



# Maria João Xavier

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**Date of birth:** 02/01/1992 | **Nationality:** Portuguese | **Gender:** Female |

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## ● WORK EXPERIENCE

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2022 – Ongoing – Portugal

**JUNIOR RESEARCHER** – Centre of Marine Science (CCMAR)

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Perform scientific research activities in the area of nutrition, with a main focus on marine fish nutrition.

Active role in the dynamization of international collaborations in the specific scientific area.

Train researchers at master, and doctoral levels.

Manage of the research project, writing of reports, scientific publications and other documents.

Participate in the life of the institute, namely in the activities of science outreach.

2021 – 2022 – France

**R&D MANAGER IN AQUACULTURE AND INSECTS** – Phileo by Lesaffre

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Advice, define and execute strategies for the R&D team regarding nutrition and health in the aquaculture and insect field.

*In* collaboration with multidisciplinary team (e.g., marketing, regulatory, formulation, immunology, microbiology, toxicology).

Main Functions:

Implementation and management of several trials in Aquaculture and in Insects fields (design, set-up assays, follow-up and analysis of results);

Planification of projects and budget management;

Develop and maintained scientific collaborations, including academic and industrial partners, to provide the knowledge and skills needed to develop new products and/or services;

Provide technical and scientific support to other unit teams.

2016 – 2021 – Portugal

**PHD THESIS** – Abel Salazar Institute for Biomedical Science from the University of Porto (ICBAS); Centre of Marine Science (CCMAR); Interdisciplinary Centre of Marine and Environmental Research (CIIMAR) and SPAROS, LDA.

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Thesis: Improving growth performance of fish larvae through early nutrition;

*In* collaboration with Dr. Sofia Engrola (CCMAR, Portugal), Dr. Luís Conceição (SPAROS, Portugal) and Prof. Dr. Luisa Valente (ICBAS/CIIMAR, Portugal).

Main Functions:

Maintenance of nutrition assay in Senegalese sole (*Solea senegalensis*) and gilthead seabream (*Sparus aurata*) larvae;

Analysis of:

- Zootechnical parameters;
- Proximal composition;
- Histological samples;
- Biochemical biomarkers by spectrophotometrically and florescence;
- Molecular biomarkers through reverse transcription - quantitative real-time.

2014 – 2015 – Portugal

**MASTER'S DISSERTATION** – Faculty of Science from the University of Porto (FCUP) and Portuguese Institute for Sea and Atmosphere (IPMA)

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Thesis: Effect of dietary phospholipids and docosahexaenoic acid in growth performance and oxidative stress in meagre (*Argyrosomus regius*) juveniles;

*In* collaboration with Dr. Pedro Pousão (IPMA, Portugal) and Prof. Dr. Aires Oliva Teles (FCUP, Portugal).

Main Functions:

Maintenance of nutrition essay of Meagre (*Aryrosomus regius*) juveniles;

Analysis of:

- Zootechnical parameters;
- Proximal composition;
- Lipid class through thin layer chromatography (TLC);
- Liver oxidative status by determining spectrophotometrically the activity of enzymes.

## ● EDUCATION

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2016 – 2021 – Portugal

**DOCTOR'S DEGREE IN ANIMAL SCIENCE, SPECIALITY IN NUTRITION** – Abel Salazar Institute for Biomedical Science from the University of Porto (ICBAS)

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2013 – 2015 – Portugal

**MASTER'S DEGREE IN BIOLOGICAL AQUATIC RESEARCH** – Faculty of Science from the University of Porto (FCUP)

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2010 – 2013 – Portugal

**BACHELOR'S DEGREE IN BIOLOGY** – Faculty of Science from the University of Porto (FCUP)

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## ● PARTICIPATION IN RESEARCH PROJECTS

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12/2022 – ONGOING

**Project MAXIMUS.PT - Research and development to produce turbot larvae and juveniles in hatchery**

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Funding entity: FEDER; Ref. ALG-01-0247-FEDER-069769; CCMAR Funding: 222 723€; Partners: CCMAR, Universidade de Aveiro, ACUINOVA.

Project role: participation of the project activities to promote hatchery production of early life stages of turbot, in order to allow high growth rates and survival.

07/2018 – 09/2021

**Project PROLAR - Early metabolic programming in fish through nutritional modulation**

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Funding entity: FCT; Ref. 02/SAICT/2017/29151; CCMAR Funding: 239 954€; Partners: CCMAR.

Project role: participation of the project activities regarding fish nutrition and physiology, fish trials regarding improving of growth performance and nutritional strategies.

10/2017 – 07/2021

**Project VALORMAR – Integral valorisation of marine resources: potential, technological innovation and new applications**

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Funding entity: ANI; Ref. 02/SAICT/2017/29151; CCMAR Funding: 88 026€; Partners: SONAE CENTER SERVIÇOS II, CIIMAR, A2O, Algaplus, Ceramed Coatings, Piscicultura Vale Lama, CMP, Fábrica de Conservas a Poveira, Castro, Pinto & Costa Lda., Docapesca, Foodintech Lda., Fourmag Lda., Hidromod, Necton, Riasearch, SPAROS Lda., SORGAL, Sociedade Portuguesa de Inovação, Universidade Católica Portuguesa, Universidade do Minho, CVR, Instituto Politécnico de Viana do Castelo, Universidade de Aveiro, Instituto de Biologia Experimental e Tecnológica, IPMA, INEGI, Instituto Politécnico de Leiria, Fórum Oceano, CCMAR, ICBAS, Universidade do Porto, Bivalvia.

