme, in co-supervision with Ana C. Brito and Marta Rodrigues, 2017 onwards.
- 14) Filipe Lisboa - Changes in Phytoplankton Communities Due to Climate Variability (in Polar Amplification Regions). Doctoral Programme in Climate Change and Sustainable Development Policies at the University of Lisbon, in co-supervision with Filipe Duarte Santos, 2017 onwards.

Finished PhD Thesis

- 1) Carolina Vieira de Sá - Identificação de comunidades de fitoplâncton e variabilidade da produção primária: adaptação e validação de modelos de detecção remota – in co-supervision with Prof. José Carlos Silva, 2006-2013.
- 2) Sergio Muacho Alves - Desenvolvimento de modelo de produção associada á passagem de ondas internas - co-supervision with Prof. José Carlos Silva. March 2013. Current position: researcher at IPMA
- 3) Marta Rodrigues - Sistema de Análise dos Efeitos de Factores Climáticos e de Acções Antropogénicas nos Ecossistemas Estuarinos. Aplicação à Ria de Aveiro, in co-supervision with Henrique Queiroga, Universidade de Aveiro. October 2012. Current position: Post-doctoral FCT Grant in LNEC.
- 4) Carlos Rafael Mendes - Dinâmica dos florescimentos de fitoplâncton na região antárctica e na zona costeira portuguesa – in co-supervision with Virginia Garcia, FURG, Brasil, March 2012. Current position: Resercher at FURG, Brasil
- 5) Lourenço Ribeiro - Intertidal benthic diatoms of the Tagus estuary: Taxonomic composition and spatial-temporal variation – in collaboration with Prof. Y. Rincé, da Université de Nantes. December 2010. Working as free-lancer for monitoring programs needing phytoplankton or microphytobenthos identification and counting.
- 6) Carla Gameiro – Fitoplâncton do Estuário do Tejo (Portugal): Dinâmica sazonal, interanual e Produção Primária. PhD thesis, University of Lisbon, June 2009. Working as a Pos-doc in a FCT project in Centre of Oceanography FCUL.
- 7) Alexandra Silva - Coccolithophores in coastal waters: Lisbon Bay, Portugal"; (co-supervised with Teresa Moita, IPIMAR). March 2009. Pos-doctoral FCT grant working at IPMA
- 8) Pedro Costa - Toxinas amnésicas em Recursos Marinhos – (co-supervised with Maria Antónia Sampayo, IPIMAR). February 2006. Researcher at IPMA.
- 9) Bruno Boa de Jesus – Modelação de Comunidades Microfitobênticas, utilizando Técnicas de Detecção Remota e Sistemas de Informação Geográfica – (co-supervised with David Paterson, University of St Andrews UK). January 2006. Current position: Researcher at Université de Nantes, Equipe Mer, Molecules et Santé.
- 10) Ana Amorim-Ferreira – Distribuição de Quistos de Dinoflagelados da Costa Portuguesa – (co-supervised with Barrie Dale, University of Oslo, Norway). March 2002. Current position: Professor at Faculty of Sciences University of Lisbon.
- 11) Paula Alvito – Determinação de Toxinas com Efeitos Paralisantes (PSP) em Dinoflagelados Marinhos e Bactérias Associadas – (co-supervised with Susana Franca, Instituto Nacional de Saúde Ricardo Jorge, INSRJ). July 2001. Current position: Researcher at Instituto Nacional de Saúde Ricardo Jorge.

