

RICARDO CERQUEIRA

MOLECULAR AND MICROBIAL BIOLOGIST

I am a passionate scientist who believes that the fusion of science and technology can pave the way for a brighter future. My work is driven by a personal commitment on raising awareness about environmental issues and advocating for sustainable practices. I like to see work as a challenge - an opportunity to innovate and to grow. Beyond the lab, I am an avid reader, art enthusiast, and enjoy exploring car mechanics, bringing a well-rounded perspective to my work.

SOFT SKILLS

- Determined & Creative
- Resilient
- Learner & Thinker
- Management
- Leadership (SMART Goal)
- Communication

TECHNICAL SKILLS

- Research and Data Analysis
- Bioinformatic Tools (NCBI Blast, Megan, FinchTV, CLC Software, Phylogeny.fr, Unigene, Ensembl Genome Browser)
- Python and Jupiter Notebook
- KNIME Analytics
- SPSS and GraphPad Prism
- LabVantage and SAP
- Office suites

LANGUAGE

Portuguese	●●●●●●●●
English	●●●●●●○○
Dutch	●●○○○○○○
German	●●○○○○○○
Mandarin	●○○○○○○○

DRIVER LICENSE B

EXPERIENCE

2024-Present — LAB TECHNICIAN - CROP SCIENCE, BAYER

BAYER, Bergschenhoek, The Netherlands

- Seed health microbiology laboratory; Quality testing department; Laboratory activities, service assignments, and administrative work on short to medium-term planning.

2022-2023 — RESEARCHER

Centre of Biological Engineering, University of Minho, Braga, Portugal

- Research grant on the "Optimization of phosphorus recovery from agri-industry wastewater" through chemical precipitation; Team member of the project BIOECONORTE - Water and nutrients management based on BIOrefinery and circular ECOnomy towards a sustainable agri-food system of the NORTE of Portugal.

2021-2022 — REAL ESTATE AGENT

REMAX, Portugal

- Thorough understanding of the local real estate market to help clients buy, sell, or rent properties effectively. Customer service, marketing, legal and contractual support, buyer/seller representation, problem-solving, and negotiation.

2019 — INTERNSHIP - MARINE BIOTECHNOLOGY

CCMAR, University of Algarve, Faro, Portugal

- Microalgae cultivation and operation; Characterization and optimization of pilot photobioreactors; water analysis; and microbial communities assessment.

2019 — INTERNSHIP - FISH PHYSIOLOGY

CCMAR, University of Algarve, Faro, Portugal

- Regulation of CFTR regulator in secretory epithelia of killifish (*Fundulus heteroclitus*) using chemical inhibitors/promoters.

2015-2016 — BOARD MEMBER

NEBUA, University of Algarve, Faro, Portugal

- Management, organization, schedule, and coordination of meetings and conferences.

CONTACT REFERENCES

Filomena Fonseca
Assistant Professor
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CCMAR, UAlg
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Gilberto Martins
Junior Researcher
CEB, UMinho
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LANGUAGE SKILLS

Native Language

- Portuguese

Other Languages

- English
- Dutch
- German
- Mandarin

LANGUAGE	SPEAKING	WRITING	LISTENING	READING
PORTUGUESE	C2	C2	C2	C2
ENGLISH	C1	C1	C1	C1
DUTCH*	A1	A1	A1	A1
GERMAN*	A1	A1	A1	A1
MANDARIN*	A1	A1	A1	A1

LEVELS: A1/A2: BASIC USER - B1/B2: INDEPENDENT USER - C1/C2: ADVANCED USER COMMON EUROPEAN FRAMEWORK OF REFERENCE FOR LANGUAGES

*- CERTIFICATES OF COMPLETION RECEIVED

SKILLS SET DISCRIPTION

I want to emphasize that the skills and qualifications listed in my *curriculum vitae* are a product of a diverse range of life experiences, both formal and informal learning, and a unique combination of personal attributes. These abilities encompass both technical and soft skills, reflecting the culmination of my dedication, adaptability, and work ethic over the years. While my WEBSITE and CV provide a snapshot of my capabilities, it is important to understand that my skills have been cultivated through real-life situations, challenges, and a constant pursuit of self-improvement. My journey has been a holistic one, and the skills I bring to the table are a testament to my commitment to personal growth and professional development. However, despite listing the skills, it does not mean I do not need to continue the learning or improvement process. For that reason, I always look forward to new job opportunities and new challenges.

