

Curriculum vitae

Francisco Miguel de Sousa Leitão

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Curriculum vitae

1. Personal information

Name: Francisco Miguel de Sousa Leitão.
Date of birth: 22/01/1976
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ResearchGate: http://www.researchgate.net/profile/Francisco_Leitao/?ev=prf_high
Google citation: <http://scholar.google.com/citations?user=ZRRCOJ4AAAAJ>

Researcher IDs

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Present position:

- Researcher at the Centre of Marine Science (CCMAR), University of Algarve
- ECOREACH coordinator: <https://www.ccmар.ualg.pt/en/group/ecology-and-restoration-riverine-estuarine-and-coastal-habitats>
- Assistance professor at University of Algarve (2018-2019):
 - Marine Ecosystems discipline (Marine Biology & Marine Sciences bacharel)
 - Dynamic of Aquatic ecosystem (Marine Biology Master)
 - Fisheries Biology and Ecology (Aquaculture and Fisheries master)

2. Academic Abilities

Post-Doc2 (SFRH/BPD/108949/2015)

General Domain: Earth Sciences

Scientific domain: Climatic & Fisheries Sciences.

Institution: 2016-2019 – Post-Doc Researcher at Centre of Marine Science (CCMAR/UALG), University of Algarve, Faro, Gambelas (Dr. Alexandra Chicharo) & Fisheries Centre, at University of Vancouver, Canada (co-supervisor William Cheung)

Title: Assess the impacts of climate change on key fisheries and species in Portugal

Overall Theme: predicting the effect of climate changes on coastal fisheries resources.

Post-Doc1 (SFRH/BPD/63935/2009)

General Domain: Earth Sciences

Scientific domain: Climatic & Fisheries Sciences.

Institution: 2010-2016 – Post-Doc Researcher at Centre of Marine Science (CCMAR/UALG), University of Algarve, Faro, Gambelas (Supervisor: Luis Chicharo) & Institute of Marine Research, at Norway, Tromsø (co-supervisor Benjamin Planque).

Title: Trends in Portuguese coastal fisheries landings: the role of hydrological parameters, oceanographic features and fisheries variables

Overall Theme: The effect of climate changes on coastal fisheries resources (ecosystem approach to fisheries). Analyze the effect of climatic variability on exploited fish stocks and fisheries and in understand how this relationship can be determinant for fisheries planning and assessment

2009 - PhD

General Domain: Marine Biology-Earth Sciences

Scientific domain: Fisheries Sciences and Technology, Population Dynamics

Institution: University of the Algarve, FCMA – Faculty of Marine Sciences and Environment (FCMA) and Portuguese Institute of Fishery Research CRIPSul, (IPIMAR-Olhão).

Classification: Distinguished with Very Good

Thesis goals: To study the fish assemblage population dynamics and ecology; Evaluate the contribution of the Algarve Artificial reefs (Southern Portugal) to near shore artesian fisheries.

Link:

[https://sapientia.ualg.pt/bitstream/10400.1/332/1/Tese%20doutoramento%20Fleitao Book.pdf](https://sapientia.ualg.pt/bitstream/10400.1/332/1/Tese%20doutoramento%20Fleitao%20Book.pdf)

2004 (April 2001-January 2004)– Master

General Domain: Ecology

Scientific domain: Marine Ecology and small scale inshore artesian Fisheries

Institution: University of Coimbra, Institute of Marine Research, environment and life department of zoology of the science Faculty and technology.

Classification: Very Good

Thesis goals: i) the development of social-economical inquiries to the characterization of artisanal cockle fishermen community (Ria Formosa lagoon) ii) evaluate the impact of traditional fishing gears (in order to solve conflicts between traditional cockle harvesters and illegal dredging fishermen's) and to study the selectivity and efficiency of harvesting gears. Propose strategies for cockle beds exploitation in order to advice managers regarding the best solution for the sustainability of cockle small-scale fishery (see paper and technical reports).

2003 (Mars)- Post – Graduation

Scientific domain: *Post-graduation* in Science and Geographic Information Systems (S & GIS)

Institution: University of Lisbon (ISEGI-UNL)

Classification: 14 out of 20.

1999 (September 1995 –October 1999) – Licentiate degree (Four-Year degree)

Scientific domain: Marine Biology and Fisheries, specialisation in Fisheries

Institution: University of the Algarve

Classification: 15 out of 20, Good.

Advanced courses:

2018 - CAL-Aqua - Laboratory Animal Science Course. Professional training Certificate (Dec. Reg. N. 35/2002) - 2 -6 Julho de 2018, UALG

2017 - Intensive advanced course on Species distribution modeling (SDM - Species distribution modeling with R), also known under other names including climate envelope-modeling, habitat modeling, and (environmental or ecological) niche-modeling. 3-17 Mars 2017, Vancouver University under Willian Cheung close supervision as mentor of my posdoc research. Package 'biomod2', 'raster', 'rgdal', 'dismo', 'rJava', etc

2016 – Laboratory animal Science course (SPCAL- Sociedade Portuguesa de Ciências em Animais de Laboratório): Animal welfare. Theoretical course

2016 - Presentation skills: Speaking enthusiastically in front of a group. 2nd Mares Conference workshop 2016

2014 – R-Course (advance): Revolution V: quantitative ecology and spatial prediction of species distribution, 40hours, 1-12 December University of Algarve (gRaphics; basic R programming and automatize tasks; preparing statistical reports using R; Rspatial - analysis of vector and raster cartography, also connecting with GRASS and QGIS; aRtistics - experimental design.

Hypothesis contrast, ANOVA. Basic multi-variate statistics.; multivar: diversity and multivariate analysis: ordination and gradient analyses, ENFA (Ecological Niche Factor Analysis), habitat suitability maps, metapopulation simulations; linear- construction, optimization and evaluation of linear models. Representation and spatial interpretation; modelR- construction, optimization and evaluation of non-linear models. Representation and spatial interpretation; generate importation of genetic data, basic diversity estimations, genetic distances, boundaries detection, polyploidy, spatial autocorrelation, Bayesian clustering. Representation and spatial interpretation)

2012 - Time-series analysis in marine science and applications for industry. 2-day training course, R-Course (17-18 Sep). Centre nautique Moulin Mer in Logonna-Daoulas, Brittany, France (<http://www.europolemer.eu/time-series-analysis.php>).

2012 - Fishermen Professional course (currently holds the professional fisherman course/License type 2 category, Certificated by FORMAR, national authorized authority).

2011 - Certificate of formation in the areas of Biology, nature and Environmental sciences aiming to lecture continuously formation to school professors (Certificate by Portuguese Scientific Pedagogic council)

2011 - Advanced GIS course (as assistance and lecture of the course also): Practical ecological modelling and analysis for coastal and marine management 11-13 July. LECTURED BY Dr. Jason Roberts (Duke University) & Francisco Leitão (CCMAR, ECOREACH) in University of Algarve (21 hours).

LINK: <http://www.ccmarmar.algarve.pt/home/index.php?id=901>

2009 - Workshop “Métodos e Técnicas para a elaboração de projectos participativos caso de estudo: Comunidades piscatórias “. 26-27 June. University of Algarve.

In English: “Methods and Techniques for elaboration, development and implementation of participative projects: the fisheries communities as case study.”

2009 - Advanced course: Sampling and analysis of freshwater benthic macroinvertebrates and diatoms (in English). 6-9 April. lectured by Dr. Maria João Feio (IMAR-CIC) in University of Coimbra.

2008 - Advanced Stock assessment course (27-03-08 to 02-04-08): “Age based stock assessment: A data rich method, a dismal management track record!” lectured by Dr. Einar Hjørleifsson, (United Nations University, Marine Research Institute, Iceland) in University off Algarve.