Master Thesis

Ongoing Master Thesis

Finished Master Thesis, MSc

- 1) 2016-2017 - Catarina Sofia Simões Nunes - Determinação da Profundidade de Secchi na coluna de água através de deteção remota in- co-supervision with Miguel Terra, Deimos.
- 2) 2015-2016 - Alexandre Dias – Eutrofização Antropogénica na Baía de Guanabara - in co-supervision with Dr Ana C. Brito, FCUL.
- 3) 2013 - Mariana Silva - Analise da correlação espaço-temporal de presença de Mysticetos com frentes oceanográficos – in co-supervision with Prof José Azevedo, University of Azores.
- 4) 2012 – Elisabete Mota - Projecto CoastColour: novos produtos MERIS e sua validação, com dados do Estuário do Tejo. Mestrado em Sistemas de Informação Geográfica da FCUP.
- 5) 2010 - Liliana Carolino - Cultivo de microalgas unicelulares para determinação da produção lipídica e sequestro de carbono. Mestrado em Biologia Celular e Biotecnologia. Em colaboração com Bruno Jesus, CO-FCUL.
- 6) 2010 - Ana Lopes - Comparação entre os valores nutricionais (ácidos gordos) de rotíferos e microalgas. Mestrado em Ecologia Marinha. Em colaboração com Pedro Pousão, IPIMAR.
- 7) 2010 - Sandra Lage - Kinetics of uptake, transformation and elimination paralytic shellfish poisoning toxins in finfish. Mestrado em Ecologia Marinha. Em colaboração com Pedro Reis Costa, IPIMAR.
- 8) 2010 - Vera Viegas. Estudo da Qualidade de águas superficiais através da análise de fitoplâncton. Mestrado em Biologia Humana e Ambiente. Em colaboração com Teresa Pereira Coutinho, IPIMAR.
- 9) 2009 – Miguel Costa Leal - Vertical dynamics of planktonic communities at Sofala Bank, Mozambique. Mestrado em Ecologia Marinha, co-supervision with José Paula
- 10) 2008 - Sara Marreco – Caso do estudo em Paleoceanografia do estuário isotópico marinho 11 com base em Nanofósseis calcários. Mestrado em Biologia e Gestão de Recursos Marinhos
- 11) 2007 - Vanda Franco – Produtividade Primária na zona costeira adjacente aos estuários do Tejo e Sado. Mestrado em Biologia e Gestão de Recursos Marinhos.
- 12) 2007 - Patrícia Tânia Alves Anselmo - Monitorização do fitoplâncton no Estuário do Tejo. Mestrado em Ecologia e Gestão Ambiental.
- 13) 2007 - Sónia Alexandra Quaresma Estronca - Indução da produção do pigmento astaxantina na microalga *Haematococcus pluvialis* (Divisão Clorófita) – Mestrado em Ciências da Terra e da Vida para o Ensino.

- 14) 2006 - Rute Campilho Teixeira - Estudo da evolução sazonal do fitoplâncton do promontório da Estremadura (Portugal) através de imagens de satélite - Mestrado em Biologia e Gestão de Recursos Marinhos.
- 15) 2005 - Carlos Rafael Mendes – Composição e diversidade pigmentar na comunidade de microfitobentos do Estuário do Tejo – Mestrado em Biologia e Gestão de Recursos Marinhos.
- 16) 2002 - Rita Mendes Godinho – Cultura de *Gymnodinium microreticulatum* a partir de quistos isolados na costa portuguesa: estudo da germinação, crescimento e enquistamento – Faculdade de Ciências e Tecnologia da Universidade Nova de Lisboa, Ecologia, Gestão e Modelação de Recursos Marinhos.

Research Projects

Coordination (in national projects and as Portuguese PI in international ones)

2019-2021 – Copernicus Evolution: Research for harmonised Transitional water Observation (CERTO). Call LC-SPACE-04-EO-2019-2020. Leader PML. I am WP10 leader. 265k€

2018-2021. Portugal Twinning for Excellence and innovation in marine science and Earth observation PORTWIMS. Call: H2020-WIDESPREAD-05-2017-Twinning, Grant nº 810139. Project coordinator, 1M€.

2019-2021 - Climate Change Initiative Plus (CCI+), Phase one - OCEAN COLOUR. ESA Project. Dr. Shubha Sathyendranath, from PML is the leader.

2019-2020 - Level 2 Product Monitoring –Evolution Studies: Multi-mission Ocean Colour Algorithm Prototyping (OMAPS). Eumetsat Project. Lead by: Jackson, Sathyendranath, Groom, (PML)

2018-2019 - Phytoplankton response to climate trends in the Northern Antarctic Peninsula. Programa Projetos Propolar 2018-2019.

2017-2021 - iFADO, Innovation in the Framework of the Atlantic Deep Ocean. PI da FCUL. PI do Projeto: Francisco Campuzano, IST

2014-- Ocean colour validation on subtropical North East Atlantic -ID 13739. Type: Call for Sentinel-3 Validation Team (S3VT).

2013-2018. Climate Change Initiative – Ocean Colour. Ref: AO-1/6207/09/I-LG. ESA project, national PI. 82000 €

1998-2020 “Programa de Monitorização dos Ecossistemas Terrestre e Estuarino na Envolvente à Central de Tratamentos de Resíduos Sólidos Urbanos de S. João da Talha”.

