Curriculum Vitae
Filipe A. M. Figueiredo

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Summary

On track to earn a PhD in Biology at the University of Tromsø, I am a marine biologist with advanced bioinformatics skills developed during my doctoral research. I aim to apply my expertise in managing and analyzing high-throughput sequencing data to advance vaccine development in aquaculture. Dedicated, organized, and a lifelong learner, I am driven to make meaningful contributions to biological research and innovation.

WORK EXPERIENCE

09/2018 – 2025

Norwegian College of Fishery Science (NFH) – University of Tromsø, Norway

PhD: Biology

Thesis (working title): *An 'omics approach to identifying Correlates of Protection for a SAV-3 vaccine in Atlantic salmon (Salmo salar)*

01/2018 – 08/2018

Senior Engineer (30%) | Norwegian College of Fishery Science (NFH) – University of Tromsø, Norway

02/2017 – 12/2017

Intern | Norwegian College of Fishery Science (NFH) – University of Tromsø, Norway

- Developing lab skills, learning molecular biology methods and bioinformatics
- Phenotypic and genetic characterization of Greenland shark (*Somniosus microcephalus*) parasites
- Library preparation for target enrichment and Illumina Next Generation Sequencing (NGS)
- Use of microsatellite data to understand reproductive barriers in Arctic charr (*Salvelinus alpinus*) and brown trout (*Salmo trutta*)

02/2014 – 06/2016

Aquaculture technician | Troms Kråkebolle AS, Norway

Management of hatchery and sea site operations

- Broodstock management and reproduction of green sea urchin (*Strongylocentrotus droebachiensis*)
- Larvae production and start feeding
- Microalgae production
- Sea site management

08/2010 – 01/2014

Research assistant | Centre of Marine Sciences (CCMAR), University of Algarve, Portugal

- *ProSpawn*: research and development project for the "Implementation of natural spawning in marine fish species in culture - Improving the quality of offspring and welfare". Part of the EU's 7th Framework Programme. Tasks included:
    - Hormone quantification
    - Experimental design and sampling
    - Management of a Senegalese sole (*Solea senegalensis*) broodstock

- *INUTR*: national research and development project aiming to develop: 1) an aquaculture feed that mitigates the effects of "winter syndrome" in sea bream (*Sparus aurata*); 2) a series of molecular markers to assess fish condition, by resorting to proteomics, genomics and metabolomics tools. Tasks included:
    - Maintaining experimental fish stock
    - Sampling
    - Metabolomics
- Secondary role in lab management and logistical support in other projects belonging to the research group

09/2007 – 09/2009

Trainee | Matís ohf., Iceland

- *CodLight-Tech*: research and development project for the "Control of growth and sexual maturation by use of Cold Cathode Light technology", Part of EU's 6th Framework Programme. Tasks included:
    - Sampling
    - Data analysis
    - Genotyping

EDUCATION

Hólar University College | Hólar, Iceland

MSc: Aquatic Biology

Thesis Title: Control of sexual maturation and growth in Atlantic cod (*Gadus morhua*) by use of Cold Cathode Light technology

Norwegian University of Life Sciences | Ås, Norway

Exchange student – NOVA program

Aquaculture Engineering – Planning and designing the expansion of a SalMar hatchery
General Aquaculture Breeding and Genetics

University of Algarve | Faro, Portugal

BSc: Marine Biology and Fisheries

TECHNICAL SKILLS AND EXPERIENCE

- Programming
  - Advanced proficiency in R
  - Intermediate knowledge of Bash scripting
  - Basic skills in Python, Git, HTML, and CSS
  - Learning SQL
  - Experienced in using Markdown
  - Basic knowledge of LaTeX for scientific writing and formatting
- Software proficiency
  - Skilled in the Microsoft Office Suite, including Word, Excel, and PowerPoint
- Data analysis and Visualization
  - Experienced in managing, analysing, and visualizing high-throughput sequencing data
- Field Sampling and Laboratory Expertise
  - Conducted sampling of marine and freshwater species in an aquaculture research and development context
  - Collected water and sediment samples for environmental DNA (eDNA) analysis
  - Extensive wet-lab experience, with a strong focus on molecular biology and next-generation sequencing (NGS) techniques

- ○ Skilled in overseeing and maintaining laboratory operations, ensuring compliance with protocols and safety standards

PERSONAL SKILLS

- Mother tongue: Portuguese
- Other languages
  - ○ English: Proficient user
  - ○ Norwegian: Intermediate user
  - ○ Spanish: Basic user

PUBLICATIONS – PEER-REVIEWED JOURNALS

- **Filipe Figueiredo,** (...) (In preparation). "Deciphering molecular signatures of Pancreas Disease vaccines"

- **Filipe Figueiredo**, Kristian Gillebo Sørmo, Aleksander Pettersen, Heng Chi, Jaya Kumari Swain, Toni Erkinharju, Trilochan Swain, Shripathi Bhat, Kim Præbel, Øystein Evensen, Hetroney Mweemba Munang'andu, Roy A. Dalmo. (In preparation). "Molecular adjuvants increase antibody response and performance of an inactivated salmonid alphavirus virus vaccine"

- **Filipe Figueiredo**, Harald Kristoffersen, Shripathi Bhat, Zuobing Zhang, Jacques Godfroid, Stefano Peruzzi, Kim Præbel, Roy Ambli Dalmo, Xiaoli Xu. (2021). "Immunostimulant bathing influences the expression of immune- and metabolic-related genes in Atlantic salmon alevins". Biology 10(10): 980

