

## ***CURRICULUM VITAE***

### **Rui Orlando Pimenta Santos**

(July 2016)

#### **CV summary**

**Rui Santos** received his Ph.D. in Biology from University of Dalhousie, Halifax, Canada (1993). Appointed as Assistant Professor at University of Algarve in 1993 and promoted to Associate Professor in 1999, in 2005 he received Habilitation in Marine Ecology. He has a large academic experience teaching in the areas of Marine Botany and Marine Ecology. He is the Head of the Department of Biology and Bioengineering, Faculty of Sciences and Technology, University of Algarve and the coordinator of the research group Algae-Marine Plant Ecology of the Center of Marine Sciences of University of Algarve that presently includes 2 professors, 1 Researcher, 3 Post Docs, 4 graduate students and 1 technician. He has over 135 scientific publications, more than 100 in journals listed in the Science Citation Index and has been involved as a coordinator or as a participant in 10 European and 30 national funded projects. He has supervised 12 post docs, 11 Ph Ds and 37 masters' students. He is Associated Editor of Estuaries and Coasts, a member of the Editorial Boards of Marine Environmental Research and Marine Ecology and has served as reviewer of research projects for the Research Council of Norway, the European Cooperation in Science and Technology - COST, Portuguese Science and Technology Foundation - FCT, German Research Foundation - DFG, "Fondo Nacional de Investigación Científica y Tecnológica" - Fondecyt, Chile, National Science Foundation, USA, EU program FAIR - Agriculture and Fisheries and Natural Environmental Research Council (NERC), UK. He has chaired the European COST Network, Action ES0906 "Seagrass productivity: from genes to ecosystem management" (2010/2014) that involved 19 European countries, 2 Australian Universities and over 130 participants.

#### **PERSONAL INFORMATION**

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Bioengineering, Faculty of Sciences and  
Technology, University of Algarve.  
Gambelas, 8005-139 Faro, Portugal

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office: + 351 289 800 973  
mobile: + 351 965352842

Place and date of birth: Lisbon, 29<sup>th</sup> August 1956

Family status: Married, two children

Citizenship: Portuguese

Language Proficiency: Fluent in Portuguese, English and Spanish, good in French

#### **EDUCATION**

2005 Habilitation in Marine Ecology, University of Algarve, Faro, Portugal.

1993 Ph.D. in Biology, University of Dalhousie, Halifax, Canada.

1981 B. Sc. and Honors in Biology, University of Lisbon, Lisbon, Portugal.

## **PROFESSIONAL POSITIONS**

- 1999 - present Associate Professor, Department of Biology and Bioengineering, Faculty of Sciences and Technology, University of Algarve, Faro
- 1993 - 1999 Assistant Professor, Faculty of Marine and Environmental Sciences, University of Algarve, Faro
- 1995 - 1996 Invited Lecturer, Master of biology and development, University of Lusófona, Lisbon
- 1985 - 1993 Research Assistant, Environmental Impact Group, National Laboratory of Engineering and Industrial Technology, Lisbon
- 1991 - 1992 Teaching Assistant, Dept of Biology, Dalhousie University, Canada
- 1983 - 1985 Instructor, Department of Biology, University of Aveiro
- 1984 - 1985 Invited Lecturer, Botany Department, Faculty of Sciences of the University of Lisbon
- 1983-1984 Invited Lecturer, Institute of Biomedical Sciences Abel Salazar of University of Porto
- 1981 - 1983 Biologist in the Research Group for Algae and Associated Benthos, National Fisheries Research Institute, Lisbon

## **PROFESSIONAL SERVICE**

### *Editorial boards*

- 2010 - present. Associated Editor of Estuaries and Coasts
- 2005 - present. Marine Ecology: an evolutionary perspective.
- 1996 - present. Marine Environmental Research

### *Referee for Journals*

Aquatic Botany, Aquatic Living Resources, Botanica Marina, Coastal Shelf Research, Ecosystems, Conservation Physiology, Continental Shelf Research, Environmental Pollution, Estuaries and Coasts, European Journal of Phycology, Functional Ecology, Global Biogeochemical Sciences, Global Change Biology, Hydrobiologia, ICES Journal of Marine Science, Journal of Phycology, Journal of Applied Phycology, Journal of Ecology, Journal of Experimental Marine Biology and Ecology, Limnology and Oceanography, Marine and Freshwater Research, Marine Ecology Progress Series, Marine Environmental Research, Marine Pollution Bulletin, Plant Biology, PLoS One, Scientific Reports.

### *Evaluation of research proposals*

Served as reviewer of research projects for the Research Council of Norway, the European Cooperation in Science and Technology - COST, Portuguese Science and Technology Foundation - FCT, German Research Foundation - DFG, "Fondo Nacional de Investigación Científica y Tecnológica" - Fondecyt, Chile, National Science

Foundation, USA, EU program FAIR - Agriculture and Fisheries and Natural Environmental Research Council (NERC), UK.

Member of the jury “*PREMIO AHIM DE INVESTIGACIÓN Dr. Santiago Castroviejo*”, 2012.

## ACADEMIC BOARDS

### *Professional positions*

Habilitation of Prof. Dr. Ana Neto, University of Azores, 2007.

Habilitation of Prof. Dr. Karim Erzini, University of Algarve, 2006.

Associate Professor of Department of Botany, University of Coimbra, 2003.

“High rank Technician”, University of Algarve, 2003.

### *Ph D thesis (examiner)*

Maria Aurora Garrote-Moreno. "Respuestas iónicas y fisiológicas ante cambios de salinidad en angiospermas marinas. Ionic and physiological responses in seagrasses due to salinity changes. Universidad de Alicante (vocal suplente), <http://edua.ua.es/es/secretaria/tesis-doctoral/tesis-en-proceso-de-tramitacion/maria-aurora-garrote-moreno.html>

Miriam Ruiz Nieto. "Incorporación de carbono inorgánico en *Bostrychia scorpioides* (Hudson) ex Kützing Montagne y *Catenella caespitosa* (Withering) L. M. Irvine", Universidad de Málaga, Facultad de Ciencias, 2014 (vocal suplente).

Marianela Zanolla. Análisis del proceso invasor de *Asparagopsis taxiformis* (Delile) Trevisan de Saint-Léon (Bonnemaisoniales, Rhodophyta), Universidad de Málaga, Facultad de Ciencias, 2014 (vocal suplente).

Fanny Noisette. Impact of ocean acidification on temperate benthic calcifying organisms. Sorbonne University, Station Biologique de Roscoff, France, 2013

Jullie Webb A constructed wetland for treatment of marine aquaculture wastewater. University of Wales Bangor, Gwynedd, Wales, UK, 2012.

Sware Semesi Seawater pH as a controlling factor in macroalgal calcification and photosynthesis. University of Stockholm, 2009.

Paula Castro Assessment of the ecological effects of nutrient loads in the estuaries of Mondego and Mira, University of Coimbra, 2006.

Jaime Aníbal Ecological controls of green macroalgae blooms in Ria Formosa lagoon, University of Algarve, 2004.

Nieves Bouza Demography and genetics of the seaweed *Gelidium canariensis* (Rhodophyta), University of Las Palmas of Grã Canaria, Spain, 2002.

Gloria Peralta Growth dynamics and ecophysiology of the seagrass *Zostera noltii*, University of Cadiz, Spain, 2000.

Diana Boaventura Patterns of distribution in intertidal rocky shores: the role of grazing and competition in structuring communities, Universidade do Algarve, 2000.

Francisco Arenas. Impacts of the invasive *Sargassum muticum* in the central Asturias coast, University of Oviedo, Spain, 1998.

## **INSTITUTIONAL GOVERNANCE**

- 2015 - present. Head of the Department of Biology and Bioengineering, Faculty of Sciences and Technology, University of Algarve.
- 2013 - present Elected member of the Scientific Council of the Faculty of Sciences and Technology, University of Algarve
- 2012 - present Coordinator of the Ecology Area of the Department of Biological and Bioengineering Sciences of the Faculty of Sciences and Technology of the University of Algarve, since 2012
- 2011 - present Member of the Coordination Commission of the PhD on Ocean, Land and Environmental Sciences, University of Algarve, since 2011
- 2008 - 2009 Elected President of the Scientific Council of the Faculty of Marine and Environmental Sciences of University of Algarve
- 2004 - 2006 Elected Vice-President of Pedagogical Council, Faculty of Marine and Environmental Sciences, University of Algarve
- 2003 - 2006 Member of the Development Foundation of the University of Algarve
- 2002 - 2010 Elected President of the General Assembly of the Center of Marine Sciences of Algarve, CCMAR
- 1997 - 2011 Coordinator of the Scientific Diving Center of University of Algarve
- 2003 - 2004 Elected coordinator of the Department of Ecology and Living Resources of Faculty of Marine and Environmental Sciences, University of Algarve
- 1999 Elected member of the University of Algarve General Assembly
- 1996 Secretary of the Assembly of the Portuguese Ecological Society

## **TEACHING RESPONSIBILITIES**

### *Graduate Level*

- Marine Plant Ecophysiology, Masters in Biology and European Master's in Marine Biology and Conservation, University of Algarve, 2010-2012.
- Ecosystem Dynamics, Masters in Environmental Engineering, University of Algarve, 2010-2012.
- Population Biology of Seagrasses, module of Marine Population Biology, Master's in Marine Biology and European Masters in Marine Biology and Conservation, University of Algarve, 2006-2012.
- Plant Ecophysiology, module of Ecophysiology, Master's in Biology, University of Algarve, 2006-2010.
- Marine Botany, Master's in Biology and Ecology of Marine Coasts, University of Évora, Évora, Portugal, 2004-2006.
- Terrestrial Ecosystems, Master's of Biology and Geology for Education, University of Algarve, Faro, Portugal., 2004-2005.
- Algal Development and Biotechnological Applications, Master's in Developmental Biology, Lusofona University, Lisbon, Portugal, 1995-1997.