2013-2016 – AQUAculture USEr driven operational Remote Sensing information services (Aquausers). FP7 project nº 607325

2010-2012. Due Coast Colour. ESA. ESRIN/AO/1-6141/09/I-EC. national PI. 100 000 €

2011 - Value Adding Element Proposal for Monitoring of Intertidal Flats, Follow-up. ESA. ESRIN/AO/08/1-5828/08/1-EC, VAE Actions, national PI. 18000 €

2009-2010. Value Adding Element Proposal for Monitoring of Intertidal Flats. ESA. ESRIN Call 1-5828/08/1-EC: VAE Actions, national PI. 25000 €.

2007-2009. Cultura de Microalgas. Prime Energy. 19981 €.

2006- 2009 “Estuário do Tejo e zona costeira adjacente: integração de aspectos físicos e biológicos (Intagus-POCTI/FCT)”. 86400 €

2002- 2005 “A system of Hierarchical Monitoring Methods for assessing changes in the biological and physical state of intertidal areas (HIMOM)”. contract nº EVK3-2001-00043. national PI. International coordinator Carsten Brockman. 150000 €

2000-2003 “Modelação de habitats de produtores primários, invertebrados e aves nas zonas intertidais do estuário do Tejo, a partir de imagens de satélite e SIG (SAT-TAGIS/PDCTM-FCT)”. 360 000 €

1998-2016 “Programa de Monitorização dos Ecossistemas Terrestre e Estuarino na Envolvente à Central de Tratamentos de Resíduos Sólidos Urbanos de S. João da Talha”.

1996-1999 "Nitrogen Cycling in Estuaries" (NICE - Marine Science and Technology III). Contract nº MAS3-CT96-0048. International coordinator: Tage Dalsgaard. I was the Portuguese coordinator. 150000 €.

Participation in recent projects

November 2017- October 2020 - CrassoReab REABilitação da produção de ostra portuguesa *CRASSOstrea angulata* com recurso a microalgas autóctones (MAR-02.01.01-FEAMP-0050).

Financed by Mar2020, Portugal2020, União Europeia Fundo Europeu dos Assuntos Marítimos e das Pescas. FCUL Funding: 355 697,45€.

September 2018-September 2021 – Habwave: From benthic resting stages to HAB events: understanding the role of physical-biological coupling off NW Portugal. Funded by Portugal 2020, LISBOA-01-0145-FEDER-031265. Total funding 238 767,55 € . FCUL funding: 104 861,80€

August 2018-July 2021 – Aquimar, Funded by Mar2020 Program. Funding FCUL: 92 250€.

September 2017- August 2021 – AquaSado, Promover AQUAcultura sustentável no Estuário do SADO. Funded by Mar2020 Program. FCUL funding: 465 097

2018 – 2021 – PiscisMod, Roteiro para a Sustentabilidade Ambiental e Otimização da Eficiência Energética em Aquicultura de Peixes, Mar2020

2015-2016 – Project SOPHIA - Conhecimento para a Gestão do Meio Marinho. Partners, DGRM, FCUL, Escola Superior de Comunicação Social, EEA Grants

2012-2013. Consultoria para a Criação e Implementação de um Sistema de Monitorização do Litoral abrangido pela área de Jurisdição da ARH do Tejo. Funded by ARH Tejo.

2010 – 2013 – Habspot: Dinâmica de blooms de algas tóxicas: Processos costeiros e retenção ao largo de Aveiro. FCT. Participant. 22575 €

2010-2013 – PTDC/MAR/102800/2008 (Cd-ToxCoN - Cadmium induced toxicity/tolerance/productivity on neritic Coccolithophores), Jan 10 – Dec 2012. FCT. Participant. 56076 €.

2007 - Strengthening the knowledge base for and implementing an ecosystem approach to marine fisheries in developing countries” from the Nansen Program an EAF Project funded by the Norwegian government through NORAD, the Institute of Marine Research (Bergen, Norway) and the United Nations through FAO.

2008-2010 – Southern Ocean Studies for understanding Global Climate Issues (SOS Climate). PI C. Garcia, FURG, Brasil, International Polar Year.