2006 - “Analysing Biological and Environmental Data – Using multivariate analysis” – Course held on University of Algarve, Faro, from 08-12 May by DR. Alain F. Zur (<http://www.brodgar.com/contact.htm>)

- 2005** – “Analysing Biological and Environmental Data – Using Univariate Methods” – Course held on University of Algarve, Faro, from 23-27 May by DR. Alain F. Zur (<http://www.brodgar.com/contact.htm>)
- 2005** – Advance Multimedia and WebDesign course (120 h.)
- 2005** – Scientific drawing course, “Learn to draw, travelling on or right side of the brain”.
- 2005** – Certificate of Pedagogic Skills recognised by the Portuguese Centre of Employment and Professional Ability.
- 2003** – *Post-graduation* in Science and Geographic Information Systems (S & GIS), University of Lisbon (ISEGI-UNL).
- 2002** – Advanced course: Science and geographic information systems: an introduction (Classification: 16 out of 20).
- 2002** - Advanced course: Geo-Spatial Data: Models and operations (Classification: 16 out of 20).
- 2002** - Advanced course: Databases (Classification: 14 out of 20).
- 2002** – Advanced course: GIS application I (Classification: 13 out of 20).
- 2003** – Advanced course: Acquisition, source and quality of data (Classification: 16 out of 20).
- 2003** – Advanced course: GIS Modelling (Classification: 15 out of 20).
- 2003** - Advanced course: GIS: Geo-spatial Data Mining (Classification: 12 out of 20).
- 2003** – Advanced course: GIS Organization (Classification: 14 out of 20).
- 2003** – Advanced course: Remote sensing (Classification: 12 out of 20).
- 2003** - Advanced course: GIS application II (Classification: 13 out of 20).
- 2001** – Advanced course “Modelling: Approaches and Attitudes”, Faculty of Marine and Environmental Science, Sea sciences Centre (CCMAR) of the University of Algarve
- 2001** - Advanced course: *Plant – Animal Interactions*, 81h. (Classification: 16 out of 20)
- 2001** - Advanced course: *Principles of Pollution Abatement – Integration ecology with industry towards a sustainable society*, 90 hours (Classification: 17 out of 20)
- 2000** - Advanced course: *Ecological Modelling*, 70h. (Classification: 18 out of 20)
- 2000** – Advanced course: *Bio-statistical Analysis and Experimental Design*, 60h. (Classification: 18 out 20)

Course organization/Workshops and lecture

- 2019** – Advance course: **Leitão F.** Biological Sampling (experimental design) and data treatment in ecology. “BIOFISH – QoL – Capacity building Action 1”. School of Marine and Coastal Sciences (Eduardo Mondlane University), Quelimane, Zambézia-Moçambique (hours:8). 25 February 2015 (organization and lecture)
- 2012** - Leitão F, Range, P, Marília, 2014. Using macroinvertebrates to assess water quality – Ecological environmental status – Workshop within “national meeting of biologist students”. 17th meeting of biology students. University of Algarve. Portugal, 11 and 15 April 2014.(<http://www.eneb2014.pt/#>)(organization and lecture)
- 2013** - Chicharo, M.A.A.T, Leitão F, Range, P, (2013) 4th Regional Meeting of Voluntary Environmental Activities for Water – Benthic Macroinvertebrates - Short-course for secondary school teachers, Tavira, Portugal, 15 and 16 November 2013. (organization and lecture)
- 2011** - Advanced course: **Leitão F.** Roberts J. (Duke University) Practical ecological modelling and analysis for coastal and marine management 11-13 July. Lectured by Dr. Jason Roberts (Duke University) in University of Algarve (21 hours) (organization and lecture)

Additional skills

- 2012** - Professional Fisherman license, Category 2.
- 2000** – Onboard Commissioner of big game fishing, graduated Commissioner by the Portuguese Federation on *Big-Game-fishing*
- 1999** – Recreational Skipper (motor and sailing; up to 49 feet and 12 miles from the coast) (Recreation skipper licence)
- 1996** – SCUBA recreational diving course (PII level according to CMAS, more than 700 hundred dives)
- 1998** – Fishery observer and data collection onboard Tuna boats in Azores (tuna identification, sampling, quantification of catches) and responsible for assess fisheries interactions (marine birds and whales). The course that allow participate on tuna monitoring was accomplished on department of Oceanography and Fisheries of Azores within the programme “monitoring tuna fisheries” (POPA Project - “Programa de Observação da Pesca do Atum”).

3. Work experience/ Participation and collaboration in scientific projects

3.1 Work/Research experience

2019-ongoing – PhD researcher at University of Algarve

2010-2018 – Researcher at Centre of Marine Science (CCMAR/UALG), University of Algarve, Faro, Gambelas & Institute of Marine Research, at Norway (Tromsø) and Vancouver University (Fisheries Centre).

Research Goals: Evaluate the Fishing trends in Portugal coastal waters and asses the role of hydrological, oceanographic features and fisheries variables on exploited resources. Fisheries time series analyses; Effect of acidification and jellyfish on fisheries and marine productivity. Restauration of habitats. Senior research of the ECOREACH group.

2008-2010 – Researcher in International Centre for Costal Ecohydrology (ICCE-UNESCO International centre) – responsible scientific coordination of ICCE research/scientific team; Projects coordination (2). Research Goals: coordinate the scientific projects within ICCE centre and help to establish a link between research and decision makers (national/regional agencies) based on scientific research.

1998 -2008 - Working at the Portuguese Institute for Fisheries and Sea Research – IPIMAR (IPIMAR/CRIPSUL, at Centro Regional de Investigação Pesqueira do Sul): It has been one of the elements of a research team (<http://www.cripsul.ipimar.pt/contactos/pessoal.php?start=10>). I have participated and collaborated in many research projects: artisanal fisheries, marine ecology, fishing biology, fishing gear technology, impact of fishing gears (dredges, gill and trammel nets), evaluating the fishing potential of AR for artisanal fisheries; legalization of artisanal fishing gears; environment-fish relationships; population dynamics, Aquaculture, Participation in scientific meeting and work groups within projects; Participation National Plan for biological sampling; Data treatment (statistics); Redaction of scientific technical reports and papers in peer review journals.

3.2 Scientific & technical projects

32. 2019-2021 - UALG/AdA - Fundo de Investimento em I&D UALG PS UALG/AdA - "Acordo específico de colaboração entre as Águas do Algarve (AdA) e a Universidade do Algarve (member of scientific team, Technical projects)

31. 2018-2021 - CLIMFISH - (Main coordinator: budget: 151.443€; Start: 01-07-2018) - Sistema de Apoio à Investigação Científica e Tecnológica (SAICT) – Aviso n.º 02/SAICT/2017 - Projeto de Investigação Científica e Desenvolvimento Tecnológico (IC&DT), financiada por Fundos Europeus Estruturais e de Investimento (FEEI) – Programa Operacional Regional do Algarve e por fundos nacionais (FCT-MEC), no âmbito do projeto de investigação “CLIMFISH: Análise da vulnerabilidade da pesca costeira às mudanças climáticas na costa Portuguesa (English: CLIMFISH - A

framework for assess vulnerability of coastal fisheries to climate change in Portuguese coast) ref. ALG-01-0145-FEDER-028518

30. **2018-2021 - LuandaWaterFront** - (scientific team; budget: 297081€) Luanda Bay Ecological Assessment: A waterfront based approach to reduce environmental risks and increase quality of life. FCT Project - FCT is the Portuguese national funding agency for science, research and technology, Approved 9 February, awaiting to sign contract (Reference Proposal: 333191101).
29. 2018-2021 - **BIOFISH-QoL** - (Main coordinator: budget: 424348€) - Integrative approach for enhance quality of live in fishing communities of the ‘Bons Sinais’ estuary (Mozambique) under climate change treats. FCT Project - FCT is the Portuguese national funding agency for science, research and technology, Approved 9 February, awaiting to sign contract (Reference Proposal: 330785505). Found: Fundação para a Ciência e a Tecnologia (FCT I.P.) e a Rede Aga Khan para o Desenvolvimento (AKDN).
28. 2018-2021 **CRUSTAPANHA** (Main coordinator: budget: 677.018€) - Contributo para a sustentada da pequena pesca de CRUSTACEOS (pequenos caranguejos): Estudo da ecologia, biologia e dinâmica populacional dos pequenos caranguejos com interesse comercial existentes ao longo da costa Portuguesa. - MAR2020: Proteção e Restauração da Biodiversidade e dos Ecossistemas Marinhos Portaria nº118/2016, de 29/04 (Artigo 4.º alínea c - Contribuição para um melhor gestão ou conservação dos recursos biológicos marinhos); Projeto n.º 16-01-04-FMP-0005 (Founded by MAR2020)
27. 2015-2019 **MINOUW** - Science, Technology and Society Initiative to Minimize Unwanted Catches in European Fisheries) - MINOUW is a EU H2020 RIA project addressing topic SFS-9-2014: Towards a gradual elimination of discards in European fisheries. A Consortium of 15 beneficiaries and 4 linked parties participate in the project actions. The Consortium includes fisheries technologists, fisheries scientists, universities, a non-governmental organization and local fisheries managers. It as a budget of ca. 6 M € for a duration on 4 years (March 2015 – Feb. 2019).
26. 2015-2016: **SWAMO** - Sowing Water in Monchique Mountain” within the Programme AdaPT, Adaptando Portugal às Alterações Climáticas (scientific coordinator)
25. **2016-2018: JELLYFISHERIES** PTDC/MAR-BIO/0440/2014 - Towards an integrated approach to enhance predictive accuracy of jellyfish impact on coastal marine ecosystems (Founded by Portuguese Science and technology Foundation)
24. **2013-2014- MOFETA** (EXPL/MAR-EST/0604/2013) - Investigating the ecological effects of ocean acidification in shallow water volcanic CO2 vents of the Azores.
23. **2009-2011- ARH** – Hydrographic Region Administration. “Implementation of the European Water Framework Directive on continental waters in the Algarve - Portugal. Assessment of Macro-invertebrate and GIS development” (Scientific coordination at UNESCO-ICCE, Technical projects).