### *Undergraduate level*

- Marine Botany, BSc in Marine Biology, University of Algarve, 2000-2012.

Plant Population Dynamics module of Population Dynamics, BSc in Marine Biology, University of Algarve, 2006-2012.

Topics in Applied Biology, BSc in Biology, University of Algarve, 2011-20012

Coastal Plant Diversity module of Plant Diversity, BSc in Biology, University of Algarve, 2006-2007.

Dune Ecology module of Fundamentals of Ecology, BSc in Marine Biology, University of Algarve, 2004-2007.

Marine Plant Ecosystems module of Marine Ecosystems, BSc in Marine Sciences, University of Algarve, 2006-2007.

Plant Biology, BSc in Marine Biology, from 2000 to 2006.

Plant Diversity module of Biological Diversity, BSc in Biology, University of Algarve, 2006-2007.

Marine Botany, BSc in Marine Biology, ISECMAR, Cape Verde, 2002-2003 and 1999-2000.

Marine and Coastal Botany, BSc in Marine Biology and Fisheries, 1993-2000.

Taxonomy of Algae, BSc in Biology, Dalhousie University, Halifax, Canada, Teaching Assistant, 1991-1992.

Algal Biotechnology, BSc in Biology, University of Lisbon, Lisbon, Portugal, 1984-1985.

Aquatic Botany, BSc in Aquatic Sciences, Biomedical Sciences Institute Abel Salazar, University of Porto, Porto, Portugal, 1983-1984.

Talophytes, BSc in Biology, University of Aveiro, Aveiro, Portugal, Teaching Assistant, 1983-1985.

Plant Cytology and Histology, BSc in Biology, University of Aveiro, Aveiro, Portugal, Teaching Assistant, 1983-1985.

Introduction to Botany, BSc in Biology, University of Aveiro, Aveiro, Portugal, Teaching Assistant, 1983-1985.

Biological Indicators of Pollution, BSc in Biology, University of Aveiro, Aveiro, Portugal, Teaching Assistant, 1983-1985.

### *Life-long Teacher Training*

Taxonomy and identification of marine macroalgae, Training Center of the Portuguese Order of Biologists, 2001.

Ecology of Ria Formosa lagoon, Training Center of the Portuguese Professors Union, Faro, 1999.

Ecology of Ria Formosa lagoon, Training Center of the Dâmaso Encarnação Association of Professors, Olhão, 1999.

## **GRADUATE STUDENTS**

### *PhDs*

Amrit Mishra. Global change effects on the carbon metabolism of seagrasses and on their role as carbon sinks. MARES doctoral program on Marine Ecosystem Health and Conservation (co supervised by Jason Hall-Spencer, University of Plymouth).

Laura Sordo. Effects of ocean acidification on maerl communities. University of Algarve (co-supervised by João Silva).

- Monya Costa. Effects of increasing CO<sub>2</sub> / ocean acidification on photosynthesis and oxidative stress of seagrasses, University of Algarve (co-supervised by João Silva, CCMAR and Isabel Barrote, University of Algarve), 2015.
- Raquel Quintã. Effectiveness of halophytic plants in treatment of marine aquaculture wastewater., University of Bangor. Co-supervised by Lewis Le Vay and David Thomas, University of Bangor, 2013.
- Ana Alexandre. Nitrogen metabolism of the seagrass *Zostera noltii* community, University of Algarve, 2011.
- Vasco Vieira. Population dynamics of bi-phasic life cycles, University of Algarve, 2011.
- Estibaliz Berecibar. Global related changes in the Portuguese marine flora, University of Algarve, 2011.
- Leonardo Mata. Integrated aquaculture of *Bonnemaisoniaceae*: physiological and nutritional controls of biomass production and of halogenated metabolite content. University of Algarve, 2008.
- Susana Cabaço. Population dynamics of *Zostera noltii* along a nutrient gradient. FCMA, University of Algarve, 2007.
- Raquel Machás Isotope tracking of sources in coastal systems: special emphasis to *Zostera noltii* (Horneman) food web, University of Algarve (co-supervised by Bruce Peterson, Marine Biological Laboratory, Woodshole, USA), 2007.
- João Silva. The photosynthetic ecology of the seagrass *Zostera noltii*, University of Algarve, 2004.

### ***Masters***

- Natália Duque. Comparing *Zostera* and *Spartina* environments in relation to carbon burial: a sedimentary and geochemical approach from Ria Formosa. Masters in Marine Biology, University of Algarve, 2015 (co-supervisor).
- Patrícia Nogueira. Are shifts in sea urchin diet on *P. oceanica* meadows within CO<sub>2</sub> vents, directly linked to effects of ocean acidification? Master of Science in Marine Biodiversity and Conservation, International Master of Science in Marine Biodiversity and Conservation EMBC+, 2015 (co-supervisor).
- Flávio Rodrigues. Cultivo auxiliar para alimentação de *Haliotis tuberculata*: macroalgas e técnicas de cultivo. Universidade dos Açores, 2015 (co-supervisor).
- Ana Mafalda Tavares. Patterns of distribution of marine flora along the southwestern and southern coasts of Portugal. Masters in Marine Biology, University of Algarve, 2014.
- Dimos Georgiou. The photobiology basis of the geographical expansion of *Halophila stipulacea* into the Mediterranean. European Master of Biodiversity and Conservation, 2012
- Gianmaria Califano. Seagrass/seaweed competition for nitrogen. European Master of Biodiversity and Conservation, 2011
- Faisal Khan. Effects of increased CO<sub>2</sub> and nutrients on seagrass (*Cymodocea nodosa*) metabolism, , European Master of Biodiversity and Conservation, 2011
- Susana Celestino Vicêncio. Distribuição de macroalgas nativas e exóticas no substrato duro subtidal do Porto de Sines., Universidade Nova de Lisboa, 2009.

- Maria Helena Guimarães. GIS mapping of the seagrass *Zostera noltii* in Ria Formosa lagoon. University of Algarve (co-supervised by Alexandra Cunha, CCMAR), 2008.
- Carla Monteiro. Reproductive ecology of *Sargassum muticum* (Yendo Fensholt) in Viana do Castelo (Northern Portugal). Masters in Biology and Ecology CCMAR), 2008.
- Diogo Paulo. The compared photosynthetic performances of the invasive *Sargassum muticum* and the native seagrasses of southern Portugal. Masters in Marine Biology, University of Algarve (co-supervised by João Silva and Aschwin Engelen, CCMAR), 2008.
- Joana Ruelva Boavida. Population model of the recent subtidal invasion of *Sargassum muticum* in southern Portugal. Masters in Marine Biology, University of Algarve (co-supervised by Aschwin Engelen, CCMAR), 2008.
- Ana Rosa. Field guide for the intertidal seaweeds of “Praia da Vigia”, Masters in Biology and Geology for Teachers, University of Algarve. 2007
- Vasco Vieira. Population modeling of bi-phasic life cycles (*Gelidium sesquipedale*). Masters in Coastal Marine Studies, University of Algarve, 2005.
- Ana Alexandre. Effects of clam digging on the reproduction ecology of the seagrass *Zostera noltii*. Masters in Coastal Marine Studies, University of Algarve, 2005.
- Luís Guerra. Dune succession of Ancão Peninsula, Ria Formosa. Masters in Marine Biology, University of Algarve, 2005
- Leonardo Mata. Integrated aquaculture of the seaweed *Ulva rotundata* (Ulvales, Chlorophyta) using fish farm effluents. Masters in Aquaculture, University of Algarve, 2004.
- Rui Candeias. Identification of molecular RAPD markers in *Gelidium sesquipedale* (Rhodophyta). Masters in Marine Biology, University of Algarve, 2004
- Rodrigo Delgado. Metabolism of carbohydrates in *Zostera noltii*. Masters in Marine Biology, University of Algarve, 2003
- Ana Barradas. Use of marine macrophytes to biofiltrate fish effluents. Masters in Marine Biology, University of Algarve, 2003
- Vânia Raposo. Contribution of intertidal macrophytes to the trophic web of Castro Marim saltmarsh, Masters in Marine Biology, University of Algarve, 2002.
- Ana Alexandre. Nitrate reductase activity in *Zostera noltii*, along its vertical distribution. Masters in Marine Biology, University of Algarve, 2000
- Raquel Machás. Organic matter fluxes in Ria Formosa lagoon using stable isotopes. Masters in Ecology, University of Coimbra, 2000.
- Dulce Patrício. Development of an interpretation trail in the Ecoteca of Olhão (co-supervisor). Master in Environmental Engineering, University of Algarve, 2000.
- João Silva. Ecophysiology of the red seaweed *Gelidium sesquipedale*: effects of irradiance and temperature on photosynthesis. Masters in Aquaculture, University of Algarve, 1999.
- Gonçalo Nunes. Assessment of the cultivation of *Macrocystis* sp. at the Lisbon Oceanarium. Masters in Aquaculture, University of Algarve, 1999.
- Susana Cabaço. Population dynamics and sediment granulometry in *Cymodocea nodosa* (Ucria) Ascherson, Ria Formosa. Masters in Marine Biology, University of Algarve, 1999.
- Vasco Vieira. Feeding ecology of *Aplysia fasciata*, Masters in Marine Biology, University of Algarve, 1999.