2009-2011 - Inter-basin exchange in the changing Mediterranean Sea: Impact on the ecosystems in the vicinity of the Straits connecting the Mediterranean Sea with the adjacent Basins.(MedEX). Program MARIN-ERA/MAR/0002/2008

2005-2008 “Regulação do acoplamento entre níveis tróficos pelos ciclos de maré e do dia: microflora e fauna bentónica dos estuários”, FCT project, refª POCI/BIA-BDE/61977/2004, PI Prof. Dr. Henrique Queiroga, Universidade de Aveiro, 7800 €

2005-2007 “A multi-sensor Analysis and Interpretation System for the Coastal Zone Remote Sensing (Amazing)”, projecto financiado pela FCT, refª PDCTE/CTA/49953/2003, PI Prof. Dr. José Carlos Silva, IO-FCUL.

2005-2008. “Hot-Spots of internal wave activity off Iberia revealed by multi-sensor remote sensing satellite observations Spotiwave II”, projecto financiado pela FCT, POCI/MAR/57836/2004, PI Prof. Dr. José Carlos Silva, IO-FCUL.

2006- 2009. "HABCOL- marine HAB culture Collection-a critical tool for phytoplankton studies" POCI/MAR/60086/2004. PI Prof. Dr Ana Amorim.

2009-2011 - Avaliação do Estado Ecológico das Massas de Água Costeiras e de Transição Adjacentes e do Potencial Ecológico das Massas de Água Fortemente Modificadas. INAG, PI Rui Rodrigues, 25000 €

2008-2009- “Caracterização das massas de água costeiras das ilhas de Santa Maria e de São Miguel”, “Caracterização das massas de água costeiras da ilha Terceira” e “Caracterização das massas de água de transição da ilha de São Jorge”, PI Ana Isabel Neto, Azores University. by Direcção Regional do Ordenamento do Território e Recursos Hídricos. 29100 €

2007-2010 - Estudo sobre a Requalificação da Lagoa de Melides. PI Prof. Conceição Freitas, FCUL. CCDD-A, 22048 €.

Publications

Thesis

- 1) Brotas, V. 1995. Distribuição espacial e temporal do microfitobentos no Estuário do Tejo (Portugal): pigmentos fotossintéticos, povoamentos e produção primária. Distribution spatiale et temporelle du microphytobenthos dans l'estuaire du Tage (Portugal): pigments photosynthétiques, peuplements et production primaire. Tese de doutoramento, Universidade de Lisboa and Université de la Méditerranée. 144p.

Books and Chapters in books

- 1) Brotas, V. Water quality monitoring in Tagus Estuary (2017). In S.R. Greb; D Odermatt; E.A. Smail; A. Tyler; and G. Zheng (Eds.), Advanced techniques for monitoring water quality using Earth Observation. Koblenz, Germany: International Centre for Water Resources and Global Change, https://www.geoaquawatch.org/wp-content/uploads/2018/04/AquaWatch_lowres.pdf.
- 2) Domingos I., Gameiro C., Ferreira A., Adão H., Amorim A., Brotas V., Cabral H., Chainho P., Costa J.L., Gordo L.S., Newton A., Sousa F., Teixeira H., Vieira A.R., Zilhão R., Brito A.C. (2017). Ecossistemas da Plataforma Continental. DGRM, Lisboa, Portugal. E-book disponível em www.sophia-mar.pt.
- 3) Sutcliffe, A., Brito, A.C., Sá, C., Sousa, F., Boutov, D., Brotas, V. 2016. Observação da Terra: Uso de imagens de temperatura da superfície do mar e cor do oceano para a monitorização de águas costeiras e oceânicas. DGRM, Lisboa, Portugal. E-book disponível em www.sophia-mar.pt.
- 4) Sathyendranath, S. et al including Brotas, V., 2016. ESA Ocean Colour Climate Change Initiative (Ocean_Colour_cci): Version 2.0 Data. Centre for Environmental Data Analysis. DOI 10.5285/b0d6b9c5-14ba-499f-87c966416cd9a1dc
- 5) Bracher, A., Hardman-Mountford, N., Hirata, T., Bernard, S., Boss, E., Brewin, R., Bricaud, A., Brotas, V., Chase, A., Ciotti, A., Choi, J.K., Clementson, L., Devred, E., DiGiacomo, P., Dupouy, C., Hirawake, T., Kim, W., Kostadinov, T., Kwiatkowska, E., Lavender, S., Moisan, T., Mouw, C., Son,