22. **2008-2010** - REN – National Electric Network “ Environmental impact Assessment of used cooling water from Natural Gaz production plant on adjacent coastal zone (3 years consultancy, (member of scientific team, Technical projects)
21. **2011** - Consultant/ adviser (Environmental impact analysis) of the AquaSacrum Lda. It was responsible (scientific coordination) for the pre-implementation environmental impact study regarding the effect of deployment a logline bivalve offshore farming on marine communities, sediments and water proprieties (May 2011).
20. **2009** – MareFormosa – Estudo morfodinâmico e sedimentar do delta de enchente da barra de S. Luís. English: Morphodynamics of the flood and tidal delta of Sto Luis inlet (Ria Formosa). (Member of scientific team) Link: <http://w3.ualg.pt/~dduarte/Research/Research.html>
19. **2009-2014** - ERA-Net IWRM-Net European Programme (ERA-IWRM/0003/2009). Developing an Integrated Model to Predict Abiotic Habitat Conditions and Biota of Rivers Application in Climate Change Research and Water Management - IMPACT (<http://www.impact.igb-berlin.de/>) (2010-2014) (Member of PT Partner)
18. **2008 - 2010** FREEZE - Submarine FREshwater dischargEs: characteriZation and Evaluation study on their impact on the Algarve coastal ecosystem (PTDC/MAR/102030/2008). Main goal (Task 5): Evaluate the impact of groundwater discharge on coastal phytoplankton and benthic assemblages (Scientific coordination).
17. **2009-2010** - INTERREG project: “Development and harmonization by Portugal and Spain of new indicators and common methodologies for the implementation of the Water Framework Directive in transitional and coastal waters of the Guadiana” DIMEAGUA(2009-2011), (0252_DIMEAGUA_5_P) (Member of the Leader Partner)
16. **2009** - “Ecological classification of Algarve coastal and transitional waters” (Scientific coordination)-UNESCO-ICCE project. Environmental Protection Agency - ARH-Algarve [Link](#)
15. **2009-2010** - “Ecological classification of Algarve streams” (Scientific coordination)-UNESCO-ICCE project. Environmental Protection Agency - ARH-Algarve [Link](#)
14. **2008** – SELECT-PAL: “*Pescaria nacional de palangre de superfície dirigida ao espadarte (Xiphias gladius) e tubarões pelágicos no Atlântico. PNAB - EU/PIDDAC*”. **English** - National longline surface fishing targeting swordfish (*Xiphias gladius*) and pelagic sharks in the Atlantic
13. **2006 - 2008** – INTERREG III-A, “Promoção de recursos pesqueiros de interesse comum”. **English** - Promotion of fisheries resources of common interest.
12. **2006** – Consultant/ adviser (Socio-economic impact analysis) of the SINFIC (Sistemas Inf. Ind. e Consultoria, S.A). It was responsible (scientific coordination) for the

Health, Environmental and socio-economic impact study regarding the impact of a liquid natural gas facility construction (in Angola, Africa Continent) on Estuarine/marine environment and associated artisanal fishing communities.

11. **2003 - 2007** – INTERREG III-A, GESTPESCA I e II “Bases científicas para a gestão de pescarias litorais”. **English** - Scientific bases for the management of coastal fisheries
10. **2004-2008** – Full time participation within the Project MARE “Implantação e estudo integrado de sistemas recifais” - INIAP-IPIMAR/MARE-QCA III. **English** - Implementation and integrated study of artificial reef systems
9. **2002 – 2004** - IMPACT (STRIDE/C/-MAR235/92) - “Impacto dos Recifes Artificiais na costa do Algarve”. English - Impact of Artificial reefs in the Algarve Coast
8. **2002 – 2004** - RESTOCK (POCTI / 1999 / BSE / 35608) “Fish restocking associated to the Algarve artificial reefs: environmental mitigation, biodiversity and fisheries management”. (POCTI / 1999 / BSE / 35608).
7. **2001 - 2002** Full time participation within the Project “Impacte da pesca de berbigão com draga de mão e faca de mariscar sobre a comunidade macrobentónica da Ria Formosa” (Founded by – PIDDAC). **English** - Cockle fishing impact with hand dredge and harvesting knife on the macrobenthic community of Ria Formosa
6. **2000-2001** – Full time participation within the Project IMPACTO "Assessing the Impact of Bivalve Fisheries on the Benthic Ecosystems of the Ria Formosa Lagoon (Portugal), Venice Lagoon (Italy) and Aegean Sea (Kavala - Greece) - IMPACTO". (Projecto EC/DG XIV - N° 062/99).
5. **1999 – 2002** - Full time participation within the Project FAIR ECODREDGE (FAIR-CT98-4465), – *Evaluation and Improvement of Shellfish Effort in Relation to Technical Conservation Measures and Environmental Impact*, EU project developed in the Institute of Fishery research, IPIMAR – CRIPSul, (Olhão).
4. **1999 – 2005** - “Estudo dos Bivalves de Interesse Económico do Litoral Oceânico Algarvio” (PIDAC / IPIMAR). **English** - Study of the Bivalve Economic Interest in Algarve Coastal waters
3. **1999 – 2002** Fantared II” (FAIR-PL98-4338) - “A study to Identify, Qualify and Ameliorate the Impacts of Static Gear Lost at Sea.
2. **1999 – 2000** - “Hake Set Gears Fisheries in Mediterranean and Eastern Atlantic waters” (EU study contract ; 97/0064).
1. **1999** – “A study to asses the viability of the fishery to *Pennaeus Kerathurus japonicus* shrimp with trammel nets, in Quarteira”. (IPIMAR/CRIPSul Project).

Project PI (Scientific supervision/co-supervision):

- 2018** - CLIMFISH - (Main coordinator: budget: 151.443€) - A framework for assess vulnerability of coastal fisheries to climate change in Portuguese coast. 02/SAICT/2017. Designação: Projetos de Investigação Científica e Desenvolvimento Tecnológico (IC&DT). Project Number: 28518
- 2018** - BIOFISH-QoL - (Main coordinator: budget: 424348€) - Integrative approach for enhance quality of live in fishing communities of the ‘Bons Sinais’ estuary (Mozambique) under climate change treats. FCT Project - FCT is the Portuguese national funding agency for science, research and technology (approved, awaiting contract officialization).
- 2018-** CRUSTAPANHA (Main coordinator: budget: 677.018€) - Contributo para a gestão sustentada da pequena pesca de CRUSTACEOS (pequenos caranguejos) num cenário de alterações climáticas: Estudo da ecologia, biologia e dinâmica populacional dos pequenos caranguejos com interesse comercial existentes ao longo da costa Portuguesa. - MAR2020: Proteção e Restauração da Biodiversidade e dos Ecossistemas Marinhos Portaria nº118/2016, de 29/04 (Artigo 4.º alínea c - Contribuição para um melhor gestão ou conservação dos recursos biológicos marinhos); Projeto n.º 16-01-04-FMP-0005 (Founded by MAR2020) (approved, awaiting contract officialization). English: Contribution to the sustainable management of artesinal small crab fisheries under climate change effects.
- 2008-2010** - FREEZE - Submarine FREshwater dischargES: characteriZation and Evaluation study on their impact on the Algarve coastal ecosystem (PTDC/MAR/102030/2008). Main goal (Task 5): Evaluate the impact of groundwater discharge on coastal phytoplankton and benthic assemblages. (co-supervision of Task 5)
- 2009** - “Ecological classification of Algarve coastal and transitional waters” (Group Scientific coordination): Main goal: ICCE will promote scientific debate, and will try to bring together scientist opinions, and compile information aiming the application of suitable methodologies for the definition of coastal and transitional waters classification and establish guidelines for monitoring the water quality in Algarve (RH8, Portugal). [Link](#)
- 2009** - DIMEAGUA (INTERREG – cooperação transfronteiriça (0252_DIMEAGUA_5_P). Main goal: To quality the ecological status of coastal and transitional water in Guadiana River and determine monitoring and biological indicators for water quality within the Water frame Directive. (co-supervision)
- 2009** - “Avaliação da qualidade Ecológica das ribeiras do Algarve” (Group Scientific coordination): Main goal: To quality the ecological status of South rivers and determine water quality within the Water frame Directive. [Link](#)

3.3 Scientific & technical projects /networks

1. **2018** - European cooperation in Science & technology; CA *COST Action* CA15217. Title: Ocean Governance for Sustainability - challenges, options and the role of science (OceaGov). WG5 - Ocean Climate and Acidification (OCA). 3rd International Symposium of Ocean Governance and Sustainability, Aveiro 11-12 June 2018