Project role: participation of the project activities regarding the valorization of new products as a nutritional strategy to promote aquaculture production and sustainability.

06/2015 – 05/2020

**Project PATHAA – Mitigation of global warning effects on fish viability via nutritional programming**

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Funding entity: FCT; Ref. IF/00482/2014/CP1217/CT0005; CCMAR Funding: 48 850€; Partners: CCMAR

Project role: participation of the project activities regarding the fish robustness to cope to thermal stress.

## ● **PATENT APPLICATION**

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### **Teleost fish larval diets supplemented with natural extracts for promoting fish growth performance**

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Patent pending Ref PCT/IB2020/056001;  
Inventors: Engrola, S., Conceição, L.E.C., Xavier, M.J., Valente, L.M.P.;  
Under evaluation.

### **Supplementation of natural extracts (curcumin, green tea and grape seeds) in teleost fish larval diets as promoters of growth performance**

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Patent pending Ref. DP/01/2019/70193, N. PT115604;  
Inventors: Engrola, S., Conceição, L.E.C., Xavier, M.J., Valente, L.M.P.;  
Validity: 1 year

## ● **RESEARCH STAYS ABROAD**

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11/2018 – 12/2018 – Spain

Short mission under PhD Thesis with the collaboration of Dr. Manuel Manchado, IFAPA – Centro El Toruño.

## ● **PARTICIPATION IN COURSES, WORKSHOPS AND WEBINARS**

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14/09/2022 – 15/09/2022 – Online

**LARVI 2022 ONLINE – MINI SYMPOSIUM** – Ghent University

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11/07/2022 – Online

**FINAL WORKSHOP PROJECT FEEDMI** – SPAROS Lda., CIIMAR, IPMA, UPORTO and SEA EIGHT

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21/06/2022 – 22/06/2022 – Online

**PERFORMFISH TRAINING COURSE – NUTRITION AND FEEDING IN SEABREAM AND SEABASS PRODUCTION** – Knowledge Transfer & Impact Officer (AQUATT)

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08/07/2021 – 30/09/2021 – Online

**GAIN WORKSHOP – NOVEL AQUAFEEDS** – SPAROS Lda.

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18/11/2019 – 22/11/2019 – France

**AQUAEXCEL TRAINING COURSE 2020 - FISH NUTRITION AND FEEDING** – Institut National de la Recherche Agronomique (INRA)

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27/05/2019 – 28/05/2019 – Portugal

**R FOR ABSOLUTE BEGINNERS – 7<sup>th</sup> EDITION** – Center of Marine Science (CCMAR)

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09/04/2019 – 10/04/2019 – Portugal

**FEEDLARVA2019 TRAINING COURSE – NUTRITION AND FEEDING IN MARINE FISH HATCHERIES** – SPAROS Lda.

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23/11/2018 – Spain

**JORNADA DE TRANSFERENCIA DE CONOCIMIENTO APLICADO EM ACUICULTURA** – IFAPA Centro El Toruño

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23/10/2018 – 24/10/2018 – Portugal

**EFFECTIVE SCIENTIFIC WRITTING COURSE** – Center of Marine Science (CCMAR)

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20/02/2018 – 21/02/2018 – Portugal

**WORKSHOP BIOSENSORS – APPLICATIONS AND POTENTIAL FOR BIOACTIVE COUMPOUND SCREENING** – Center of Marine Science (CCMAR)

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12/12/2016 – 16/12/2016 – Portugal

**LABORATORY AQUATIC ANIMAL SCIENCE COURSE (CAL-AQUA) -CATEGORY B** – Directorate-General of Food and Veterinary (DGAV) and Federation of European Laboratory Animal Science (FELASA)

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## ● **PUBLICATIONS**

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## **Alternative Proteins for Fish Diets: Implications beyond Growth.**

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Animals

<http://doi.org/10.3390/ani12091211> – 2022

Xavier, M.J., Conceição, L.E.C., Valente, L.M.P., Colen, R., Rodrigues, A., Rocha, R.J.M., Custódio, L., Carballo, C., Machado, M., Engrola, S., 2021. Dietary Natural Plant Extracts Can Promote Growth and Modulate Oxidative Status of Senegalese Sole Postlarvae under Standard/Challenge Conditions. *Animals*. 11, 1398.

## **Effects of Dietary Curcumin in Growth Performance, Oxidative Status and Gut Morphometry and Function of Gilthead Seabream Postlarvae.**

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Aquaculture Reports

<https://doi.org/10.1016/j.aqrep.2022.101128> – 2022

Xavier, M.J., Navarro-Guillén, C., Lopes, A., Colen, R., Teodosio, R., Oliveira, B., Valente, L.M.P., Conceição, L.E.C., Engrola, S.