- Magda Mendes. Spatial and temporal variation of the dune vegetation in Ancão Peninsula, Ria Formosa (co-supervisor). Masters in Marine Biology, University of Algarve, 1998.
- André Nascimento Relationships between rhizine length and frond growth in the seaweed *Gelidium sesquipedale* (Clem.)Born.et Thur (co-supervisor). Masters in Marine Biology and Fisheries, University of Vale do Itajaí, Brasil, 1998.
- Renato Martins. Implementation of a GIS system to spatial analysis of Quiais lagoons (co-supervisor).Masters in Marine Biology, University of Algarve, 1997.
- Filipe Alberto. Interpopulation genetic similarity of the seaweed agarophyte *Gelidium sesquipedale* in southern Portugal, (co-supervisor). Masters in Marine Biology, University of Algarve, 1996.
- Leonardo Mata. Taxonomical characterization of *Ulva* and *Enteromorpha* (Chlorophyta, Ulvales) species of Ria Formosa, Masters in Marine Biology, University of Algarve, 1996.
- Pedro Neves. Rhizine characterization of *Gelidium sesquipedale* (Clem.)Born.et Thur. Masters in Marine Biology, University of Algarve, 1996.
- Cristina Padinha. Using *Spartina maritima* (Curtis, 1881) as a biomonitor of heavy metals in Ria Formosa (co-supervisor). Masters in Marine Biology, University of Algarve, 1995.
- Pedro Nunes. Using *Zostera noltii* as a biomonitor of heavy metals in Ria Formosa (co-supervisor). Masters in Marine Biology, University of Algarve, 1995.
- Célia Cristo. Harvest statistics of the agarophyte *Gelidium sesquipedale* in Cape Espichel. Masters in Marine Biology, University of Algarve, 1994.
- Raquel Machás. Macrophytes of the Vela Lagoon (co-supervisor).Masters in Marine Biology, University of Algarve, 1994.
- Francisco Piedade Decomposition of *Spartina maritima* leaves in Ria Formosa. Masters in Marine Biology, University of Algarve, 1994.

## RESEARCH INTERESTS

Ecology and conservation of marine plant habitats and coastal ecosystems, effects of anthropogenic impacts, including climate change, role of marine plants on ecosystem functioning, coastal ecosystem services, regulation of marine plant production, ecophysiology of marine plants, carbon and nitrogen metabolism of coastal ecosystems, population ecology of marine plants, multi trophic integrated aquaculture.

## COORDINATION OF RESEARCH

2003-present. Establishment and coordination of the ALGAE-Marine Plant Ecology research group ([www.ualg.pt/ccmar/algae](http://www.ualg.pt/ccmar/algae)), Center of Marine Sciences of University of Algarve, CCMAR,



The group presently includes 2 professors of University of Algarve, 1 Researcher, 4 Post Docs, 1 PhD students, 3 Master students and 1 technician.



2010-2014. Chair of the COST (European Cooperation in Science and Technology) network Action ES0906 “Seagrass productivity: from genes to ecosystem management”([http://www.cost.eu/domains\\_actions/essem/Actions/ES0906](http://www.cost.eu/domains_actions/essem/Actions/ES0906))



This is a European network funded by 7th Framework Program of the European Commission to promote networking and coordination of seagrass research across Europe. Nineteen countries and 130 seagrass researchers were involved.

2014. Leader of a consortium of 17 EU institutions that submitted a research proposal entitled SEADRIM - SEAggrass ecosystem services, DRIVERS and Management, to the H2020 Call SC5-6-2014: Biodiversity and ecosystem services: drivers of change and causalities. The proposal was not funded even though it has been favourably evaluated.

## **POST DOC SUPERVISION**

Carmen Barrena de los Santos (Spain). Ecological production functions to evaluate ecosystem services delivered by seagrass beds, SFRH/BPD/119344/2016 (2017-present).

Ana Alexandre (Portugal). Effects of ocean acidification on the nitrogen budget of seagrasses: role of organic vs. inorganic sources (2012-present)

Begoña Martínez-Crego (Spain). Effects of global change on seagrass ecosystems (2011- present)

Irene Olivé (Spain). Ocean acidification effects on seagrass productivity, co-supervision (2011- present)

Susana Cabaço (Portugal). Assessment of the environmental quality of coastal systems in Portugal using seagrasses as bioindicators (2007 – 2013)

Aschwin Engelen (Holand). Main drivers and thresholds involved in the decline of seagrass ecosystems (2003 – 2012).

Leonardo Mata, (Portugal). Integrated (seaweed-animal) aquaculture as a green solution for fish antimicrobial therapy (2003 – 2011).

Ana Nobre (Portugal), presently researcher at Simtejo, Research and Development Unit, Lisbon, Portugal (2009- 2011).

Erik-jan Malta (Holand), presently researcher at Aquaculture Research Institute, Cartaya, Spain (2005 – 2009).

Abraham Perez (Spain) (2006 – 2008).

Raquel Carmona (Spain), presently professor at University of Malaga, Spain (2000 – 2004).

Alexandra Cunha (Portugal), presently Technical Coordinator of Biomares LIFE project, Portugal (2001 – 2006).

Dr. João Silva (Portugal), presently Researcher at Center of Marine Sciences (CCMAR), University of Algarve, Faro, Portugal (2004 – 2006).

## **RESEARCH PROJECTS**

### *Coordination*

- 2016-2018. Valuation of the ecosystem services delivered by Ria Formosa lagoon. PTDC/MAR-EST/3223/2014.
- 2010-2014. COST (European Cooperation in Science and Technology) network Action ES0906 “Seagrass productivity: from genes to ecosystem management”.
- 2010-2013. Whole-system metabolism and CO<sub>2</sub> fluxes in a coastal lagoon dominated by saltmarsh and seagrass meadows, PTDC/AAC-CLI/103348/2008. National research project.
2012. NETALGAE. Socioeconomic characterization of seaweed harvest and commercialization in Portugal. Contract for University of Algarve. National research project.
- 2009-2011. EEMA: Ecological status of the coastal and transition waters of the Portuguese coast / macroalgae, saltmarshes and seagrasses. Contract for INAG (Portuguese Water Institute). National research project.
- 2009-2011. “Eco-Lagunes: Gestion environnementale des zones lagunaires à vocation aquacole” (SOE1/P2/F153), SUDOE (INTERREG IV B SUDOE)(coordination of Portuguese partner). European research project.
- 2008-2013. Coordinator of CCMAR contribution to the work package "Improving the provision of whole, multi-cellular organisms", of EU FP 7 ASSEMBLE project.
- 2006-2008. 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 FP6-2004-SME-COOP (coordination of Portuguese partner). European research project.
- 2006 - 2008. Management of the macroalgal communities that contribute to the fouling of Sines Power Plant. Research contract with Hidromod.
- 2006 -2007. Impacts of the invasive species *Sargassum muticum* in Ria Formosa lagoon. Research contract with Nature Conservation Institute / Natural Park of Ria Formosa lagoon (ICNB/PNRF).
2005. Impacts of Waste Water Treatment Works in seagrass meadows of southern Portugal estuaries and RiaFormosa lagoon. Research contract with “HIDROTEC/ Waters of Algarve”.
- 2006 - 2008. FILTRALGAE –Integrated aquaculture of seaweeds for biofiltration of nutrients from the Zoomarine aquarium. Research contract with National Innovation Agency (AI) / IDEIA program.
- 2005 – 2008. Cultivation and halogen compounds yields of Bonnemaisoniaceae red seaweeds, POCI/MAR/56956/2004.National research project.
2004. Base-line characterization of macrophyte meadows of Arade estuary. Research contract with Harbour Institute of Southern Portugal.
2004. Stock assessment of the seaweed *Halopteris scoparia* in southern Portugal. Research contract with CODIF Research and Nature, France.
- 2004.“CLONMACMORPH - Morphological responses and interactions of clonal marine macrophytes with their nutrient environment”, European Marie Curie Reintegration Grant, Proposal nr: 006385.
- 2003–2006. Global related changes in the Portuguese marine flora over a long time scale, POCI/BSE/48918/2002. National research project.
- 2003 - 2005. EqEA –Assessment of the Portuguese Environmental Education Centers as instruments of public participation. Research contract for National Environmental Institute (IA).