Link1: https://www.oceangov.eu/working_groups/ocean-climate-change-acidification/

Link2: https://www.oceangov.eu/news_full/a-new-special-issue-in-frontiers-in-marine-science-in-preparation-vulnerability-of-fisheries-to-climate-change/
2019

2. **2019** - European cooperation in Science & technology; CA *COST Action* CA15217. Title: Ocean Governance for Sustainability - challenges, options and the role of science (OceaGov). WG5 - Ocean Climate and Acidification (OCA). Marine Biology Station Piran, Nacional Institute of Biology, workshop/conference of the Working Group Meeting of the COST Action OceanGov from 7th till 8th March 2019 in Piran, Slovenia

<http://www.nib.si/eng/index.php/novice/613-marine-biology-station-piran-nacional-institute-of-biology-is-organizing-the-working-group-meeting-of-the-cost-action-oceangov-from-7th-till-8th-march-2019-in-piran-slovenia>

3.4 Other projects Related with Area

1998/2000 – As a member of “Associação Portuguesa para o Estudo e Protecção de Eslamosbrânquios” (<http://www.apece.pt/>) was the main responsible for the implementation of catch/release practises in big-game shark fishery in Algarve. The project intends to give formation relating shark biology and promoting to the sensibility of implement best fishing sportive practises. The works include trips onboard big-game shark fishing fleet to mark sharks and pass the know how to fishermen’s, including biological information. Within this project it was made several presentations (providing advance formation to fishermen) within big-game fishing sport tournaments.

3.5 Other submitted non-founding Projects (as PI)

2010- PTDC/AAC-AMB/120649/2010 - CLIMFISH - Climate change’s (hidrologycal & Oceanographic) effects on coastal fishery

2010 - PTDC/MAR/119222/2010 - BHydrOF: The importance of integrate Hydrologic and Oceanographic effects (Climatic) for the sustainable management (IWRM and ICZM) of coastal Bivalve Fisheries.

2013 - EXPL/AAG-REC/1059/2013 - CLIMFISH - Atlas: Atlas of the sensibility of the species caught in commercial fisheries to climatic variability

2014 - PTDC/MAR-BIO/2679/2014 - FISHCLIM: Predicting the impact of climate-driven changes in marine fisheries

2014 - PTDC/AAG-GLO/2572/2014. Unravelling the POLYP stage: an avenue for the management of jellyfish blooms?

2015 - MOsAIC – MOdelling fisherieS and Aquaculture Impacts in Mediterranean Coastal areas ; Project Founding: COFASP (Cooperation in Fisheries, Aquaculture and Seafood Processing(2ndCall – ERA-Net)

2016 - ACRONYM : AtlanSar; Project Founding: SARDINE_INTERREG; Project code number: EAPA_309/2016

2008 - Project Founding: PTDC/AAC-AMB/102894/2008; ACRONYM: Impact of aquatic invertebrate alien species in estuaries ecosystems - Guadiana as a study case

3.6 Research interests

My research most focus on quantitative analysis and assessment of exploited fish stocks and fisheries based on collection, management and regional analysis of fisheries. This include undertake analyses and interpretation of biological and ecological data and fisheries statistics (time series analyses- statistical analyses of data collected for the assessment of commercial fisheries) and provide scientific support for enhance regional management with potential effect on policy advice (namely Marine Policy Strategy that is mandatory by EU commision). My research aims provide a sound basis for assessing the vulnerability of coastal fisheries and marine ecosystems/ecology to climate changes and fisheries by understand the status of the fisheries and linked fluctuation in fisheries time series with ecology and environmental interactions. Predicting the effect of short- to long-term climatic changes on the productivity, fisheries dynamics and distribution of coastal stocks and fisheries is also one of the main objectives. Therefore, my current research is expected to assist the development of the national strategies for articulate European and National, CFP, IWRM and ICZM (that highly the strategic importance of coastal areas) through a participatory approach promoting an active role of water managers, social stakeholder and water resources end-users, as water resources are recurrently and chronically exchanged between inland and coastal water systems. The interdisciplinary character of my research interests initiates constant collaboration with scientists from computer, natural and life sciences. My research recently is moving for the effect of jellifish blooms in fisheries.

4. Experience in scientific cruises (only most scientific/technical)

- 1998 – 2019** – Several commercial trips in nearshore small artisanal local boats, seine and trawl boats for biological sampling and assess gear selectivity and impact on environment (more than 60 trips); octopus fishery; estuarine fisheries onboard small scale boats for biological sampling, characterization, socio-economic inquiries
- 2008** – Onboard a longline commercial shark fishing boat (from 12 October to 21 November) for characterise longline catches, biological sampling and hook selectivity experiments.
- 2003-2008** – Scientific Research Vessel “NI Puntazzo” within projects MARE - “Estudo do Impacto dos Recifes Artificiais na Costa Algarvia” and “Campanhas de Bivalves do Litoral Algarvio” (several campaigns)
- 1998-2003** Onboard the scientific vessel “NI Donax” within the aim of the following projects: Fantared II” (FAIR CT98-4338); ECODREDGE (FAIR CT98-4465). “Hake set gears fisheries in Mediterranean and eastern Atlantic waters” (Study Contract 97-0064). Scientific vessel “NI Donax”, “Impact of Artificial reefs in the Algarve Coast” (STRIDE/C/-MAR235/92). (several campaigns)
- 1998** - Scientific vessel campaign onboard “Noruega” within the project “Deep sea fishes cruise” (7 to 23 August).

5. Other activities related with area

Teaching experience:

In University:

2014 - Leitão F. 2014. Dynamic of coastal fisheries resources: ecosystem approach to fisheries. Seminar to student of dynamic of aquatic ecosystems within ERASMUS MUNDUS Biodiversity and Conservation MASTER. 17 de Outubro

2012 - Lecture of International Summer Course in Ecohydrology: From River To Coasts. Integrating river influence on coastal fisheries dynamics (Doutor Francisco Leitão). 01 August. University of Algarve (Invited by Prof. Luis Chicharo)

2012 - Lecture of the Seminars of Ecology of resources, Master in Aquaculture & Fisheries. Climatic changes and near shore fisheries (Doutor Francisco Leitão). 15 June. University of Algarve (Invited by Prof. Karim Erzini & Prof. Alexandra Chicharo)

2011 - Lecture of the ERASMUS MUNDUS Master of Science in Ecohydrology: (Invited by Prof. Luis Chicharo): Ecological data management, exploitation and analysis

2011- Practical field lectures of Marine Biology licensure (Biology of Invertebrates) and Master (Ecosystems Dynamics)

2011 - Algarve artificial reefs fish assemblages and trophic ecology: implications for the local near shore fisheries (Francisco Leitão) 09 June 16:00 2.14. Lecture of the Seminars of Ecology of resources, master in aquaculture & fisheries (Invited by prof. Alexandra Chícharo)

2010 - Algarve artificial reefs fish assemblages and trophic ecology: implications for the local near shore fisheries (Francisco Leitão) 09 June 10:00 2.14. Lecture of the Seminars of Ecology of resources, master in aquaculture & fisheries (Invited by prof. Alexandra Chícharo)

2009 - Algarve artificial reefs fish assemblages and trophic ecology: implications for the local near shore fisheries (Francisco Leitão) 30 April 17:00 2.57. Lecture of the Seminars of Ecology of resources, master in aquaculture & fisheries (Invited by prof. Alexandra Chícharo)

2009 - Introduction to multivariate ecological data analysis. (Francisco Leitão), 6th October 16:00 to 18:30. (Master classes in aquaculture & fisheries (Invited by Prof. Luis Chícharo)

2009 - Introduction to multivariate ecological data analysis. (Francisco Leitão) 13th October 16:00 to 18:30. (Master classes in aquaculture & fisheries (Invited by Prof. Luis Chícharo)

In secondary schools:

2009 -2011 - In collaboration with Algarve University it was participate as a lecture of “Environmental water volunteering” schools project. These sessions aimed to provide teachers with the technical know-how regarding Aquatic systems functioning at a basin scale (LOICZ) and streams bio-assessment using biological indicators (macroinvertebrates).

At UNESCO Activities:

2009- 2011 – It was participated in several events by invitation or within ICCE – International centre for Coastal ECOHIDROLOGY Activities as a speaker and have been involved in advances seminar (more than 300 hours as a speaker) regarding Educational, Science, Organization & Cooperation.

