

Daniel Filipe Correia Duarte



Education

Master's degree in Aquaculture and Fisheries at University of Algarve, Faro-Portugal

- 2016-2022 (Score: 16 out of 20)

Bachelor's degree in Marine Biology at University of Algarve, Faro-Portugal

- 2010-2016 (Score: 13 out of 20)

Experience and Professional Training

01/04/2022–Present

Research • Research assistant • UAlg & CCMAR

The work plan includes the entire zootechnical functions of the project (fish feeding and tanks cleaning, preparation and participation in samplings, system maintenance, and others) as well as the laboratory analysis of the samples collected (gametes quality analysis, namely sperm motility using the CASA system, cell viability, lipid peroxidation, antioxidant activity by flow cytometry and DNA fragmentation by electrophoresis).

Supervisors: Professor Doctor Elsa Cabrita (UALG & CCMAR).

01/08/2021–31/03/2022

Research • Research fellow • UAlg & CCMAR

The grantee's work plan included experimental activities, analytical work, and data processing of the Aquaexcell project. Fish sampling and maintenance. Germ cells collection and analysis. Briefly, extraction and cryopreservation of isolated spermatogonia or testicular tissue from sole or other species.

Supervisors: Professor Doctor Elsa Cabrita (UALG & CCMAR).

01/09/2019–31/07/2021

Research • Research fellow • UAlg & CCMAR

The grantee's work plan included experimental activities, analytical work, and data processing of the Serinova project. Fish sampling and maintenance. Germ cells collection and analysis.

Supervisors: Professor Doctor Elsa Cabrita (UALG & CCMAR).

15/04/2019–31/08/2020

Research • Research fellow • UAlg & CCMAR

The grantee's work plan included experimental activities, analytical work and data processing of the VENUS project. Cryopreservation of germ cells and larvae of two bivalve species, the Portuguese oyster (*Crassostrea angulata*) and a small saltwater clam (*Chamelea gallina*), applying cryopreservation protocols and quality analysis of cryopreserved material.

Supervisors: Professor Doctor Elsa Cabrita (UALG & CCMAR).

10/2017–03/2022

Research • Research student • UAlg & SHOU



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Development of a MSc's thesis focused on the effect of temperature on Nile tilapia (*Oreochromis niloticus*) strains immune response with recourse to transcriptomics. The main goal of this study was to assess the resistance of a GIFT (Genetically improved farmed tilapia) strain to a specific pathogenic bacterium, under the effect of global warming, and to identify immune related genes connected to this infection. The experimental work necessary for this project was conducted at the Shanghai Ocean University (SHOU) which was an amazing opportunity to learn new techniques and work in a challenging environment. This dissertation is part of the MSc's in Aquaculture and Fisheries from the University of Algarve (UALg).

Supervisors: Professor Doctor Adelino Canário (UALG & CCMAR), Professor Doctor Liangbiao Chen (SHOU).

10/2015–09/2016

Research • Research student • CCMAR & CIIMAR

Development of a BSc's project focused the effect of ammonia on Senegalese sole (*Solea senegalensis*, Kaup 1858) in recirculation systems and its implications on growth and immune response. This study was carried out within the framework of the AQLARA project, a PROMAR project promoted by Aquacria Piscícolas SA, and in which the CCMAR (Centre of Marine Sciences) and CIIMAR (Interdisciplinary Centre for Marine and Environmental Research) centres enter as partners.

Supervisors: Professor Doctor Elsa Cabrita (UALg & CCMAR), Doctor Catarina Oliveira (CCMAR) and Doctor Benjamin Costas (CIIMAR).

02/10/2014–20/04/2016

Waiter • BistroCaffe, B.J. B.J. Lda.

Providing wait service to ensure satisfaction; Taking customer orders and delivering food and beverages; Always keep the establishment clean and presentable to visitors; Stock control.

05/10/2013–31/08/2014

Entertainment Host • Kidzania

Deliver short, fun, interactive and engaging role play activities with the visitors; Ignite children's imaginations by helping them get into character; Keep the activity area safe, clean and presentable to visitors at all times; Learn scripts and fully immerse into character for the role play experience.

Technical Skills and Knowledge

- Aquaculture systems (including RAS) –Maintenance and parameter control;
- Animal Handling and welfare;
- Intraperitoneal (IP) injection;
- Fish tissues and gametes collection;
- Biometric analysis: Relative Growth Rate (RGR), Total length variation (ΔTL), Condition Factor (k);
- Analytical procedures of physiological parameters: alternative complement pathway activity, protease activity, anti-protease activity, bactericidal activity, total immunoglobulins and proteins, Lysozyme, Peroxidase activity, Esterase activity;
- Molecular Biology: DNA and RNA extraction, Polymerase Chain Reaction (PCR), Gel electrophoresis and nucleic acids quality assessment;
- Microbiology: media preparation and sterilization, autoclaving, preparation of agar plates, inoculating, bacteria culturing, serial dilutions;
- Cryopreservation of germ cells and larvae (From fish and bivalve species)
- Gametes quality techniques: determination of motility parameters using CASA system, and cell viability by DNA fragmentation analysis (Single-Cell Gel Electrophoresis and Comet assay); These assays were determined in cryopreserved larvae and sperm from both, fish and bivalve.
- Flow cytometry analysis: Cell viability, lipid peroxidation, antioxidant activity.
- Statistical analysis using software like Microsoft® Excel, StatSoft® STATISTICA and IBM SPSS®.



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Publications

Zhou, T., Fang, Z., Duarte, D. F. C., Fernandes, S. A., Lu, Y., Guo, J., Gui, L., et al. (2022). Transcriptome Analysis of Immune Response against *Streptococcus agalactiae* Infection in the Nile Tilapia GIFT Strain. *Fishes*, 7(5), 246. MDPI AG.

Anjos, C., Duarte, D., Diogo, P., Matias, D., & Cabrita, E. (2022). Assessment of larval quality of two bivalve species, *Crassostrea angulata* and *Chamelea gallina*, exposed and cryopreserved with different cryoprotectant solutions. *Cryobiology*, 106, 24-31.

Anjos, C., Santos, A. L., Duarte, D., Matias, D., & Cabrita, E. (2021). Effect of trehalose and sucrose in post-thaw quality of *Crassostrea angulata* sperm. *Frontiers in physiology*, 12.

Zhou, T., Gui, L., Liu, M., Li, W., Hu, P., Duarte, D., Niu, H. and Chen, L. (2018). Transcriptomic responses to low temperature stress in the Nile tilapia, *Oreochromis niloticus*. *Fish & Shellfish Immunology*.

Communication and Leadership

- Confident, with good written and verbal communication skills, friendly, polite and respectful. An empathic listener and persuasive speaker.
- Good organizational and leadership skills, acquired within the scout practice, having participated in national and international activities for almost 10 years.

Other Skills

- European Driving Licence – Class B, B1
- Participation in an informal training on active participation called "Opportunities and Chances "within the European Union's "Youth in Action" program, which took place in the city of Sannicolau Mare (Romania) from 05/05/2014 to 20/05/2014.
- Participation in the 18 th Edition of Laboratory Aquatic Animal Science Course – CAL-AQUA held at CIIMAR - Interdisciplinary Centre of Marine and Environmental Research, Matosinhos, Portugal from 14 to 18 June 2021.



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