RESEARCH, RESILIENCE, COMMUNICATION, LEADERSHIP, MANAGEMENT, DETERMINATION AND CREATIVITY

I consider myself a scientist, and based on my academic background and experience I can prove I can do good research. Despite lows and highs, I was able to overcome every challenge, made myself clear, and learned along the way. I enjoy thinking and discussing different topics, which makes me well-suited in multi-task environments. I ask questions, give ideas, and plan accordingly to find the answers. My research experiences, Erasmus, initiatives, leading working study groups, and news are proof of leadership and management skills.

TECHNICAL SKILLS

My background in Molecular and Microbial Biology has a strong focus on both fundamental and applied research. It is a good foundation for application in Life Sciences, Health Sciences, or Environmental Sciences. Throughout my academic pursuits, I've developed concepts and techniques, particularly in their practical application for diagnostic technology development.

- Molecular Genetics (ex. Sample collection, Preparation of competent cells, PCR, Cloning, Library screening, DNA extraction and sequencing, Genotyping, RFLPs, ELISA, etc);
- Microbial Analysis (ex. Identification, Cell growth, Biomass, Spectophotometry, FACS etc);
- Preparation of cell cultures;
- Bioinformatic tools (ex. NCBI, BLAST tools, EST databases in UniGene, Phylogeny.fr, Ensembl Genome Browser, UCSC Genome Browser, STRING: functional protein association networks, TFBind, CLC Software, BioEdit, FinchTV, and Megan);
- Water (C, N, P) and Biochemical (Protein, Lipids, Carbohydrates, Heavy Metals) Analysis;
- Python programming and Jupiter Notebook;
- Statistic Analysis (ex. SPSS, GraphPad Prism, KNIME analytics).

EDUCATION

MSc Molecular and Microbial Biology

2018 - 2021

University of Algarve, Faro, Portugal

Detailed Description:

- 1st year: Biology of Unicellular Eukaryotes; Microbial Biology I; Establish and Maintenance of Cell Cultures; Molecular Genetics of Prokaryotes; Molecular Genetics of Eukaryotes; Microbial Biology II; Microbial Ecology; Scientific Diving; Genetic Expression and Pathology; Clinical Microbiology; Seminars in Metagenomics; Optional Laboratory Internship on Fish Physiology; Optional Laboratory Internship on Marine Biotechnology;
- 2nd year: MSc Thesis on Microalgae for the Tertiary Treatment of Effluents in a Pilot-Scale System supervised by Prof. Dra. Luísa Barreira (MarBiotech, CCMar, UAlg) and Dra. Etiele Morais (MarBiotech, CCMar, Ualg); Experimental planning and tasks management of the wastewater treatment plant with the photobioreactors (PBRs) in a pilot-scale system located at Quinta do Lago, Faro, Algarve; Handling and supervision of PBRs; Supervision of bachelor students; Characterization and optimization assessment of the best operational settings to optimize nutrients removal by microalgae depending on the seasonal climatic conditions and water contamination; Planning detailed experiment on genetic (metagenomic) analysis and bioinformatics.