Private sector:

Due to the knowledge acquire regarding Data Bases was invited to lecture (*FormAlgarve* formation centre) the following advanced formations graduation courses (advanced courses)

2007 - Data base (MS Access) former (30 hours)

2006 - Data base (MS Access) former (28 hours)

2013-2014 - Ação de Formação contínua, Macroinvertebrados e Sistemas Costeiros. Escolar secundária João de Deus, Faro; Destinatários: Professores de ensino secundário; Modalidade : Oficina de Formação Carga horária: 25 horas, Centro de Formação a Ria Formosa início 27 Dezembro; Categoria: Formador

English: Category: Head of the formation in Macroinvertebrates and coastal systems; Target audience: secondary school teachers; content of the formation: FL lecture 25 hours enabling participants to get a certificate

Consultancy works (Technical projects: as consultant I have huge interest regarding environmental, health , socio-economic impact evaluation of technical projects)

2018 - Consultant/ adviser of Les – Laboratório De Engenharia Sanitária, University of Algarve. Campus Penha. Thematic: Characterization of Ecological Quality (streams of Algarve) - Benthic macroinvertebrates as bioindicators.

2016-2017 – Consultant/ adviser (Socio-economic impact analysis) of the SINFIC (Sistemas Inf. Ind. e Consultoria, S.A). It was responsible (scientific coordination) for the conception and elaboration of the contents of the course of Aquaculture, within Education Ministry of Angola technical-professional Formation area. It was the responsible for technical and scientific development of several manuals the course of “Marine biology, ecology, fisheries and aquaculture technical course in Angola”

2013-2016: Consultant of Portuguese Environmental Agency (APA) at Algarve (Hydrographic Regional Administration). Theme: evaluating water quality using benthic macroinvertebrates in Algarve streams within water frame directive mandatory policy

2011- Consultant/ adviser (Environmental impact analysis) of the AquaSacrum Lda. It was responsible (scientific coordination) for the pre-implementation environmental impact study regarding the effect of deployment a logline bivalve offshore farming on marine communities, sediments and water properties (May 2011).

2011 - Consultant/ adviser (Environmental impact analysis) of the AquaSacrum Lda. Feedback Opinion: Clarification about problems aroused by fishermen’s to the development of a shellfish farming structure for ostrea *Crassostrea angulata* in offshore waters off Algarve. 8p.

2011 - Consultant/ adviser (Environmental impact analysis) of the AquaSacrum Lda. Monitoring plan for development of shellfish farming for ostrea *Crassostrea angulata* in offshore waters off Algarve. 18p.

2011. Consultant/ adviser (Environmental impact analysis) of the AquaSacrum Lda.) ESTUDO DE INCIDÊNCIAS AMBIENTAIS, Estudo Prévio RESUMO Maio de 2011: Sistema de cultura suspensas em mar aberto (cultura em Off-Shore), para crescimento de bivalves, destacando-se a ostra portuguesa (*Crassostrea angulata*), em regime de produção extensivo.14p. English: Suspended bivalves aquaculture systems in coastal waters (longline culture) for growth of Portuguese oyster (*Crassostrea angulata*)

2006 – Consultant/ adviser (Socio-economic impact analysis) of the SINIFIC (Sistemas Inf. Ind. e Consultoria, S.A). It was responsible (scientific coordination) for the Health, Environmental and socio-economic impact study regarding the impact of a liquid natural gas facility construction (in Angola, Africa Continent) on Estuarine/marine environment and associated artisanal fishing communities.

Supervision or co-supervision experience (Thesis)

Posdoc students (2)

- (2 x Posdoc) Under recently awarded project as PI

Doctoral students (8)

- (3 x PhD students) Under recently awarded project as PI
- Rogério Ferreira (SFRH/BD/73947/2010) - Title: Hawksbill Sea Turtle, *Eretmochelys imbricata*, Population Dynamics in Príncipe Island. Faculdade de Ciências e Tecnologia da University of Algarve (ongoing).
- Vânia Baptista (SFRH/BD/104209/2014): Influence of oceanography and larvae behaviour on recruitment of temperate fishes: The importance of physics–biology links to manage fisheries at a local scale. Faculdade de Ciências e Tecnologia da University of Algarve (ongoing).
- Jeremias Joaquim Mocuba. 2016. Small scale fisheries and recruitment Ecology of fisheries resources along to the Bons Sinais Estuary - Mozambique. Faculdade de Ciências e Tecnologia da University of Algarve (ongoing).
- Bonifácio Carlitos Manuessa. 2016. Population dynamics, Ecology, reproductive biology and socioeconomic importance of the mud crab *Scylla serrata* captured by artisanal fishing along to the Bons Sinais Estuary - Mozambique. Faculdade de Ciências e Tecnologia da University of Algarve (ongoing).
- Zohreh Mazaheri Kohanestani (from Iran); Position: PhD student-Department of Fisheries and Environmental sciences; Thesis Title: Identification, spatial and temporal distribution patterns of fish larvae in coastal southeastern waters of Caspian Sea- Golestan province (ongoing)

Master Students (16)

- (2 x master students) Under recently awarded project as PI
- Ruben Perez. 2018. Effect of environmental on sea turtles populations in São Tomé and Príncipe island (Marine Biology Master, University of Algarve)
- Rute Louceiro da Silva. 2017. Ecologia do crustáceo decápode não nativo (NIS) *Palaemon macrodactylus* no ecossistema estuarino do Guadiana. (BM) Marine Biology (ongoing)
- Pedro Monteiro. 2016. An analysis of westerly wind intensity on the Portuguese coastline: establishing a baseline for long and short terms of westerly wind intensity in three locations of the Portuguese coastline. International Master of Science in Marine Biodiversity and Conservation, EMBC+, university of Algarve). 38pp.
- Nacho Pérez Blasco. 2016. Environmental Variability And Fishing Effects On Artisanal Commercial Flatfish Fisheries Along The Portuguese Coast. (International Master of Science in Marine Biodiversity and Conservation, EMBC+, university of Algarve) 39pp.
- Domingas Perpétua André Quiatuhanga. 2015. Ecologia alimentar, Idade e crescimento, aspectos reprodutivos e relações morfométricas da *Sardinella aurita* (Valenciennes, 1847) e *Sardinella maderensis* (Lowe, 1838) na costa sul de Angola. Dissertação apresentada à Faculdade de Ciências e Tecnologia da Universidade do Algarve para obtenção do grau de Mestre em Biologia Marinha. 106pp. (Marine Biology master, University of Algarve)
- Nelson Baiao Cambinda. 2015. Crescimento, ecologia alimentar e reprodução do Carapau do Cunene (*Trachurus trecae*; Cadenat, 1949), na costa sul de Angola-Namibe. Dissertação apresentada à Faculdade de Ciências e Tecnologia da Universidade do Algarve para obtenção do grau de Mestre em Biologia Marinha. 88pp. (Marine Biology master, University of Algarve)
- Marta Isabel Oliveira Martins. 2015. Ocean acidification in shallow water volcanic CO₂ vents of the Azores: effects of macrobenthic assemblages. Master of Science in Marine Biodiversity and Conservation. Within the ERASMUS MUNDUS Master Programme EMBC. 69pp. (Master of Science in Marine Biodiversity and Conservation)

- Vitali Bakun. 2013. A multimodel approach to assess the effect of climate Changes over demersal fisheries in Portuguese coast (M. Merluccius and Micromesistius poutassou). (University of Algarve, Marine Biology Master, ongoing)
- Viola Alms. 2013. A multi-model approach to analyse environmental effects on small (Sardina pilchardus) and medium (Scomber scombrus) pelagic fish species along the Portuguese coast. Master of Science in Marine Biodiversity and Conservation. ERASMUS MUNDUS Master Programme EMBC. June 2013. 73p. (Erasmus Mundus programme Marine Biodiversity and Conservation at Bremen University) Link: <http://embc.marbef.org/index.asp?p=1660&a=1660&mod=teacher&id=1553>
- Vânia Baptista. 2012 Impacts of environmental changes on bivalves harvesting in Portuguese coast. Dissertação de Candidatura ao grau de Mestre em Ciências do Mar – Recursos Marinhos Especialidade em Biologia e Ecologia Marinhas submetida ao Instituto de Ciências Biomédicas Abel Salazar da Universidade do Porto.(20 - Dezembro 2012). (University of Porto, Institute of Biological Sciences “Abel Salazar”, Aquaculture and Fisheries Master).Link: <http://repositorio-aberto.up.pt/bitstream/10216/68938/2/1541.pdf>
- Hadayet Ullah. 2012. Establishing relationships between climatic variables and coastal fisheries of Portugal. Master thesis submitted for the fulfilment of the title of Master of Science in Ecohydrology. FCT, University of Algarve, 89p. FCT, University of Algarve (6-September). , Master in Ecohydrology, Programa Erasmus Mundus (University of Algarve, Faculty of Sciences and Technology)
- João Encarnação. 2012. Impact of submarine ground water discharges on subtidal meiofauna and macrofauna benthic communities/Avaliação do impacto das descargas submarinas de água subterrânea nas comunidades de meiofauna e macrofauna bentónicas, Olhos de Água (Algarve). Dissertação Para Obtenção Do Grau De Mestre Em Ecologia Marinha. Faculdade de Ciências da universidade de Lisboa. Universidade De Lisboa Departamento De Biologia Animal. 65p. (Universidade de Lisboa, Faculty of Sciences). http://repositorio.ul.pt/bitstream/10451/7829/1/ulfc_tm_joao_encarnacao.pdf
- Rute Isabel Pinto de Brito. Rute Brito. 2011. Influência de descargas de água subterrânea na concentração de nutrientes e comunidades planctónicas do sapal de Castro Marim, Vila Real de Santo António (Portugal). Mestre em Biologia Marinha, Especialização em Ecologia e Conservação Marinha. University of Algarve, 89p. FCT, University of Algarve. (Universidade do Algarve, Faculty of Sciences and Technology) Link: <https://sapientia.ualg.pt/bitstream/10400.1/2933/2/tese%20finalissima%20parte%20L.pdf>

English title: The effect of submarine groundwater discharges over chemical nutrients concentration and planktonic communities in Guadiana saltmarshal estuarine systems.