- 2002 – 2005. ALIENS - ALgal Introductions to European Shores. EVK3-2001-0008 (coordination of Portuguese partner). European research project.
- 2001 – 2003. Formosa dune: spatial-temporal dynamics of barrier island vegetation in Ria Formosa lagoon. PNAT/1999/BIA/15058. National research project.
- 2000 – 2003. SEAPURA. Species diversification and improvement of aquatic production in seaweeds purifying effluents from integrated fish farms, QLRT - 1999 - 31334 (coordination of Portuguese partner). European research project.
- 2000 – 2001. Impact of the Ancão inlet migration and relocation on seagrass meadows, Ria Formosa. Research contract for Nature Conservation Institute / Natural Park of Ria Formosa lagoon (ICNB/PNRF).
- 1999 – 2000. Integrated aquaculture of seaweeds and abalones using fish farm effluents. “Programa IC-PME, Agência de Inovação”. National research project.
- 1998 – 2001. F-ECTS: feed-backs of estuarine circulation and transport of sediments on phytobenthos", MAS3-CT97-0145 (DG12 – VOMA) (coordination of Portuguese partner). European research project.
- 1997 – 2000. Benthic production and organic matter fluxes in Ria Formosa, Portugal". INTERREG II, 12/REG II/6/96. European research project.
- 1995 – 1998. Genetic diversity and rizine content in the agarophyte *Gelidium sesquipedale* (Rhodophyta, Gelidiales). “JNICT - Programa Base de Investigação Científica e Tecnológica”, (PBIC/BIA/2210/95. National research project.
- 1995 – 1997. Using stable isotopes to assess the food web structure of Ria Formosa coastal lagoon. LMER/Portuguese Coastal Research Initiative, JNICT/FLAD/NSF.
- 1987 – 1990. Population ecology and resource management of the agarophyte *Gelidium sesquipedale*. National Laboratory for Industrial Engineering and Technology(LNETI). National research project.

### ***Participation***

- 2016-2018. Climate change effects on seagrass secondary metabolism: ecological implications. PTDC/MAR-EST/4257/2014. National project
- 2015-2018. Using acoustics for monitoring the metabolism of marine ecosystems. PTDC/EEIPRO/2598/2014. National project
2014. Induction of anti-herbivory defenses in seagrasses , EXPL/MAR-EST/0818/2013.
2014. Screening of inducible anti-herbivory defences in seagrasses (Induction). 2013 call. EU FP7 program (ASSEMBLE EC/FP7)
- 2013- GRASSWEB - Effects of elevated CO2 on the trophic structure of seagrass meadows. EU FP7 ASSEMBLE research infrastructure access, Stazione Zoologica Anton Dohrn – Naples, Ischia.
2013. ASSEMBLE Infrastructure Access, Interuniversity Institute for Marine Sciences in Eilat, Israel. João Silva
- 2013-2015. High-CO2 effects on seagrass photosynthetic ecophysiology PTDC/MAR-EST/3687/2012.
- 2011- 2014. Waterborne seaweed metabolites as a green solution for antimicrobial therapy in aquaculture, PTDC/MAR/112792/2009. National research project.
- 2011- 2014. DiverseShores - Testing associations between genetic and community diversity in European rocky shore environments, PTDC/BIA-BIC/114526/2009. National research project.

- 2011- 2014. Mäerl calcification, photosynthesis and metabolism in an acidified ocean, PTDC/MAR/115789/2009. National project.
- 2009-2012. ASSEMBLE – EC/FP7/227799 “Association of European Marine Biological Laboratories”. European project.
- 2010-2012. Shifts from seagrass to seaweed dominated systems (INVASEA), PTDC/MAR/098069/2008. National research project.
- 2010-2012. Landscape genetics of a coastal lagoon, an empirical and modeling approach using the seagrass *Zostera noltii* in Ria Formosa, PTDC/MAR/099887/2008. National research project.
- 2007 – 2011. BIOMARES. Restoration and Management of Biodiversity in the Marine Park Site Arrábida-Espichel: task Seagrass culturing from seeds. European LIFE project.
- 2007 –2010. BISHOP, Bioerosion and bioprotection of littoral coastal platforms of southern and western coast of Portugal. PTDC/CTE-GEX/70448/2006. National research project. National research project.
- 2007 - Microben2. Ecological responses of microbenthos to accumulation of nitrophilic macroalgae on intertidal sediments: Senescence and early diagenesis. CTM2006-04015/MAR, “Ministerio de Educación y Ciencia”, Spain. Spanish research project.
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- 2000 – 2001. Base-line characterization of the aquatic ecosystems of the Guadiana estuary. Research contract with National Laboratory of Civil Engineering (LNEC).
- 1999 - 2003. “M&Ms - Monitoring and management of European seagrasses”, EVK3-CT-2000-00044. European research project.
- 1999 - 2003. “EPICAH - Ecological and population impact of commercial agarophyte harvesting”, PDCT/P/Mar/15299/1999. National research project.
- 1997 – 2000. Ecological and genetic characterization of *Ammophila arenaria* along the dune ecosystems of the Portuguese coast. PRAXIS XXI, 2/2.1/MAR/1719/95. National research project.
- 1985 -1986. Ecological characterization and human utilization of Albufeira lagoon. National Laboratory for Industrial Engineering and Technology (LNETI). National research project.
- 1986 - 1987. Ecological characterization of Ria de Alvor lagoon. National Laboratory for Industrial Engineering and Technology (LNETI). National research project.
- 1984 - 1985. Base-line characterization for the assessment of the ecological impact of the Alqueva Dam in the Guadiana river. Research contract with DRENA”.
- 1981 - 1983. Stock assesment of *Gelidium sesquipedale* in western Algarve and Sesimbra coast. National Institute of Fisheries Research (INIP).

1979 - 1981. Base-line characterization for the assessment of the ecological impact of the nuclear power plant of Ferrel. Research contract with Electricity of Portugal (EDP).

### ***Bi-Lateral Cooperation***

- 2006 - 2007. Emission of volatile organic carbon by marine vegetation, with Dr. Carlos Duarte, Instituto Mediterráneo de Estudios Avanzados (IMEDEA), Mallorca, Spain, GRICES/CSIC.
- 2003/04. Assessment of the relationships between the stable isotope index,  $\delta^{13}\text{C}$ , and the activity of the enzyme carbonic anhydrase in primary producers of southern Iberian Peninsula, with Dr. Jesus Mercado of the “Instituto Español de Oceanografía”, Málaga, Spain, GRICES/CSIC.
- 2002 – 2003. DOM production from contrasting communities in the Ria Formosa (S. Portugal), and export to the Atlantic Sea, with Dr. Carlos Duarte, Instituto Mediterráneo de Estudios Avanzados (IMEDEA), Mallorca, Spain, ICCTI/CSIC.
- 1997 -1998. Did the Portuguese navigators determine the azure-winged magpie (*Cyanopica cyanus*) geographical distribution?, with Dr. Nuno Ferrand, University of Porto and Dr. Ya-Ping Zhang, Kunming Institute of Zoology, Kunming, China, JNICT/China.
- 1995 – 1997. Macrophytobenthos as biomonitors of pollution in Ria Formosa", with Dr. Murray Brown, University of Plymouth, UK, JNICT/British Council.
- 1995 – 1996. Exchange processes in Ria Formosa, with Dr. Harald Hasmus, Biologische Anstalt Helgoland, Germany, JNICT/BMFT.
- 1995 – 1996. The role of the marine seagrass *Cymodocea nodosa* in the coastal lagoon ecosystem of Ria formosa, with Dr. Carlos Duarte, CSIC, Blanes, Spain, JNICT/CSIC.

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Number of citations: 2362, h index: 28, i10 index: 74

(<http://scholar.google.pt/citations?user=zCFvYk8AAAAJ&hl=pt-PT&oi=ao>, July 11, 2016)

RG Score: 37.69 ([https://www.researchgate.net/profile/Rui\\_Santos5/reputation](https://www.researchgate.net/profile/Rui_Santos5/reputation), July 11, 2016)