BSc Biology

2015 - 2018

University of Algarve, Faro, Portugal

Detailed Description:

- 1st year: Cellular Biology; Animal Diversity; Mathematics; General Chemistry; Topics in Applied Biology; Invertebrate Biology; Vertebrate Biology; Earth Sciences; Plant Diversity; Physics; Organic Chemistry.
- 2nd year: General Biochemistry; Statistics; Animal Physiology; Plant and Animal Histology; Earth's Surface Processes; Population Dynamics; Animal Ecology; Plant Physiology; Molecular Genetics; Microbiology.
- 3rd year: Bioinformatics; Development Biology; Evolution; Plant Ecology; Habitats Management; Biotechnology and Genetic Engineering; Immunology; Marine Pollution and Ecotoxicology; Geochemistry at the Ocean-Continent Interface; Bachelor graduation project about the Impact of Ocean Acidification on the Intestinal Microbiota of the Marine Sea Bream (*Sparus aurata* L.) supervised by Prof. Dra. Filomena Fonseca (CIMA, Ualg) and Dr. Juan Fuentes (CCMar, Ualg).

TRAINING COURSES

Python Programming

2023

PCEP – Certified Entry-Level Python Programmer, Python Institute (Online)

Description:

- Knowledge of the universal concepts of computer programming, the syntax and semantics of the Python language as well as demonstrate the ability to accomplish coding tasks related to the essentials of programming in the Python language and fundamental skills in resolving typical implementation challenges with the help of the Python Standard Library.

Specialized Training Course in Fundamentals for Scientific Research

2022

University of Minho, Braga, Portugal

Description:

- Characterization technics on science and technology; (Bio)Ethics and intellectual property in scientific research; Health and Safety in a scientific research context; Entrepreneurship and scientific research; Basic principles of technical-scientific and financial management.

Erasmus+ Fellowship - "Strengthening Capacities of Young Leaders and Youth Organisations for Meaningful Community Participation"

2022

Key Action 2: Cooperation among organisations and institutions, Moldova

Description:

- The aim of #CYMECOP project was to "develop leadership competences of young people and support establishing and capacity building of local youth organisations in order to enable them to participate in community policy-making in rural areas of Armenia, Moldova, Ukraine and Portugal.".

German Language

2021

Castelform, Portugal

Description:

- Basic knowledge of German linguistics and basic knowledge about day-to-day interactions.

Chinese Language

2021

Castelform, Portugal

Description:

- Basic knowledge of Mandarin and information about everyday life, shopping and services, and places of tourist interest.

Sales Training

2020

REMAX, Portugal

Description:

- Customer service sales training.

PUBLICATIONS

2022 **BIOGAS PRODUCTION FROM MICROALGAL BIOMASS PRODUCED IN THE TERTIARY TREATMENT OF URBAN WASTEWATER: ASSESSMENT OF SEASONAL VARIATIONS**

Energies, 15(15), 5713, Aug 5, 2022.
https://doi.org/10.3390/en15155713

2022 **TERTIARY URBAN WASTEWATER TREATMENT WITH MICROALGAE NATURAL CONSORTIA IN NOVEL PILOT PHOTOBIOREACTORS**

Journal of Cleaner Production, 378, 134521, Oct 6, 2022.
https://doi.org/10.1016/j.jclepro.2022.134521

2021 **MICROALGAL SYSTEMS FOR WASTEWATER TREATMENT: TECHNOLOGICAL TRENDS AND CHALLENGES TOWARDS WASTE RECOVERY**

Energies, 14(23), 8112, Dec 3, 2021.
https://doi.org/10.3390/en14238112

2021 **IMPACT OF OCEAN ACIDIFICATION ON THE INTESTINAL MICROBIOTA OF THE MARINE SEA BREAM (*SPARUS AURATA* L.)**

Frontiers in Physiology, 10, Nov 28, 2019.
https://doi.org/10.3389/fphys.2019.01446

POSTERS

2023 **OPTIMIZATION OF PHOSPHORUS RECOVERY FROM ANAEROBIC DIGESTER EFFLUENTS IN AGRO-INDUSTRY**

XI INTERNATIONAL SYMPOSIUM FOOD TECHNOLOGY (Aimed at companies and researchers), May 11-12, Murcia, Spain

2019 **THE GREENTREAT PROJECT: MICROALGAE FOR THE TERTIARY TREATMENT OF URBAN EFFLUENTS IN THE ALGARVE, PORTUGAL**

ALGAEUROPE, Dec 3-5, 2019, Paris, France.