- Isa Máximo. 2009. Avaliação da qualidade da água das ribeiras do Algarve: uso de macroinvertebrados bentónicos como bioindicadores. Dissertação para a obtenção do grau de Mestre em Biologia Marinha, Especialização em Ecologia e Conservação Marinha. University of Algarve, 50p. FCT , University of Algarve (During April to December, 2009). (University of Algarve, Faculty of Sciences and Technology)

English title: Evaluation of water quality in Algarve watershed: using benthic communities (macroinvertebrates) as bioindicators.

Undergraduate students; 3 year degree students; Scientific initiation Grants BII(4); Experimental work students; Internships (13)

- José Rui Ferreira Picoto Carneiro. 2019. Biological characterization of commercial invertebrate and fish species off Portuguese Coast. Experimental work in Marine Biology (3ECTs)
- Sophia Drs. 2019. feeding ecology of small mud crabs in inhabiting different estuaries and lagoons in Portugal-using isotope. BSc Coastal and Marine Management study program at the Van Hall Larenstein University of Applied Science Leeuwarden, the Netherlands (4 months trainship)
- Maria Kosmarikou. 2019. Larvae recruitment trends of small commercial species in estuaries and lagoons areas of Portugal. Research program offered by CCMAR. trainship Erasmus program (4 months traineeship; 7/10/2019 to 17/1/2020.)
- Martyna Plewniak. 2018. Ecological status of water bodies of the Algarve region based on macrofauna communities. Traineeship Agreement signed by Univ. of Gdańsk and the CCMAR (4 months)
- Davide Morais Araújo. 2018. Biologia reprodutiva de caranguejo verde (*Carcinus maenas*); análise de dados aéreos de cavalete (*Uca tangeri*). Experimental work in Marine Biology (3ECTs)
- María Nieves Cuesta Segura. 2018. certificate of stage Mobility plan | integral program of qualification and employment. European Grant found. Advance professionalization (within CCMAR and public Governmental entities protocol, FL was the Scientific supervisor).
- Loann Brozzetti 2018. Internships B. Sc. in Biology or Marine Biology from University of La Rochelle (ULR), France (FL Scientific supervisor).
- Eugénia Barroca Pereira Da Rocha. 2016. Evolução da comunidade bentónica em comparação com a deriva litoral junto à Barra do Ancão, Ria Formosa (ongoing)
- Filipa Braga. 2009. Efeitos dos pulsos de água doce na qualidade da água e na comunidade de macroinvertebrados bentónicos na ribeira do Vascão. 16p University of Algarve, FCT (20-September).

English title: The effect of superficial water pulses over the water quality in Vascão stream. Freshwater benthic communities as bio-indicators (Marine Biology course)

- Sofia Gigante. 2009. Efeito dos pulsos de água doce nas comunidades de macroinvertebrados bentónicos de ribeiras do Algarve. 15p. University of Algarve, FCT (20-September).

English title: The effect of superficial water pulses over stream macroinvertebrates in Algarve region (South Portugal). (Marine Biology course)

- Alexia. G. 2011. Efeito da descarga de água doce subterrâneas sobre os Macroinvertebrados de substratos rochosos nas zonas costeiras. (Marine Biology course)

English title: Effect of costal groundwater discharges over coastal rocky benthic communities (ongoing)

- Matos, A. 2011. Efeito da descarga de águas subterrâneas nas comunidades de macrofauna bentónica arenosa da zona costeira (análises multivariadas). Experimental Work in Marine Biology.

English title: Effect of submarine groundwater discharges over coastal sandy benthic communities – Multivariate analysis (Marine Biology course)

- Vitali Bakun. 2012. Working with remotely-sensed oceanographic data (Marine Biology course, Experimental Work).

Academic proves Juri (by Invitation)

Juri of PhDs

Miguel Tiago Cantiga Lopes de Oliveira. 2016. The role of artificial reefs to promote biodiversity and sustainability of the Ecotourism in Cape Verde: Ecological, Biological and management aspects (main arguing, Invited by University of Algarve scientific Council). Degree of Philosophy in Marine and Environmental Sciences, Speciality in Marine Biodiversity. University of Algarve, Faculty of Sciences and Technology (30 September 2016)

Masters panel member (9):

- Isa Máximo. 2009. Avaliação da qualidade da água das ribeiras do Algarve: uso de macroinvertebrados bentónicos como bioindicadores. Dissertação para a obtenção do

grau de Mestre em Biologia Marinha, Especialização em Ecologia e Conservação Marinha. University of Algarve, 50p. FCT, University of Algarve (04-December).

English title: Evaluation of water quality in Algarve watershed: using benthic communities (macroinvertebrates) as bioindicators.

- Rute Brito. 2011. Influência de descargas de água subterrânea na concentração de nutrientes e comunidades planctónicas do sapal de Castro Marim, Vila Real de Santo António (Portugal). Mestre em Biologia Marinha, Especialização em Ecologia e Conservação Marinha. University of Algarve, 89p. FCT, University of Algarve (14-October).

English title: The effect of submarine groundwater discharges over chemical nutrients concentration and planktonic communities in Guadiana saltmarsh estuarine systems.

- Hadayet Ullah. 2012. Establishing relationships between climatic variables and coastal fisheries of Portugal. Master thesis submitted for the fulfilment of the title of Master of Science in Ecohydrology (within the ERASMUS MUNDUS Master programme ECOHYD). FCT, University of Algarve, 89p. FCT, University of Algarve (6-September).
- Rosemary Masikini 2012. Spatial Variability Of Macroinvertebrate Assemblages And The Influence Of Hydrology And Environmental Variables Along The Sigi River, Tanzania- East Africa. Master thesis submitted for the fulfilment of the title of Master of Science in Ecohydrology (within the ERASMUS MUNDUS Master programme ECOHYD). FCT, University of Algarve, 58p. FCT, University of Algarve (1-October).
- Vânia Baptista. 2012. Impacts of environmental changes on bivalves harvesting in Portuguese coast. Dissertação de Candidatura ao grau de Mestre em Ciências do Mar – Recursos Marinhos Especialidade em Biologia e Ecologia Marinhas submetida ao Instituto de Ciências Biomédicas Abel Salazar da Universidade do Porto.(20 - Dezembro 2012).
- Viola Alms. 2013. A multi-model approach to analyse environmental effects on small (*Sardina pilchardus*) and medium (*Scomber scombrus*) pelagic fish species along the Portuguese coast. Master of Science in Marine Biodiversity and Conservation. ERASMUS MUNDUS Master Programme EMBC. June 2013. 73p.(26 June 2013)
- Pedro Munoz Exposito. 2015. “Assessing the atmospheric oscillations effects on the biology of the bullet tuna (*Auxis rochei*) and its possible linkage with global warming”. Master in Marine Biology, University of Algarve (27 November 2015)
- Domingas Domyquia: Ecologia alimentar, Idade e crescimento, aspectos reprodutivos e relações morfométricas da *Sardinella aurita* (Valenciennes, 1847) e *Sardinella maderensis* (Lowe, 1838) na costa sul de Angola”. Master in Marine Biology, University of Algarve (12 November 2015).

- Suzana João da Conceição Nicolau: Caracterização da Macrofauna Bentónica da Baía de Luanda- Angola. Master in Marine Biology, University of Algarve (15 september 2016)

Courses organization:

2019 – Advance course: **Leitão F.** Biological Sampling (experimental design) and data treatment in ecology. “BIOFISH – QoL – Capacity building Action 1”. School of Marine and Coastal Sciences (Eduardo Mondlane University), Quelimane, Zambézia-Moçambique (hours:8). 25 February 2015 (organization and lecture)- see g folder provided digitally namely: “Certificados_Formacoes_Dadas”.