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- 35- Malta, E.-j., Tavares D., **Santos R.** 2007 Ulva blooms along the Algarve beaches: inferring bloom potential from photosynthetic production. *European Journal of Phycology*, 42, sup1: 60.
- 34- Alexandre A, Cabaço C, **Santos R**, Serrão E (2006). Timing and success of reproductive stages in the seagrass *Zostera noltii*. *Aquatic Botany* 85: 219-223.
- 33- Carmona R and **Santos R** (2006). Is there an ecophysiological explanation for the gametophyte-tetrasporophyte ratio in *Gelidium sesquipedale* (Rhodophyta)? *Journal of Phycology* 42: 259-269.
- 32- **Santos R** (2006). Special issue opening comments: Seaweed-based integrated mariculture. *Aquaculture* 252: 1-2.
- 31- Mata L, Silva J, Schuenhoff A and **Santos R** (2006). The effects of light and temperature on the photosynthesis of the *Asparagopsis armata* tetrasporophyte (*Falkenbergia rufolanosa*), cultivated in tanks. *Aquaculture* 252: 12-19.
- 30- Schuenhoff A, Mata L and **Santos R** (2006). The tetrasporophyte of *Asparagopsis armata* as a novel seaweed biofilter. *Aquaculture* 252: 3-11.
- 29- Machás R, **Santos R**, Peterson B (2006). Elemental and stable isotope composition of *Zostera noltii* (Horneman) leaves during the early phases of decay in a temperate mesotidal lagoon. *Estuarine Coastal and Shelf Science* 66: 21-29.
- 28- Cabaço C, Alexandre A, **Santos R** (2005). Population level effects of clam harvesting on the seagrass *Zostera noltii* *Marine Ecology Progress Series* 298: 123-129.
- 27- Figueroa, F. L.; Korbee, N.; de la Coba, F.; **Santos Rui** (2005) Accumulation of UV-screen substances (MAAs) in red macroalgae: UV radiation and inorganic nitrogen availability. *Phycologia*, 44: 32
- 26- Alexandre A, **Santos R** and Serrão E (2005). Effect of clam harvesting activity on sexual reproduction of the seagrass *Zostera noltii*. *Marine Ecology Progress Series* 298: 115-122.
- 25- Cunha A, **Santos R**, Gaspar P, Bairos M (2005). Seagrass landscape-scale changes in response to disturbance created by the dynamics of barrier-islands: a case study from Ria Formosa (South Portugal). *Estuarine Coastal and Shelf Science* 64:636-644.
- 24- Silva J, **Santos R**, Calleja M and Duarte CM (2005). Submerged versus air-exposed intertidal macrophyte productivity: from physiological to community-level assessments. *Journal of Experimental Marine Biology and Ecology* 317:87-95.
- 23- **Santos R**, Silva J, Alexandre A, Navarro N, Barrón C and Duarte CM (2004). Ecosystem metabolism and carbon fluxes of a tidal-dominated coastal lagoon. *Estuaries* 27:977-985.
- 22- Silva J and **Santos R** (2004). Can chlorophyll fluorescence be used to estimate photosynthetic production in the seagrass *Zostera noltii*? *Journal of Experimental Marine Biology and Ecology* 307:207-216.
- 21- Alexandre A, Silva J and **Santos R** (2004). The maximum nitrate reductase activity of the seagrass *Zostera noltii* (Hornem.) varies along its vertical distribution. *Journal of Experimental Marine Biology and Ecology* 307:127-135.
- 20- Silva J and **Santos R** (2003). Daily variation patterns in seagrass photosynthesis along a vertical gradient. *Marine Ecology Progress Series*, 257: 37-44.
- 19- Machás R, **Santos R** and Peterson B (2003). Tracing the flow of organic matter from primary producers to filter feeders in Ria Formosa lagoon, southern Portugal. *Estuaries*, 26:846-856.

- 18- Mercado J, Niell X, Silva J and **Santos R** (2003). Use of light and inorganic carbon acquisition by two morphotypes of *Zostera noltii* Hornem. Journal of Experimental Marine Biology and Ecology, 297:71-84.
- 17- Friend PL, Ciavola P, Cappucci S and **Santos R** (2003). Bio-dependent bed parameters as a proxy tool for sediment stability in mixed habitat intertidal areas. Continental Shelf Research, 23:1899-1917
- 16- Alberto F, Mata L and **Santos R** (2001). Genetic homogeneity in the seagrass *Cymodocea nodosa* at its northern Atlantic limit revealed through RAPD. Marine Ecology Progress Series, 221: 299-301.
- 15- Padinha C, **Santos R** and Brown M (2000). Evaluating environmental contamination in Ria Formosa (Portugal) using stress indexes of *Spartina maritima*. Marine Environmental Research, 49: 67-78.
- 14- Alberto F, **Santos R** and Leitão JMA (1999). Assessing patterns of geographical dispersal of *Gelidium sesquipedale* (Rhodophyta) through RAPD differentiation of populations. Marine Ecology Progress Series, 191: 101-108.
- 13- Machás R and **Santos R** (1999). Sources of organic matter in Ria Formosa revealed by stable isotope analysis. Acta Oecologica, 20: 463-469.
- 12- **Santos R** and Nyman M (1998). Population modelling of *Gelidium sesquipedale* (Rhodophyta, Gelidiales). Journal of Applied Phycology 10: 261-272.
- 11- Sosa, PA and **Santos R** (1998). Second international workshop on Gelidium, held in Gran Canaria, Spain, December 9-12, 1997 – Foreword. Journal of Applied Phycology, 10: 225.
- 10- Silva J, **Santos R**, Serôdio J and Melo R (1998). Light response curves for *Gelidium sesquipedale* from different depths, determined by two methods: O<sub>2</sub> evolution and chlorophyll fluorescence. Journal of Applied Phycology 10: 295-301.
- 9- **Santos R**, Leitão J and Alberto F (1997). Genetic variability of the commercial species *Gelidium sesquipedale* (Rhodophyta). Phycologia, 36: 98.
- 8- Bouza, Nieves; Sosa, Pedro; **Santos, Rui** (1997). Interpopulation genetic analysis of *Gelidium canariensis* using RAPDs markers. Phycologia, 36: 10.
- 7- Alberto F, **Santos R** and Leitão J (1997). DNA extraction and RAPD markers to assess the genetic similarity among *Gelidium sesquipedale* (Rhodophyta) populations. Journal of Phycology, 33: 706-710.
- 6- **Santos R** and Duarte P (1996). Fecundity, spore recruitment and size in *Gelidium sesquipedale* (Gelidiales, Rhodophyta). Hydrobiologia 326/327: 223-228.
- 5- **Santos R** (1995). Size structure and inequality in a commercial stand of the seaweed *Gelidium sesquipedale*. Marine Ecology Progress Series, 119: 253-263.
- 4- **Santos R** (1994). Frond dynamics of the commercial seaweed *Gelidium sesquipedale*: effects of size and of frond history. Marine Ecology Progress Series, 107, 295-305.
- 3- **Santos R** (1993). A multivariate study of biotic and abiotic relationships in a subtidal algal stand. Marine Ecology Progress Series, 94: 181-190.
- 2- **Santos R** (1993). Plucking or cutting *Gelidium sesquipedale*? A demographic simulation of harvest impact using a population projection matrix model. Hydrobiologia, 260/261: 269-276.
- 1- **Santos R** and Duarte P (1991). Marine plant harvest in Portugal. Journal of Applied Phycology, 3: 11-18.

### ***Book chapters***

- 10- **Santos R** (2014). Photosynthesis and Productivity in a Seagrass Meadow, *In* Beer S, Bjork M and Beardall J, Photosynthesis in the marine Environment, Wiley Blackwell: 194-196
- 9- Stigter, T.Y., Carvalho Dill, A., Malta, E.-j., **Santos, R.** (2013) Nutrient sources for green macroalgae in the Ria Formosa lagoon – assessing the role of groundwater. Chapter in: Ribeiro, L., Stigter, T.Y., Chambel, A., Condesso de Melo, M.T., Monteiro, J. P., Medeiros, A. (Eds) Selected papers on Hydrogeology - Groundwater and Ecosystems. Taylor & Francis: 153-167.
- 8- Stigter T, Dill A, Malta E, **Santos R** (2006). Quantificação da descarga de nutrientes de azoto e fósforo para a Ria Formosa por escoamento superficial. In: Proc. V Congresso Ibérico sobre Gestão e Planeamento da Água, 12 pp., CD-ROM.
- 7- **Santos R** (2004). Marine Benthic Flora, in Marine Ecology, edited by Carlos M. Duarte and Antonio Lott Helgueras, *Encyclopedia of Life Support Systems* (EOLSS), UNESCO, Oxford, UK.
- 6- Duarte C M, Marbà N and **Santos R** (2004). What may cause loss of seagrasses? *In* European seagrasses: an introduction to monitoring and management, (eds)J Borum, C M Duarte, D Krause-Jensen and T M Greve, EU project Monitoring and Managing of European Seagrasses (M&MS), EVK3-CT-2000-00044, <http://www.seagrasses.org>: 24-32.
- 5- Borum J, Greve T M, Binzer T and **Santos R** (2004). What can be done to prevent seagrass loss? *In* European seagrasses: an introduction to monitoring and management, (eds)J Borum, C M Duarte, D Krause-Jensen and T M Greve, EU project Monitoring and Managing of European Seagrasses (M&MS), EVK3-CT-2000-00044, <http://www.seagrasses.org>: 67-71.
- 4- Silva J and **Santos R** (2003). Comparative ecophysiology of *Gelidium sesquipedale* (Rhodophyta) erect fronds and prostrate system. *In* Proceedings of the International Seaweed Symposium, Cape Town, 2001. Ed. by Anthony R. Chapman, Robert J. Anderson, Valerie J. Vreeland, and Ian R. Davison, Oxford University Press, New York: 417-424.
- 3- Mata L and **Santos R** (2003). Cultivation of *Ulva rotundata* (Ulvales, Chlorophyta) in raceways, using semi-intensive fishpond effluents: yield and biofiltration. *In* Proceedings of the International Seaweed Symposium, Cape Town, 2001. Ed. by Anthony R. Chapman, Robert J. Anderson, Valerie J. Vreeland, and Ian R. Davison, Oxford University Press, New York: 237-242.
- 2- **Santos R**, Cristo C and Jesus D (2003). Stock assessment of the agarophyte *Gelidium sesquipedale* using harvest effort statistics. *In* Proceedings of the International Seaweed Symposium, Cape Town, 2001. Ed. by Anthony R. Chapman, Robert J. Anderson, Valerie J. Vreeland, and Ian R. Davison, Oxford University Press, New York: 145-150.
- 1- **Santos R.** 1998. Population growth of seaweeds. Proceedings of the Latino-American Phycological Congress, Vol II: 383-406.