2019 **WASTEWATER TREATMENT BY A MICROALGAE ISOLATED FROM AN URBAN EFFLUENT**

ALGAEUROPE, Dec 3-5, 2019, Paris, France.

2019 **HISTONE H3F3A IS ENCODED BY DIFFERENT TRANSCRIPTS WITH DISTINCT 5´-UTRS IN BOTH HUMAN AND ZEBRAFISH**

VII National RNA Meeting: ptRNA2019, Jan 24-25, Porto, Portugal

VOLUNTEERING

2017 **OPEN DAY**
University of Algarve, Faro, Portugal
Description:
- Staff; Organization assistance.

2017 **VETERINARY CLINIC JM AND TROFA MUNICIPAL KENNEL**
Trofa, Porto, Portugal

2017 **XXXII ACADEMIC WEEK**
University of Algarve, Faro, Portugal
Description:
- Program of prevention against behavioral risks.

OTHER RELEVANT ACTIVITIES

2023 **PARTICIPATION IN THE EUROPEAN YOUTH EVENT (#EYE2023)**
June 9-10, Strasbourg, France.
Description:
- The EYE aims to encourage civic engagement, foster dialogue, and empower young individuals.
- A group of young Portuguese individuals organized themselves to discuss various topics to be addressed at the European Youth Event 2023 (EYE 2023) in Strasbourg.
- We wrote a document tackling topics elated to #EUGreenDeal, Illegal Fishing and FoC, Security and Defense, EU values and Education.

2023 **PUBLIC SPEAKING IN THE EVENT “MOSTRA 2023” AT TOMAZ PELAYO HIGH SCHOOL**
March 23-24, Santo Tirso, Portugal
Description:
- The speech was named “Chatting with Tomaz Pelayo Alumni” and hosted by Francisco Bento de Carvalho - MSc student at the New University of Lisbon /SBE.

2023 **PUBLIC SPEAKING HELD AT THE VI EDUCATION AND TRAINING EXHIBITION OF SANTO TIRSO AT FÁBRICA DE SANTO THYRSO**
March 8-9, Santo Tirso, Portugal
Description:
- Testimony of Erasmus+ project together with the representatives of the Agência Nacional Erasmus+ Educação e Formação.
- Presentation of the #cymecop project and dissemination of a manual "You(th) Voice Matters".

2023 **ASSISTING A SEMINAR HELD BY FISH4ME PROJECT AT PRIMARY AND SECONDARY SCHOOL OF VALE DO ÂNCORA**
Jan 25, Viana do Castelo, Portugal

2018 **PARTICIPATION AT REGIONAL COMPETITION OF FAMELAB 2018 "TALKING SCIENCE" – ALGARVE.**
Mar 1, University of Algarve, Faro, Portugal
Description:

- Contest about scientific communication to involve people from outside the scientific community.
- Explanation of a scientific topic within 3 minutes.

2016 **PARTICIPATION AT ANEBIO QUIZ**
UTAD, Vila Real, Portugal
Description:

- Ranked 3 at the Nationals.
- A contest with general questions about biology.

NEWS ARTICLES

2023 **"YOUNG PEOPLE WHO INSPIRE: PARTICIPATING... IN MOLDOVA!"**
News, Set 15, Jornal o Postal do Algarve, Portugal (link)
Description:

- A public opinion about my ERASMUS experience in Moldova, a perspective of how a scientist sees Portugal, and the importance of European Elections.