2011 – At Centre of Marine Science (university of Algarve): Practical ecological modelling and analysis for coastal and marine management (responsible for the course)

Link: <http://www.ccmarmar.ualg.pt/home/index.php?id=901>

The course consisted of lectures followed by computer exercises that demonstrate analysis techniques using real ecological and oceanographic datasets. Both theoretical and practical topics were addressed, but the emphasis will be on practical applications of MGET and ArcGIS software to research problems in Coastal marine ecology & Coastal fisheries.”

6. Specialization areas

- **General scientific skills** - project management, report writing and presentation skills
- **Relational Data Bases:** MySQL user language, MSACCESS
- **Climatic effects on fishery resources:** Oceanography, Hydrology (at a basin scale) and fishing effects on marine resources and marine ecosystem ecology
- **Bio statistical and fisheries analysis; experimental design (high expertise on statistical data treatment)** - univariate and multivariate statistics; time series analysis (linear and non-linear estimation); Geo-Statistical analysis; stock assessment analyses (R-language link to Brodgar plataform; SPSS; Statistics, FISAT; CLIMPROD etc); population dynamics; ARIMA/ARIMAX. Fisheries Catch Dynamic Models, Stock assessment (FISAT etc)
- **Fisheries Biology** – identification and sampling (age; growth, reproduction) of Cephalopoda, Crustacean, Bivalvia and Fish (bony fish and Elasmobranchia)
- **Fishing gears technology** – Efficiency and selectivity of dredges, gill-trammel net; gear design

- **Fisheries and benthic Ecology** – Impact of fishing gears on macrofauna communities, environment-fish relationships
- **General Ecology** – Macroinvertebrates as biological indicators of freshwater, transitional and coastal waters, accordingly water frame directive (WFD) and “new” marine policy strategy
- **GIS** – data mining and predictive modelling using ARCGIS advanced tools such as MGET tool (FEET tool) in ARCToolbox (ability to design with Query Building allowing multiple repeated routines); using R- tools in GIS environmental – spatial analyst (GAM; GLM; Decision trees; Euclidian distances etc...)
- **Web Design** – Advance course on Photoshop CS2; Macromedia dreamweaver 8; Macromedia Flash 8
- **Laboratory techniques** – Preservation, sampling and identification of benthic fauna, flora and fish.
- **SCUBA diving** – Sampling, visual census (benthic communities and fish assemblages), photography and video recording (more than 800 dives)

7. Languages

Portuguese: Full domain

English: Understanding and speaking (Excellent); Writing (very good)

Spanish: Understanding and speaking (good); Reading (good)

French: understanding (good) and speaking (moderate) and reading

8. Computer software knowledge

General use: MS environment (Excel, Word, PowerPoint, Access and Internet)

- Fisheries modelling (statistical analyses of data collected for the assessment of commercial fisheries): FISAT; Share Each Length Total Catch (SELECT) by ICES (International Commission for the Exploration of the Sea); CLIMPROD (environmental-fisheries stock assessment relationships by FAO);
- Data Bases (MySQL; MSACCESS; UBUNTO; PhP myADMYN)
- Modelling and statistics programs (provide analytical and advisory support on the assessment of marine fisheries – time series analyses and interpretation of biological data and fisheries statistics): *Statistica V.10*; *Sigma-Stat*, *Minitab 12*; SPSS 20 for windows. Brodgar (uses R- packages); R-software; PRIMER –for ecological data analyses;
- Image Software: Photoshop CS2 and others

- GIS (Geographic information Systems) – QGIS; ArcView 10 with extensions for Analysis and classification of satellite images

9. Publications

9.1 Thesis

- **Leitão, F. (2009).** Ictiofauna e ecologia trófica nos recifes artificiais do Algarve: implicações para as pescarias locais

English Title: Algarve artificial reefs fish assemblages and trophic ecology: implications for the local near shore fisheries. PhD thesis. University of Algarve, Faro. 194p. (<https://sapiencia.ualg.pt/handle/10400.1/332?mode=full>)

- **Leitão, F. (2003).** “Estudo comparativo da mortalidade induzida pela faca de mariscar e draga de mão na comunidade macrobentónica associada aos bancos de pesca do berbigão (*Cerastoderma edule*, L. 1758)”. Master thesis, University of Coimbra. 95p.

English Title: “A comparative study to assess the effect of intertidal non-mechanised cockle harvesting on macrobenthic communities”.

- **Leitão, F. (1999).** “Estudo da selectividade da ganchorra utilizada na zona Ocidental Norte para a captura de amêijoas-brancas (*Spisula solida*, Linnaeus 1758 e *Spisula elliptica*, Brow, 1827). Efeito induzido pela arte na macrofauna bentónica (mortalidade indirecta)”. Algarve University, Faro. 64p.

English Title: “Size selectivity of the *Spisula solida* dredge in relation to tooth spacing and mesh size: Influence of mesh size and tooth spacing on the proportion of damaged organisms.”

9.2 Articles in per review journals

Near Future Publications (To submit):

1. Baptista, V., Blasco, N.P., **Leitão, F***. The effect of oceanographic variables in flatfish fisheries (Finishing).
2. **Leitão*** F., Vieira V, Teodósio M.A. Environmental effects induces inter-regional variability in red mullet (*Mullus surmuletus*) artisanal fisheries. Mediterranean Marine Science (Status: Rejected)
3. Martins M., Carreiro-Silva M., Martins GM., Ramos, JB., Viveiros F., Couto R.P., Parra H., Monteiro J., Gallo F., Silva C., Teodósio A., Guilini K., Hall-Spencer J.M., **Leitão F.**, Chícharo L., Range P. Adverse effects of ocean acidification on bivalve

brood stock along volcanic CO₂ gradients in the North Atlantic. PlosOne (Status: Rejected)

4. **Leitão, F.** Canovas F, Teodósio A. Westerly wind marine trends in Portuguese Coast. (Finishing).
5. **Leitão, F.** Canovas F, Teodósio A. Correlative analyses between climatic trends in Portuguese coast. (Finishing).
6. Manuessa B, Gavaia P, **Leitão F***. Age length relationship of *carcinus maenas* crab. Journal of Ichthyology (Finishing).

Submitted papers:

Baptista V, Morais P, Cruz J, Castanho S, Ribeiro L, Pousão-Ferreira P, **Leitão F**, Wolanski E, Teodósio MA. 2019. Swimming abilities of temperate pelagic fish larvae prove that they may control their dispersion in coastal areas. Manuscript ID: diversity-526650 (submitted to Diversity)

Papers Published (* corresponding author)

58. Ruben Roa Ureta, Santos M.N, **Leitão, F.** Modelling long-term fisheries data to resolve the attraction versus production dilemma of artificial reefs. Ecological Modelling (Accepted, after Minor Change)
57. **Leitão F.** 2018. Mean Size of the landed Catch: a fishery community index for trend assessment in exploited marine ecosystems. *Frontiers in Marine Science*; doi: 10.3389/fmars.2019.00302
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***1 . O Ministério da Educação de Angola Não permite a divulgação destes Manuais (ver anexo digital com página apresentação em pasta m – Manuais desenvolvidos para curso de Aquicultura e Pescas, que não pode ser divulgado em nenhuma circunstância a não ser para fins de utilização deste concurso)**

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9.4 Posters

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34. Leitão F. (2018) Integrative approach for enhance quality of live in fishing communities of the ‘Bons Sinais’ estuary (Mozambique) “BIOFISH – QoL. February 16, 2018 (INVITED by School of Marine and Coastal Sciences (Eduardo Mondlane University)
33. Manuessa, B., Borges TC., Leitão F. 2018. Determinação directa das idades, Dinâmica Populacional, Importância socioeconómica, ecologia e biologia reprodutiva do caranguejo de mangal *Scylla serrata* (Forsk., 1755) explorado ao longo do estuário dos Bons Sinais: *Da produção do conhecimento Científico para a produção e melhoria de bens e serviços para as comunidades*. Sessão de Ciências Marinhas e Pescas. Cidade de Mocuba 18-19 outubro de 2018.
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systems. TEMPRIV2012 - International Conference on Temporary Rivers. 12-14 September. University of Évora, Portugal.

16. **F. Leitão**, J. Encarnação, D. Piló, P. Range, A. Chicharo, L. Chicharo. 2012. Effect of groundwater discharges on subtidal benthic communities. ECSA 50. Estuarine Coastal and Shelf Association, Venice, Italy.