- S., Sosik, H., Uitz, J., Werdell, J., and Guangming Zheng, G., 2015. Phytoplankton Composition from Space: Towards a validation strategy for satellite algorithms. Report of IOCCG Workshop. NASA Technical Memorandum–2015-217528.
- 6) Rodrigues, M., Oliveira, A., Queiroga, H., Brotas, V., Fortunato, A., 2015. Modelling the effects of climate change in estuarine ecosystems with coupled hydrodynamic and biogeochemical models. The case study of the Aveiro lagoon. In book: Advanced Modelling Techniques Studying Global Changes in Environmental Sciences, 27, pp.271-288 Park et al Editors, (Chapter 12). DOI: 10.1016/B978-0-444-63536-5.00012-0.
 - 7) Hooker, S.B., Clementson, L., Thomas, C., Schlüter, L., Allerup, M., Ras, J., Claustre, H., Normandeau, C., Cullen, J., Kienast, M., Kozłowski, W., Vernet, M., Chakraborty, S., Lohrenz, S., Tuel, M., Redalje, D., Cartaxana, P., Mendes, C.R., Brotas, V., Matondkar, S.G.P., Parab, S.G., Neely, A., Egelend, E.S.. 2012. The Fifth SeaWiFS HPLC Analysis Round-Robin Experiment (SeaHARRE-5). Nasa Technical Memorandum, 2012-215.
 - 8) Silva, A., S. Palma, V. Brotas, C.R. Mendes & M.T. Moita. Phytoplankton from Lisbon Bay – Coccolithophores as Regional Oceanographic Tracers, 2010. In New Oceanography Research Developments: Marine Chemistry, Ocean Floor Analyses and Marine Phytoplankton, Martorino L. & K. Puopolo (eds). Nova Publishers, pp59-92.
 - 9) Brotas, V., 2002. Ecologia do microfitobentos ou a cor dos lodos. In Fragmentos de Ecologia, ed M.-A. Martins-Loução, *Escolar Editora*, p: 207-221.
 - 10) Dalsgaard T. (ed), L.P. Nielsen , V. Brotas, P. Viaroli, G. J. C. Underwood, D.B. Nedwell, K. Sundbäck, S. Rysgaard, A. Miles, M. Bartoli, L. Dong, M. Cooper, D.C.O. Thornton, L.D.M. Ottosen, G. Castaldelli, & N. Risgaard-Petersen. 2000. Protocol handbook for NICE - Nitrogen Cycling in Estuaries: a project under the EU program Marie Science and Technology (MAST III). *National Environmental Research Institute*, Silkeborg, Denmark, 62pp.
 - 11) Brotas, V., 2000. Botânica Marinha. *Associação de Estudantes da FCUL*, 48 pp.

Refereed Papers in Indexed Journals

- 1) Shubha Sathyendranath *, Robert J.W. Brewin , Carsten Brockmann , Vanda Brotas , Ben Calton , Andrei Chuprin , Paolo Cipollini , André B. Couto , James Dingle , Roland Doerffer , Craig Donlon , Mark Dowell , Mike Grant , Steve Groom , Andrew Horseman , Thomas Jackson , Hajo

- Krasemann, Samantha Lavender , Constant Mazeran , Victor Martinez-Vicente , Frédéric Mélin , Timothy S. Moore , Dagmar Müller , Peter Regner , Shovonlal Roy , Chris Steele , François Steinmetz , John Swinton , Malcolm Taberner , André Valente , Marco Zühlke , Vittorio Brando , Hui Feng , Gene Feldman , Bryan, A. Franz , Robert Frouin , Richard, W. Gould, Jr , Stanford B. Hooker , Mati Kahru , Susanne Kratzer , B. Greg Mitchell , Frank Muller-Karger , Heidi Sosik , Kenneth J. Voss , Jeremy Werdell , Trevor Platt, 2019. AN OCEAN-COLOUR TIME SERIES FOR USE IN CLIMATE STUDIES: THE EXPERIENCE OF THE OCEAN-COLOUR CLIMATE CHANGE INITIATIVE (OC-CCI). *Sensors*. 19(19): 4285.
- 2) Steve B Groom, Shubha Sathyendranath, Yai Ban, Stewart Bernard, Bob Brewin, Vanda Brotas, Carsten Brockmann, Prakash Chauhan, Jong-kuk Choi, Andrei Chuprin, Stefano Ciavatta, Paulo Cipollini, Craig Donlon, Bryan A Franz, Xianqiang He, Takafumi Hirata, Thomas Jackson, Milton Kampel, Hajo Krasemann, Samantha Jane Lavender, Silvia Pardo-Martinez, FREDERIC MELIN, Trevor Platt, Rosalia Santoleri, Jozef Skakala, Blake Schaeffer, Marie Smith, Francois Steinmetz, Andre Valente, Menghua Wang, 2019. "Ocean Colour: current status and future perspective". *Frontiers Marine Science*. *Front. Mar. Sci.*, 29 August 2019 | <https://doi.org/10.3389/fmars.2019.00485>
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 - 4) Maeda, E., F. Lisboa, L. Kaikkonen, K. Kallio, S. Koponen, V. Brotas, S. Kuikka. 2019. Temporal patterns of phytoplankton phenology across high latitude lakes unveiled by long-term time series of satellite data. *Remote Sensing of Environment*, 221:609:620.
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 - 8) Brewin, RJW, Ciavatta, S, Sathyendranth S, Jackson, T, Tilstone, G, Curran, K, Airs, RL, Cummings D, Brotas V, Organelli E, Dall'Olmo G, Raitsos, DE. 2017. Uncertainty in ocean-colour estimates of chlorophyll for phytoplankton groups. *Front. Mar. Sci.* 4:104. doi: 10.3389/fmars.2017.00104