- **Filipe Figueiredo**, Cláudia Aragão, Wilson Pinto, Maria Teresa Dinis, Catarina Oliveira. (2020). "Optimizing rearing and welfare in Senegalese sole (*Solea senegalensis*) broodstock: effect of light intensity and handling time on stress response." Applied Animal Behaviour Science 222: 104880

- Catarina Vizetto-Duarte, **Filipe Figueiredo**, Maria João Rodrigues, Cristina Polo, Eva Rešek, Luisa Custódio. (2019). "Sustainable valorization of halophytes from the Mediterranean area: A comprehensive evaluation of their fatty acid profile and implications for human and animal nutrition". Sustainability 11(8): 2197

- Catarina C. V. Oliveira, **Filipe Figueiredo**, Florbela Soares, Wilson Pinto, Maria Teresa Dinis. (2018). "Meagre's melatonin profiles under captivity: circadian rhythmicity and light sensitiveness." Fish Physiology and Biochemistry 44: 885-893

- Denise Schrama, Nadège Richard, Tomé S. Silva, **Filipe A. Figueiredo**, Luís E.C. Conceição, Richard Burchmore, David Eckersall, Pedro M.L. Rodrigues. (2017). "Enhanced dietary formulation to mitigate winter thermal stress in gilthead seabream (*Sparus aurata*): a 2D-DIGE plasma proteome study". Fish Physiology and Biochemistry 43: 603-617

- Maria Filipa Castanheira, Sonia Martínez Páramo, **F. Figueiredo**, Marco Cerqueira, Sandie

Millot; Catarina C.V. Oliveira, Catarina I.M. Martins, Luís E.C. Conceição (2016). "Are coping styles consistent in the teleost fish Sparus aurata through sexual maturation and sex reversal?" Fish Physiology and Biochemistry 42: 1441-1452

- Hugo Pereira, Luísa Barreira, **Filipe Figueiredo**, Luísa Custódio, Catarina Vizetto-Duarte, Cristina Polo, Eva Resek, Aschwin Engelen and João Varela. (2012). "Polyunsaturated Fatty Acids of Marine Macroalgae: Potential for Nutritional and Pharmaceutical Applications". *Marine Drugs* 10:1920-1935

PAPERS IN CONFERENCE PROCEEDINGS (ABSTRACTS AND POSTERS)

- **Filipe Figueiredo,** Kim Præbel, Roy A. Dalmo. "Searching for Correlates of Protection in vaccines against Pancreas Disease in Atlantic salmon". FEBS 2024 Advanced Course, Fish Immunology: Molecular and Evolutionary Perspectives, In (Poster), Spetses Island, Greece

- Schrama, Denise; Silva, Tomé S; Richard, Nadège; **Figueiredo, Filipe**; Burchmore, Richard; Eckersall, David; Dias, Jorge; Conceição, Luís E; Rodrigues, Pedro M. "Dietary effects influence on Gilthead seabream winter syndrome; an integrated metabolomics and proteomics analysis on plasma profiling", Tenth Annual International Conference of the Metabolomics Society 2014, In (Poster), Tsuruoka, Japan

- Richard, Nadège; Silva, Tomé S; Wulff, Tune; Schrama, Denise; **Figueiredo, Filipe**; Dias, Jorge; Rodrigues, Pedro M; Conceição, Luís E. "Evaluation of metabolic dysfunctions caused by winter thermal stress in gilthead seabream through a 2D proteomic approach", International Symposium on Fish Nutrition and Feeding 2014, In (Poster), Cairns, Australia

- Richard, N., **Figueiredo**, **F.**, Silva, T., Schrama, D., Costa, A.M.R., Rodrigues, P.M.L., Dias, J., Conceição, L.E.C. "Assessment of a nutritional stragegy to mitigate metabolic dysfunctions associated with winter thermal stress in gilthead seabream". Aquaculture 2013, In (Poster), Gran Canaria, Spain

- Oliveira, C., **Figueiredo**, **F.**, Aragão, C., Pinto, W., Dinis, M.T. "Optimising welfare in Senegalese sole (Solea senegalensis) broodstock - effect of light intensity and handling time on stress response". Aquaculture 2013, In (Poster), Gran Canaria, Spain

- Oliveira, C., **Figueiredo**, **F.**, Soares, F., Pousão-Ferreira, P., Barata, M., Ferreira, H., Dias, J., Dias, M.T. "Characterization of the circadian rhythms of the meagre Argyrosomus regius: melatonin, locomotor activity and spawning". Aquaculture Europe 2011, In (Abstract), Rhodes, Greece

RELEVANT COURSES AND WORKSHOPS

- FEBS Advanced Course. Fish Immunology: Molecular and Evolutionary Perspectives, 22-28 September 2024, Spetses Island, Greece
- Workshop: "Python for Scientific Computing", November 2022, CodeRefinery workshops, Online
- Workshop: "Data visualization with Python programming software", March 2021, BioCat Norway workshops, Online
- Workshop: "Introduction to version control with Git", November 2020, CodeRefinery workshops, Online
- Workshop: "Data wrangling and RMarkdown-based reproducible reports using R", September 2020, AMINOR workshops, Online
- Course: "Machine Learning: a hands-on introduction", July 2020, Physalia courses, Online
- Course: "RNA-Seq of non-model organisms", November 2019, Physalia courses, Free University of Berlin, Germany
- Course: "Scientific programming with Python in the life sciences", September 2019, University of Tromsø, Norway
- Workshop: First Hands-on Workshop on Marine Metagenomics, November 2018, ELIXIR Norway, University of Tromsø, Norway
- Course: "R Course for Biologists ", December 2017, Norwegian College of Fishery Science, University of Tromsø, Norway