LINK: <http://www.estuarinecoastalconference.com/index.html>

15. **Leitão F.**, Chicharo, A. Chicharo, L. 2011. Os macroinvertebrados bentónicos e os ecossistemas costeiros. 2º Encontro Regional de Voluntariado Ambiental para a Água. Loulé, 24 e 25 de Novembro 2011(speaker: Invited by Regional Water management authorities, Algarve). Link:

http://www.arh Algarve.pt/site/parameters/arh Algarve/files/File/upload/Encontros_VAA/2011/2ERVAA_25_26Nov_2011.pdf.

English title: Benthic macroinvertebrates and the coastal ecosystems. 2nd regional meeting for environmental water volunteer.

14. Atanasova N., **Leitão F.**, Mascarenhas A., Boski T. 2011. Rivers Nutrients and fish Catches in Guadiana estuary: from observations to modelling. Symposium “Margem Sul, Processos e Equilíbrios” 10 November 2011, University of Algarve (Invited by scientific board commission).

13. Teixeira C M., Gamito R., **Leitão F.**, Cabral H. N., Erzini K, Costa M.J. 2012. Trends in landings of fish species potentially affected by climate changes in Portuguese fisheries. Predictions and adaptations of climate change impacts on fish and fisheries. Proceedings of the 6th World Fisheries Congress Sustainable Fisheries in a Changing World. Edinburgh, Scotland. Book of Abstracts. Pg5

12. **Leitão F.**, Teixeira C., Roberts J., Chicharo L. 2012. Ecological trends in Portuguese fish assemblage's over the last 60ths. Proceedings of the 6th World Fisheries Congress Sustainable Fisheries in a Changing World. Predictions and adaptations of climate change impacts on fish and fisheries. Edinburgh, Scotland. Pg11.

11. **Leitão F.**, Máximo I. 2010. A Importância da Determinação da Qualidade Ecológica da água nas Ribeiras (Sistemas Aquáticos) do Algarve, no âmbito da Directiva Quadro de Água. Encontros imediatos com a Ciência. Centro de Ciência viva de Tavira. 26 Novembro (Invited, oral presentation).

English title: Importance of stream ecological quality determination in Algarve within water frame directive proposes. Science Lectures of Tavira life Science Centre. 26 November (Invited).

10. **Leitão F.** 2010. Algarve artificial reefs fish assemblages and trophic ecology: implications for the local near shore fisheries (Doutor Francisco Leitão). Lecture of the Seminars of Ecology of resources master aquaculture & fisheries. 09 June. University of Algarve (Invited)

9. Santos M.N., **Leitão F.**, Moura A., Cerqueira M. & Monteiro C.C. 2009. Diplodus spp assemblages on artificial reefs of different ages: influence of the associated epibenthic macrofauna. 9th Conference on Artificial Reefs and Artificial Habitats, 8-13 November 2009, Curitiba, Brazil.
8. **Leitão, F.**, 2009. Algarve artificial reefs fish assemblages and trophic ecology: implications for the local near shore fisheries (Doutor Francisco Leitão). Lecture of the Seminars of Ecology of resources master aquaculture & fisheries. 30 April. University of Algarve (Invited)
7. **Leitão, F.**, 2007. Does the attraction of predators to an artificial reef cause indirect effects on reef-associated species? Seminários do mar e do ambiente. Faculdade de Ciências do Mar e do Ambiente. Algarve University. 3 May.
6. **Leitão F.** 2007. Artificial Reefs: Oasis for Marine Life in Algarve. Seminar about the convention on Biological Diversity - "*Biodiversity: Way for a Sustainable Evolution*". (www.Sylvestris.org/seminar.html). Sylvestre Foundation, Instituto Superior de Agronomia, October 27 to 29, Lisbon. (Invited, oral presentation)
5. **Leitão, F.**, Santos M.N., Erzini, K. 2006. Does the attraction of predators to an artificial reef cause indirect effects on reef-associated species? The sea bass, *Dicentrarchus labrax* (Linnaeus, 1758) case study. XIV Simpósio ibérico de Estudos de biologia Marinha (SIEBM XIV). 12-5 Setember 2006. Barcelona, Spain: 212
4. **Leitão F**; Santos, M.N., Curdia, J; Moura, A., Monteiro, C.C. Contribution of the Algarve artificial reefs (Southern Portugal) to the feeding diet of *Diplodus sargus* (L. 1758). 8th International conference on Artificial Reefs and Artificial Habitats. 10-14 April 2005. Biloxi, USA:36.
3. Gaspar, M.B., **Leitão, F.M.**, Santos, M.N., Chícharo, L.M., Chícharo, A., Monteiro, C.C., 2004. Which are the benefits of using more selective and efficient bivalve dredges? World Congress of Malacology, 11-16 July 2004, Perth, Australia: 46.
2. Gaspar, M.B., **Leitão, F.**, Santos, M.N., Chícharo, L., Dias, M.D., Chícharo, A., Monteiro, C.C., 2003. Influence of dredge efficiency and selectivity on macrobenthic mortality. 38th European Marine Biology Symposium, 8 a 12 de Setembro, Universidade de Aveiro, Aveiro: 80.
1. **Leitão, F.M.S.**, Gaspar, M.B., 2003. Comparison between the impact induced by harvesting knife and hand dredge in the macrobenthic community associated to cockle (*Cerastoderma edule*, L.) fishery (Ria Formosa lagoon – Southern Portugal). 38th European Marine Biology Symposium": Threats: **Management and Conservation: Human impacts and restoration**. 8-12 Setembro 2003. Aveiro, Portugal. (83) 87-88.

9.5 Works as referee for peer review journals

- Journal of Marine Biological Association of the U.K.

- Fisheries Research
- Journal of Fish Biology
- ICES Journal of Marine Science
- Scientia Marina
- Marine Biology
- Marine Ecology Progress Series
- Journal of Ecosystem & Ecography (Environmental Sciences Group)
- Chinese Journal of Oceanology and Limnology
- Journal of Applied Ichthyology
- CBM - Cahiers de Biologie Marine
- Asian Fisheries Science journal
- Marine Policy
- Hydrobiologia
- Fisheries Bulletin
- Acta oceanologica Sinica
- Journal of Aquatic Research and Marine Sciences
- Aquatic Conservation: Marine and Freshwater Ecosystems
- Estuarine, Coastal and Shelf Science
- Progress in Oceanography
- Marine and Coastal Fisheries (Dynamics, Management, and Ecosystem Science)
- Ocean & Coastal Management
- Frontiers in Marine Science
- Helyion (Elsevier)
- Thalassas: An International Journal of Marine Sciences
- Science of Total Environment
- Scientific Reports

10. Editorial activity

2018 - Invited/Guess editor of Frontiers in Marine Science, special topic: Climate Change effects on fisheries

LINK: <https://www.frontiersin.org/research-topics/9051/vulnerability-of-fisheries-to-climate-change>

2019 – Editorial board of Helyion (ELSEVIER); <https://www.heliyon.com/editorial-team/board/>

2019 –Editorial board of Marine Pollution (invited by Frontiers in Marine Science) – still treating bureaucracies for endorse to editorial border

11. Awards

24/09/2000 - As recognition of the effort carried out for the promotion of ecological-friendly big-game fishing (*Catch & Release*) within sportive fishermen's practises (Link: http://www.apece.pt/apecce_bolsas.html)

16/11/2012-14 - As recognition of the formation given within the “water volunteer project”, given by the Portuguese environmental agency.

12. Membership (Associations)

- Advisor scientific board for Basin-watershed and Coastal management in Algarve. Invited in 2015 by Environmental Protection Agency (EPA, ARH-Algarve)

- Ordem dos Biólogos (National Biology science Association)

- Associação Portuguesa para o Estudo e Protecção de Eslamosbrânquios (<http://www.apece.pt/>)

- Associated member of the UNESCO, International Centre for Coastal Ecohydrology (ICCE).

- Associated member of the Land Ocean Interaction of Coastal Zone (LOICZ).

- EuroScience free Associate Member

12. Software Packages

Kirchner, A.C. & Leitão, F (2019). fiddlercrab: Data extraction, manipulation and visualization for drone records in the CRUSTAPANHA project. R package version 0.0.1.13. [GitHub]

13. Media (as result of past and ongoing team work)

Project BIOFISH:

<https://www.ccmар.ualg.pt/en/project/biofish-fisheries-vulnerability-climate-change>

<https://ccmar.ualg.pt/en/news/postcard-quelimane-zambesia-mozambique>

<https://barlavento.pt/destaque/ualg-visitou-mocambique-e-lancou-o-projeto-biofish>

<http://www.postal.pt/2019/02/ualg-estreita-relacoes-com-mocambique/>

<https://destakepopular.wordpress.com/2019/02/25/universidade-do-algarve-foi-a-mocambique-estreitar-relacoes/>

TV – Broadcast – evening Mozambique main channel news at 1 Mars 2019

Link:

http://online.tvm.co.mz/site/ondemand/informacao/2101903100000500321/jornal_da_tarde

(Schedule: 23:42 minutes)