### ***Other Scientific Publications***

- 28- Ruocco M, Gabriele P, Musacchia F, Sanges R, Olivé I, Costa MM, Barrote I, **Santos R**, Silva J. (2015) *Cymodocea nodosa* response to simulated CO<sub>2</sub>-driven

- ocean acidification: a first insight from global transcriptome profiling. PeerJ PrePrints 3:e1297 <https://dx.doi.org/10.7287/peerj.preprints.1057v1>
- 27- Gobert S, Lepoint G, Silva J, **Santos R**, Lejeune P, Dujardin P, Delvaux B, Cornelis J, Richir J. (2015) A consensual Diving-PAM protocol to monitor *Posidonia oceanica* photosynthesis. PeerJ PrePrints 3:e1307 <https://dx.doi.org/10.7287/peerj.preprints.1067v1>
- 26- **Santos R** (2012). A vital and under researched ecosystem. In International Innovation Report, Environment, February 2012: 90-92 (<http://www.research-europe.com>).
- 25- **Santos R** (2011). Produtividade de ervas-marinhas, dos genes à gestão do ecossistema. *Ecolog@* 3: 70-71.
- 24- Cabaço S, Alexandre A and **Santos R** (2006). Survival and growth of the seagrass *Zostera noltii* in different culture media. *Biologia Marina Mediterranea*, 13: 24-28.
- 23- Bárbara I., Díaz P., Araujo R., Peña V., Berecibar E., Cremades J., Freire O., Baamondes S., Novo T., Calvo S, López Rodríguez M.C., Afonso-Carrillo J., De Clerck O., **Santos R.**, Sousa-Pinto I., Tibaldo M., Lagos V., López C., Secilla A., Santoria A., Díez I., Veiga A.J.(2006). Adiciones corológicas y correcciones a la flora bentónica marina del norte de la Península Ibérica. *Nova Acta Científica Compostelana (bioloxia)*, 15: 77-88.
- 22- Bárbara I., Díaz P., Cremades J., Peña V., López-Rodríguez M.C., Berecibar E. y **Santos R.** (2006). Catálogo gallego de especies amenazadas y lista roja de las algas bentónicas marinas de Galicia. *Algas (Boletín de la sociedad española de Ficología)*. 35:9-19.
- 21- Arriegas P, Aguiar C, Costa J, Gonçalves E, Henriques M e **Santos R.** (2006). Caracterização dos habitats 1110 (Bancos de areia sem vegetação vascular, Bancos com *Cymodocea nodosa*, Bancos com *Zostera marina* e Bancos com *Zostera noltii* intertidal) do Anexo I da Directiva 92/43/CEE (Directiva Habitats) para Portugal continental, *In Relatório Técnico para o Plano Sectorial da Rede Natura 2000*, Instituto da Conservação da Natureza.
- 20- Schuenhoff A, Mata L and **Santos R** (2004). Double duty: seaweed provides both biofiltration and a marketable product. *Global Aquaculture Advocate*, 7: 62-63.
- 19- Coelho H and **Santos R** (2003). Enhanced primary production over seamounts: A numerical study. In: Vilas, F., Rubio, B., Díez, J.B., Frances, G., Bernabeu, M.A., Fernandez, E., Rey, D. e Rosón, G., eds. Special Volume on the 4th Symposium on the Atlantic Iberian Continental Margin, *Thalassas* 19:144-145.
- 18- **Santos R** (2003). Quantitative life cycle of seaweeds, *in Algas*, Boletín Informativo de la Sociedad Española de Ficología, (ed.) E D Cuesta, Sociedad Española de Ficología: 34-38.
- 17- Machás R e **Santos R** (1997). Importância da análise de isótopos estáveis de Carbono, Azoto e Enxofre na Ria Formosa. *Actas 9º Congresso do Algarve*: 883-890.
- 16- Padinha C, **Santos, R**, Bebianno M e Picado A (1997). Uso de *Spartina maritima* como biomonitor de contaminação da Ria Formosa através da aplicação de dois índices bioquímicos. *Actas 9º Congresso do Algarve*: 859-866.
- 15- Mata L e **Santos R** (1997). Caracterização taxonómica das algas verdes da Ria Formosa. *Actas 9º Congresso do Algarve*: 891-898.
- 14- **Santos R**, Alberto F and Leitão J (1997). Genetic variability of the commercial species *Gelidium sesquipedale* (Rhodophyta). *Phycologia*, 36 (suppl.): 98.

- 13- Alberto F, **Santos R** and Leitão J (1996). Genetic similarity among *Gelidium sesquipedale* populations of Southern Portugal, using RAPDs. *European Journal of Phycology* (suppl.): 49.
- 12- **Santos R** (1993). Population ecology of the commercial seaweed *Gelidium sesquipedale*: biological input for resource management. Ph. D. Dissertation, Dalhousie University, Halifax, Canada, 149 pp.
- 11- **Santos R** (1991). The use of transition matrices to model the demography of plants. Laboratório Nacional de Engenharia e Tecnologia Industrial, 59pp.
- 10- **Santos R** e Salgado P (1988). Cartografia e abundância por fotointerpretação dos macrófitos aquáticos da Ria de Alvor. *Actas do 5º Congresso do Algarve*, Vol 1: 419-427, Raca Club, Silves.
- 9- **Santos R** e Melo R (1986). Estudo dos padrões de zonação vertical dos povoamentos algais da região intertidal da costa de Peniche. *Cuadernos Marisqueros*, 7: 103-111.
- 8- Palminha F, **Santos R** e Melo R (1985). A existência de *Gelidium sesquipedale* (Clem.) Born. et Thur. na costa sul do Algarve. II - Biomassa total. *Boletim do Instituto Nacional de Investigação das Pescas*, 13: 77-91.
- 7- **Santos R** e Melo R (1984). Adições à flora algológica do infralitoral da costa de Portugal: *Carpomitra costata* (Stackh.) Batt. (Phaeophyceae, Sporochneaceae). *Boletim do Instituto Nacional de Investigação das Pescas*, 12: 3-15.
- 6- Palminha F, **Santos R** e Melo R (1984). Distribuição e biomassa total estival da alga agarófita. *Actas 3º Congresso do Algarve*: 411-416.
- 5- Palminha F, Melo R e **Santos R** (1982). A existência de *Gelidium sesquipedale* (Clem.) Born. et Thur. na costa sul do Algarve. I - Distribuição local. *Boletim do Instituto Nacional de Investigação das Pescas*, 8: 93-105.
- 4- Melo R e **Santos R** (1983). Algas marinhas da costa Portuguesa. Região de Peniche. *Boletim do Instituto Nacional de Investigação das Pescas*, 10: 5-49.
- 3- Reis S C, Marques V M, Calvário J, Marques J C, Melo R e **Santos R** (1982). Contribuição para o estudo dos povoamentos bentónicos (substrato rochoso) da costa ocidental portuguesa. *Oecologia Aquatica*, 6: 91-105.
- 2- Marques V M, Reis S C, Calvário J, Marques J C, Melo R e **Santos R** (1982). Contribuição para o estudo dos povoamentos bentónicos (substrato móvel) da costa ocidental portuguesa. Zona intertidal. *Oecologia Aquatica*, 6: 119-145.
- 1- Melo R and **Santos R** (1979). Description of an infralittoral algal community in the Arrábida Coast (Sesimbra, Portugal). *Boletim da Sociedade Portuguesa de Ciências Naturais*, 119: 79-85.

#### *Edited Volumes*

- 2- **Santos R** (ed.) 2006. Seaweed-based Integrated Mariculture, Special Issue of *Aquaculture*, 252: 1-102
- 1- Sosa P and **Santos R** (eds.) 1998. Second International Workshop on *Gelidium*, Special Issue of *Journal of Applied Phycology*, 10: 225-332.