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Oral Communications by invitation

- 1) Sentinel Applications - fisheries and aquaculture. Invited talk, International Ocean Colour Science Meeting 2017, IOCS, Lisbon, 15 May 2017
- 2) Ocean colour as a tool to assess ecosystem health. The 1st Sino-Portuguese Workshop on Collaborative Research of Marine Sciences. June 2014
- 3) A cor do oceano, uma ferramenta para estudar a distribuição espacial e temporal do Fitoplâncton”. III Colóquio Detecção Remota: Observação da Terra, 5-6 Dezembro de 2013, Sociedade de Geografia de Lisboa.
- 4) In situ and satellite monitoring of seasonal and inter-annual variability patterns of phytoplankton and TSM in the Tagus estuary (Portugal). Invited speaker at “Symposium on phytoplankton blooms in temperate coastal ecosystems”, Wimereux, França, 19-21 Setembro 2011.
- 5) Padrões de variabilidade sazonal e interanual de nutrientes e Fitoplâncton no Estuário do Tejo, Debate Plano de Ordenamento do Estuário do Tejo, Administração Hidrográfica do Tejo, 23 de Julho de 2009, Alcochete.
- 6) “Ecologia do Fitoplâncton e do Microfitobentos do Estuário do Tejo, Portugal”, Departamento de Oceanografia da Universidade Federal do Rio Grande, Brasil (FURG), 12th November 2008.
- 7) “O Estuário que vive à margem de Lisboa” Sociedade de Geografia de Lisboa, 30th October 2008
- 8) “The Estuary which lives by Lisbon” Port University League Meeting, Lisboa, 27th October 2008.
- 9) “Fitoplâncton: um agente invisível e imprescindível na vida do Oceano Austral”, Fim de Semana de Ciência Polar, Pavilhão do Conhecimento, 1st June 2008, Lisboa.
- 10) “Phytoplankton biomass and composition of the Antarctic Peninsula, estimated by photosynthetic pigments determination” 1st Workshop on Portuguese Polar Science, 27th May 2008, Lisboa.

Outreach Activities

Palestra na Casa da América Latina, 14 Fevereiro 2019. As potencialidades da deteção remota nos Oceanos. Centro de Comunicação dos Oceanos (CCOceanos) e Fundação Vodafone. CCOceanos Palestras.

Participation in Pint of Science, 20th May 2019.

Participation in European Space Expo with the conference to the general public: “De que cor os satélites vêm o mar. Como podemos usá-la para beneficiar a sociedade.”

Participation in Public Debates. Liga para a Proteção da Natureza. “A Importância dos Oceanos para o Sequestro de Carbono”. CulturGest, 18 September 2013

Participation in Café da Ciência no Parlamento “*Ciências do Espaço, oportunidades na Terra*”, 17th April 2013.

Participation in “Encontro com o Cientista” com os alunos da Escola Ciência Viva, no Pavilhão do Conhecimento”, 27th February 2013.

Articles in newspaper Publico. “Satélites Sentinel, os novos cartógrafos da Terra”, 16th February 2016, “Com vista de mar é mais caro” 16th February 2013, “As misteriosas microalgas de Carcavelos”, 2nd August 2013.

Amorim, A., V. Brotas, R. Melo. 2013. Algas. *In* Directório 2013 Quem é Quem no Ambiente. AboutMedia-Comunicação Lda, Lisboa, Portugal (Eds.). pp: 18-19.