2023 **"OF THE TEN THOUSAND YOUHNG PEOPLE WHO REFLECTED ON THE FUTURE OF EUROPE, FIND OUT WHO SPOKE UP FOR THE ALGARVE"**
News, Set 15, Jornal o Postal do Algarve, Portugal (link)
Description:

- A paper edition in "CADERNO ALGARVE com o EXPRESSO".
- An opinion about experiences, politics, the future, and the European Youth Event 2023 carried out in the European Parliament of Strasbourg.

2023 **"YOUNG "TIRSENSE" PEOPLE REPRESENTING PORTUGAL AT THE EUROPEAN PARLIAMENT IN STRASBOURG"**
News, Jun 13, Diário de Santo Tirso, Portugal (link)
Description:

- News about youngsters representing Santo Tirso (Portugal) in the European Parliament in Strasbourg.
- Highlights civic initiatives as well as sponsorship contributions.

SEMINARS & CONFERENCES

2022 **4TH INTERNATIONAL CONFERENCE ON BIOGAS MICROBIOLOGY (ICBM-4)**
Altice Forum Braga, Braga, Portugal. May 9-11.

2021 **2ND INTERNATIONAL MEETING OF THE PORTUGUESE SOCIETY OF GENETICS (IMPSG 2021)**
University of Trás-os-Montes and Alto Douro, Vila Real, Portugal. July 1-2.

2019 **METAGENOMICS: STUDYING AND SEQUENCING MICROBIAL COMMUNITIES, PRESENTED BY ISABEL DUARTE (CBMR, UALG)**
University of Algarve, Faro, Portugal. April 9.

2019 **INVESTIGATING THE BIODEGRADATION OF PARACETAMOL BY BACTERIA COMMUNITIES, PRESENTED BY T. L. PALMA (CCMAR, UALG)**
University of Algarve, Faro, Portugal. April 9.

2019 **MICROBIOME: FROM GRAPEVINE TO WINESTUDY METHODS, PRESENTED BY JOÃO SALVADOR SIMÕES (GENOMICS UNIT, BIOCANT).**
Biocant - Centro de Inovação em Biotecnologia, Cantanhede, Coimbra, Portugal. May 2.

2019 **LC-MS IN METABOLOMICS, PRESENTED BY J. P. SILVA (CCMAR, UALG)**
University of Algarve, Faro, Portugal. May 14.

2019 **FISH4ME AT VI WEEK OF NEBUA 2019: "FIGHTING ILLEGAL FISHING: FISH4ME PROJECT"**
University of Algarve, Faro, Portugal. February 19.

2017 **21ST INTERNATIONAL SYMPOSIUM OF MICROENCAPSULATION**
University of Algarve, Faro, Portugal. September 27-29.

2015-2016 **CERTIFICATES OF PARTICIPATION BY THE "NÚCLEO DE ESTUDANTES DE BIOLOGIA DA UNIVERSIDADE DO ALGARVE" (NEBUA)**
Reasons to preserve plant diversity. Endemic Flora of Algarve and Genera of Drosera L., Drosophyllum Link, Pinguicula L., Utricularia L.: Distribution and Carnivore Plant Ecology in Continental Portugal by Prof. Ricardo Canas; Scientific Illustration: Beaty and Precision by Dr. Jorge Palma; Cetaceans along the portuguese continental coast: species, threats and the importance of local stranding networks by Dra. Ana Marçalo; Conservative Genetics of Primates of Guinea Bissau by Dr. Maria Joana Silva; Superbacteria in Foods by Prof. Dra. Leonor Faleiro; Exotics as pets? Why not? by Bruno Maliji and Joel Gomes; How to create a dinossaur by Bruno Maliji; Flying Sharks by João Correia; Seahorses of Ria Formosa: From abundance to extintion by Dr. Jorge Palma; Wild Mushrooms Identification by Ana Luísa Frutuoso; Bioarcheology by Patrícia Monteiro; Why the Warming can't be Natural: Harnessing Butterflies for Climate Closure by Prof. Shaun Lovejoy