## CONTRIBUTIONS TO SCIENTIFIC MEETINGS

### *Organization/Scientific Committee*

2018. Member of the International Scientific Committee for the 4th International Symposium on ICZM 2018 in Arendal, Norway.
2014. COST Action ES0906 Final Conference. Seagrasses in Europe: Threats, Responses and Management. Olhão, Portugal, March 4-6
2013. COST Action ES0906 Training School on the “Effects of CO<sub>2</sub>/Ocean Acidification on Seagrass Meadows”, Vulcano, Aeolian Islands, Italy, 6-11 May  
The 45th International Liège Colloquium. Primary production in the ocean: from the synoptic to the global scale. Liège, 13-17 May
2012. Nordic Seagrass Network and COST Action ES0906, Workshop “Integrating European seagrass research: Understanding the players, processes and problems”, Arendal, Norway, 6 September.  
COST Action ES0906 Workshop on CO<sub>2</sub>/OA effects on seagrass meadows. University of Nottingham, UK, 9-10 May, 2012.
2011. COST Action ES0906 Training School: Linking seagrass productivity, community metabolism and ecosystem carbon fluxes. Stareso, Corsica, France. November 10 to 19, 2011.  
COST Action ES0906 Workshop Linking ecophysiology and ecogenomics in seagrass systems, Stazione Zoologica Anton Dohrn, Naples, Italy, March 1 and 2.
2007. Applied Phycology Symposia, European Phycological Congress (EPC).
2006. ESF LESC Exploratory Workshop. Invasion of European Shores by *Sargassum muticum*: Research Integration towards the Future, Tavira.  
11º Encontro Nacional de Ecologia, Lisboa.  
Seminário dos Equipamentos para a Educação Ambiental: qualidade e inovação. University of Algarve, Faro, Portugal.
2005. “Invasive algae symposium at the 8<sup>th</sup> International Phycological Congress”, Durban, África do Sul.
2004. “Equipamentos para a Educação Ambiental em Portugal: Que realidades? Que perspectivas? Instituto do Ambiente, Lisboa, Portugal.
2003. “Workshop on Production in Seaweeds Purifying Effluents from Marine Animal Holding Units”, Universidade do Algarve, Faro, Portugal.
2002. “Workshop on the Demography of the Invasive Species *Sargassum muticum*”, Universidade do Algarve, Faro, Portugal.
1998. X Simposio Ibérico de Estudos de Bentos Marinho, Carvoeiro, Portugal.  
3º National Ecology Meeting, Faro, Portugal  
“New developments in the study of ploidy levels in the life histories of European Gelidiales with commercial value”, programa EU-COST - Action COST 49.
1997. “II International Workshop on *Gelidium*”, Las Palmas, Grã Canaria, Spain.
1996. IV Latin-American Congres of Phycology, Caxambu, Brasil.
1995. “Workshop LMER (Land Margin Ecosystems Research)/Portuguese Research Initiative”, University of Algarve, Faro, Portugal.
1994. Short course on Developmental Biology and Confocal Microscopy, with Dominic L. Poccia and Clara Pinto Correia of Amherst College, Massachusetts, USA, and Robert G. Summers, State University of New York, Buffalo, USA.
1984. IV Iberian Symposiu on Marine Benthos Studies, Lisbon, Portugal.

*Invited Speaker*

2016. Santos R. Carbon sequestration of coastal vegetation (low saltmarsh and seagrass) along a hydrodynamic gradient. Conservation of coastal carbon sinks, 21 to 22 November, Malaga, Spain.  
Santos R. Seagrass productivity: from genes to ecosystem management. CCMAR Seminar Series.
2015. Santos R. Seagrass productivity from genes to ecosystem management. University of Miami.  
Santos R. Seagrass productivity from genes to ecosystem management. Florida International University.  
Santos R. Impacte da poluição difusa de origem agrícola na Ria Formosa, “Ria Formosa – A integridade do sistema lagunar e as atividades económicas”, Agência Portuguesa do Ambiente, Olhão, 18 de Março.
2014. Santos R. Seagrass productivity from genes to ecosystems (what has been learned from the Action). COST Action ES0906 Final Conference. Seagrasses in Europe: Threats, Responses and Management. Olhão, Portugal, March 4-6
2013. Santos R. Workshop on ocean acidification and key marine photosynthesisers (marine algae and seagrasses), UKOA, Marine Biological Association, Plymouth, June 4-6  
Santos R. Reconstruction techniques to assess *Cymodocea nodosa* population dynamics, COST Action ES0906 Training School on the “Effects of CO<sub>2</sub>/Ocean Acidification on Seagrass Meadows”, Vulcano, Aeolian Islands, Italy, 6-11 May
2012. Santos R. From seagrass photosynthesis to ecosystem production. 9th International GAP (Group for Aquatic Primary Productivity) Workshop, Malaga, Spain. (Invited speaker)  
Santos R. Effects of increased CO<sub>2</sub> on seagrasses: mesocosm experiments at Faro, Portugal. COST Action ES0906 Workshop: CO<sub>2</sub>/OA effects on seagrass meadows, Nottingham, UK.  
Santos R (2012). Investigação aplicada no Grupo ALGAE – Ecologia de plantas marinhas. Inovar Algarve, Universidade do Algarve, Faro, Portugal. (Invited speaker).  
Santos R. Worldwide Gelidium harvest: has Europe a role to play? European Seaweed industry – current status and future perspectives. San Sebastian, Spain, 6th and 7th November 2012
2011. Santos R. Seagrass research in Southern Portugal, contributions to a European Seagrass Network. University of Sydney, Australia.  
Santos R. Ecological importance of seagrasses in Ria Formosa lagoon. Secondary schools of “Joaquim Magalhães” and “Colégio do Alto”, Faro, Portugal and Biology Student Association.  
Santos R. Porquê monitorizar as ervas marinhas?. 2º Encontro do Voluntariado Ambiental para a Água, Loulé.  
Santos R. Diagnóstico do estado de saúde das ervas marinhas. Ecologues workshop, Montpellier, France.  
Santos R. Importância ecológica das ervas marinhas (e não só). Núcleo de Atividades Subaquáticas, Universidade do Algarve, Portugal.
2010. Santos R. Ecological importance of seagrasses. International day for biodiversity, UNESCO, Olhão.

2009. Santos R. Seagrass productivity: from genes to ecosystem management. COST Hearing, Full proposal reference: oc-2009-1-4293.  
Santos R. Fingerprints of global warming on the Portuguese marine flora. CCMAR, University of Algarve, Portugal.
2008. Santos R. *Sargassum muticum*: what is behind the success of this invader? Bedford Institute of Oceanography, Halifax, Canada.
2007. Santos R, Mata L and Schuenhoff A. Seaweed Integrated Aquaculture for Biofiltration and Natural Products. COSM'ING 2007, Saint Malo, France.  
Santos R and Melo R. Global commercial exploitation of *Gelidium* resources. International Seaweed Symposium, Kobe, Japan.  
Santos R. Qual o valor das ervas marinhas para o Homem? Semana Aberta, Universidade do Algarve, Portugal
2006. Santos R. Contributos para a implementação de Áreas Marinhas Protegidas (AMPs). Reunión Internacional de Expertos en Reservas e Áreas Mariñas Protexidas, CEIDA, Santa Cruz, Espanha.
2005. Santos R. O uso das algas marinhas na medicina e na cosmética, 1º Encontro “O Mar e as Ciências da Saúde”, Cooperativa de Ensino Superior Egas Moniz, Monte da Caparica.  
Santos R. Impactos humanos na Ria Formosa. Seminários 2ª Expomar, Olhão.  
Santos R. Avaliação do impacte ecológico das pressões antropogénicas na vegetação de sistemas costeiros. Workshop “Avaliação do Impacto Ecológico e/ou Químico das Pressões Antropogénicas nas Águas Costeiras e de Transição”, INAG, Lisboa, Portugal.  
Santos R. Impactos humanos nos sistemas lagunares costeiros. Encontro Nacional de Estudantes de Biologia, Universidade do Algarve
2004. Santos R. Algae-Ecologia das Plantas Marinhas: investigação sobre efeitos das alterações climáticas. Apresentação/Debate sobre “Alterações Climáticas, Recursos Vivos e Impactes sobre a Orla Costeira” no âmbito da Jornada sobre Ambiente, de Sua Excelência o Presidente da República.  
Santos R and Mata L. The use of stable isotopes to monitor the influences of the Alqueva dam in the food web of the Guadiana estuary. Workshop “Managing the Guadiana estuary – the Ecohydrology and Phytotechnologies approaches”, UNESCO - International Hydrological Programme, Universidade do Algarve.
2003. Santos R. Ciclos de vida quantitativos de algas marinhas. Jubilação do Prof. Seoane Camba, Universidade de Barcelona.
2002. Santos R. The importance of benthic vegetation in estuaries and coastal lagoons. Advanced Study Course in Ecohydrology and Coastal Management: from catchment to coastal areas. UNESCO IHP-VI, Universidade do Algarve.  
Santos R. Integrated seaweed aquaculture to reduce ammonia concentration from fish farm effluents. C-Mar Aquaculture Workshop, Portaferry, Queen’s University of Belfast.
1999. Santos R. Population ecology and resource management of *Gelidium* species. Symposium on cultivation and use of red macroalgae, Puerto Varas, Chile. (faltou por impedimento de ordem pessoal)  
Santos R. Structure and dynamics of the macrophytobenthos of Ria Formosa, a tidal lagoon in southern Portugal. Conferência plenária, Congresso Latinoamericano de Ficologia, Puerto Varas, Chile. (faltou por impedimento de ordem pessoal)

1998. Freitas H and Santos R. Dynamics of sand dune ecosystems and coastal erosion control. Workshop on Global change, environmental integrity, and sustainable development of coastal areas, Carvoeiro, Portugal.
1997. Santos R and Nyman M. Population modelling of *Gelidium sesquipedale*. II International Workshop on *Gelidium*, Las Palmas, Spain.  
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1994. Santos R. O colapso de uma pescaria: a apanha de algas do Cabo Espichel”, II Encontro de Pescas, Universidade do Algarve.  
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### *Speaker*

2015. Santos R, Cabaço S, Mishra A, Vizzini S and Apostolaki ET. Population dynamics of seagrasses in the vicinity of volcanic vents: what is the role of CO<sup>2</sup>?. ASLO Aquatic Sciences Meeting, Granada, Spain.
2012. Santos R, Silva J, Olivé I, Mendes M, Cabaço S, Borges AV, Champenois W and Runcie J. Seagrass production: linking individual, community and ecosystem carbon fluxes. CERF, USA
2010. Santos R and Mata L. Sustainable, integrated semi-intensive aquaculture of seaweeds and fish in southern Europe. International Workshop on Sustainable Extensive and Semi-Intensive Aquaculture Production in Southern Europe – SEACASE, Tavira.  
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Santos R (2010). European seagrass network: “Seagrass productivity, from genes to ecosystem management” World Seagrass Conference, Phuket, Thailand. (oral communication)
2009. Santos R and Silva J. *Spartina maritima* community production in southern Europe. CERF conference, Portland, USA.  
Santos R. SeagrassNet – Ria Formosa Lagoon, Seagrassnet Workshop, Faro, Portugal.

2008. Santos R and Engelen A. Which demographic traits determine invasiveness in marine algae? ASLO summer meeting, St. Johns, Newfoundland, Canada
2006. Santos R, Alexandre A, Cabaço S and Cunha, A. Impacts of physical and nutrient disturbances on the seagrass *Zostera noltii*. Mediterranean Seagrass Workshop, Malta.
2005. Santos R, Silva J, Alexandre A, Navarro N, Barrón C and Duarte CM. Ecosystem metabolism and carbon fluxes of a tidal-dominated coastal lagoon. ASLO Summer meeting, June 19-24.  
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Santos R. Commercial seaweeds for water treatment of marine animal holding units. SEMAPP - Science, Education and Marine Archaeology Program in Portugal, Ocean Technology Foundation, Zoomarine, Portugal.
2003. Carmona R, Dias L and Santos R. Why are tetrasporophytes more abundant than gametophytes in *Gelidium sesquipedale*? European Phycological Congress, Belfast, UK.
2002. Santos R. Actividade científica do grupo de investigação Algae – Ecologia de Plantas Marinhas. 1º Encontro CIMAR- Laboratório Associado, Santarém.
2001. Santos R., Cristo C. and Jesus. D. Using harvest effort statistics to manage the Portuguese agarophyte resource. International Seaweed Symposium, Cape Town, South Africa.
1995. Santos, R and Duarte P. Fecundity, spore recruitment and size in *Gelidium sesquipedale* (Gelidiales, Rhodophyta). XVth International Seaweed Symposium, Valdivia, Chile.
1992. Santos R. Plucking or cutting *Gelidium sesquipedale*? A demographic simulation of harvest impact using a population projection matrix model. XIVth International Seaweed Symposium, Brest, France. International Seaweed Association's, prize "Dr. Ramchand Buchland" for the best student contribution
1988. Santos R. and Salgado P. Cartografia e abundância por fotointerpretação dos macrófitos aquáticos da Ria de Alvor. 5º Congresso do Algarve", Albufeira.
1986. Salgado P e Santos R. A importância económica dos povoamentos de algas da Costa Sudoeste. Jornadas do Ambiente - Costa Sudoeste, Vila do Bispo.
1984. Santos R, Melo R e Palminha F. Distribuição e biomassa total da agarófita *Gelidium sesquipedale* (Clem.) Born. et Thur., no infralitoral da costa sul do Algarve, IV Simposio Ibérico de Estudos do Benthos Marinho, Lisboa.  
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*Other contributions to scientific meetings*

2016. Alexandre A, Georgiou D, Santos R (2016) Inorganic nitrogen acquisition by the tropical seagrass *Halophila stipulacea*. EuroMarine workshop, 3-5 July, Eilat, Israel
- Georgiou D, Alexandre A, Luis J, Santos R (2016) Temperature is not a limiting factor for the expansion of *Halophila stipulacea* throughout the Mediterranean Sea. EuroMarine workshop, 3-5 July Eilat, Israel
- Martin Dahl, Diana Deyanova, Silvia Gütschow, Maria E. Asplund, Liberatus D. Lyimo, Ventzislav Karamfilov, Rui Santos, Mats Björk and Martin Gullström. Influence of sediment characteristics on carbon storage in four European *Zostera marina* areas. 12th International Seagrass Biology Workshop, Wales.
- Melo R and Santos R. Back to basics: Global shortage of bacteriological and technical agars. 22nd, Conference: International Seaweed Symposium, Copenhagen, Denmark. D
- Miriam Ruocco, Chiara Lauritano, Irene Olivé, Monya M. Costa, Isabel Barrote, Rui Santos, João Silva & Gabriele Procaccini. Effects of ocean acidification on seagrass gene expression: insights from *Posidonia oceanica* at CO<sub>2</sub> vents. 12th International Seagrass Biology Workshop, Wales.
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- Nogueira, P. I Gambi, M. C., Vizzini, S., Califano, G., Tavares, A.M., Santos, R. and Martínez-Crego, B. Altered epiphyte community and sea urchin diet in *Posidonia oceanica* meadows in the vicinity of a volcanic CO<sub>2</sub> vent. Mares Conference Marine Ecosystems Health and Conservation February 1st - 5th 2016 Olhão Portugal.
- Richir Jonathan, Abadie Arnaud, Grosjean Philippe, Franck Fabrice, Lepoint Gilles, Lejeune Pierre, Silva Joao, Santos Rui and Gobert Sylvie. A one year survey of *Posidonia oceanica* (L.) Delile primary productivity in a Corsican bay (Calvi, France) using the Diving-PAM. 12th International Seagrass Biology Workshop, Wales.
- Sordo, L., Santos, R., Reis, J., Silva, J. A novel system to manipulate and control CO<sub>2</sub> levels in mesocosms for ocean acidification experiments. Mares Conference Marine Ecosystems Health and Conservation February 1st - 5th 2016 Olhão Portugal.
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- Ruocco M, Procaccini G, Musacchia F, Sanges R, Olivé I, Costa MM, Barrote I, Santos R, Silva J. *Cymodocea nodosa* response to simulated CO<sub>2</sub>-driven ocean acidification: A first insight from global transcriptome profiling. Oral presentation. 4th Mediterranean Seagrass Workshop (MSW). May 2015. Sardinia (Italy).
- Olivé I, Costa M, Barrote I, Santos R, Silva J. Productivity of the seagrass *Posidonia oceanica* near volcanic vents: Two different case studies. Oral

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- Silva J, Costa M, Olivé I, Barrote I, Ruocco M, Lauritano C, Procaccini G, Santos R. Seagrass photosynthetic responses to a natural high-CO<sub>2</sub> environment: Physiology meets gene expression. Oral presentation. ASLO 2015 Aquatic Science Meeting. February 2015. Granada (Spain).
2014. Martínez-Crego B, Arteaga P, Ueber A, Engelen A, Santos R, Molis M. Screening for inducible defences in seagrass-herbivore interactions. First Mares Conference Marine Ecosystems Health and Conservation, Olhão, Portugal, November 17-21.
- Tomas F, Martínez-Crego B, Hernán G and Santos R. Contrasting effects of Eutrophication and Acidification on seagrass-herbivore interactions. Pacific Estuarine Research Society [SEP] April 3 - 5th, Newport, Oregon.
- Runcie J, Silva J, Björk M, Santos R. Field measurements of algal stress. ISAP, Sydney.
2013. R. Quinta, J.M. Webb, D.N. Thomas, M. Rigby, R. Santos, L. Le Vay. Halophyte production in constructed wetlands and hydroponic systems for aquaculture wastewater remediation. Aquaculture conference: To the Next 40 Years of Sustainable Global Aquaculture, Las Palmas, Gran Canaria.
- Olivé I., Silva J, Costa M, Santos R. CO<sub>2</sub> effects on the seagrass *Cymodocea nodosa*: two different approximations. Oral presentation. CERF, USA.
- Silva J., Olivé I., Costa M.M., Barrote I., Procaccini G., Mazzuca S., Vizzini S., Santos R. Seagrass photo-physiological responses in a natural high-CO<sub>2</sub> environment. Oral presentation. CERF, USA.
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2012. Santos, R. and Sigurdardottir, R. (2012) European seagrass network: "Seagrass productivity, from genes to ecosystem management". Research and Ecosystem-Based Management Strategies in Support of the Marine Strategy Framework Directive, Copenhagen, Denmark. (oral communication)
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Berković B, Martínez Barrio J, Cabaço S, Alberto F, Santos R, Serrão EA. Seagrass Propagule Dispersal in a Shallow Coastal Lagoon. ECSA 50, Venice, Italy, 3rd to 7th June.

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Alexandre A, Silva J, Buapet P, Björk M, Santos R. Effects of CO<sub>2</sub> enrichment on photosynthesis, growth and nitrogen metabolism of the seagrass *Zostera noltii*. 3rd Mediterranean Seagrass Workshop, 28 May-3 June, Essaouira, Morocco (Oral communication)

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G. Akkermans, M. Thomsen, F. Arenas, M. Machado, R. Santos, J. Vermaat, A.H. Engelen. The interactive effects of variable nutrient and macroalgal load on the intertidal seagrass *Zostera noltii* and associated fauna in the Ria Formosa lagoon, Portugal. ECSA 50 3-7 June, Venice, Italy.

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Malta E, Morales J, Jiménez C and Santos R. Assessing quality of coastal waters using opportunistic macroalgae, experiences from SW Europe. European Phycological Congress, Greece.

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- Silva J, Barrote I, Albano S, Costa M, Neves P, Graça G, Sharon Y, Beer S, Santos R (2010) Effects of in situ shading on the photophysiology of *Zostera marina* and *Cymodocea nodosa*. World Seagrass Conference, Phuket, Thailand. (oral communication)
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