## **Dietary Natural Plant Extracts Can Promote Growth and Modulate Oxidative Status of Senegalese Sole Postlarvae under Standard/Challenge Conditions.**

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Animals

<https://doi.org/10.3390/ani11051398> – 2021

Xavier, M.J., Conceição, L.E.C., Valente, L.M.P., Colen, R., Rodrigues, A., Rocha, R.J.M., Custódio, L., Carballo, C., Machado, M., Engrola, S., 2021. Dietary Natural Plant Extracts Can Promote Growth and Modulate Oxidative Status of Senegalese Sole Postlarvae under Standard/Challenge Conditions. *Animals*. 11, 1398.

## **Dietary Curcumin Promotes Gilthead Seabream Larvae Digestive Capacity and Modulates Oxidative Status.**

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Animals

<https://doi.org/10.3390/ani11061667> – 2021

Xavier, M.J., Dardengo, G.M., Navarro-Guillén, C., Lopes, A., Colen, R., Valente, L.M.P., Conceição, L.E.C., Engrola, S., 2021. Dietary Curcumin Promotes Gilthead Seabream Larvae Digestive Capacity and Modulates Oxidative Status. *Animals*. 11, 1667.

## **Dietary Antioxidant Supplementation Promotes Growth in Senegalese Sole Postlarvae.**

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Frontiers in Physiology

<https://doi.org/10.3389/fphys.2020.580600> – 2020

Xavier, M.J., Engrola, S., Conceição, L.E.C., Machado, M., Carballo, C., Gonçalves, R., Colen, R., Figueiredo, V., Valente, L.M.P., 2020. Dietary Antioxidant Supplementation Promotes Growth in Senegalese Sole Postlarvae. *Frontiers in Physiology*. 11, 580600.

## ● **PAPERS IN CONFERENCE PROCEEDINGS**

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Xavier, M.J., Gonçalves, R., Conceição, L.E.C., Valente, L.M.P., Engrola, S. 2018. Improving growth performance of fish larvae through early nutrition. Where rivers meet the ocean: SIBIC 2018, VII Iberian Congress of Ichthyology, Guerreiro, P.M., Oliveira, F., Rangel, M. (Eds.), Universidade do Algarve, p. 303, June 12<sup>th</sup> – 15<sup>th</sup>, Faro, Portugal. ISBN 978-989-95587-6-2.

## ● **CONFERENCES PRESENTATION**

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### **Oral Presentations:**

Xavier, M.J., Conceição, L.E.C., Valente, L.M.P., Engrola, S. 2022. Plant extracts supplementation impacts growth performance, digestive capacity and robustness of marine fish at early life stages. XX International Symposium on Fish Nutrition and Feeding. June 5<sup>th</sup> – 9<sup>th</sup>, Sorrento, Italy.

Xavier, M.J., Conceição, L.E.C., Valente, L.M.P., Engrola, S. 2021. Dietary curcumin modulates digestive capacity and oxidative status in different larvae stages of gilthead seabream. Aquaculture Europe 21. October 4<sup>th</sup> – 7<sup>th</sup>, Funchal, Madeira.

Henriques, J., Morais, M., Pinto, W., Engrola, S., Xavier, M., Dias, J., Conceição, L.E.C. 2021. Improving performance of Senegalese sole through diet supplementation with curcumin extract. Aquaculture Europe 21. October 4<sup>th</sup> – 7<sup>th</sup>, Funchal, Madeira.

Xavier, M., Conceição, L.E.C., Valente, L.M.P., Engrola, S. 2021. Natural plant extracts modulate growth performance, oxidative status and stress resistance of Senegalese sole postlarvae. *Aquaculture Europe* 20. April 12<sup>th</sup> – 15<sup>th</sup>, Online.

Xavier, M.J., Conceição, L.E.C., Valente, L.M.P., Engrola, S. 2020. Effect of natural extracts as modulators of growth performance and oxidative status in fish. *Animal Science Doctoral Programme VII Workshop*. September 18<sup>th</sup>, Oporto, Portugal.

Xavier, M.J., Conceição, L.E.C., Valente, L.M.P., Engrola, S. 2020. Dietary curcumin supplementation can promote fish larvae digest capacity. *CCMAR Symposium*. December 18<sup>th</sup>, Online.

Xavier, M.J., Conceição, L.E.C., Valente, L.M.P., Engrola, S. 2019. Improving growth performance of fish larvae through supplementation of antioxidants. *Animal Science Doctoral Programme VI Workshop*. September 13<sup>th</sup>, Oporto, Portugal.

Xavier, M.J., Conceição, L.E.C., Valente, L.M.P., Engrola, S. 2018. Improving growth performance of fish larvae through early nutrition. *Animal Science Doctoral Programme V Workshop*. September 18<sup>th</sup>, Oporto, Portugal.

### Poster Presentations:

Xavier, M.J., Colen, R., Castro, C., Pinto, W., Serradeiro, R., Conceição, L.E.C., Engrola, S. 2022. Impact of dietary curcumin supplementation on fish oxidative status. *Aquaculture Europe* 22. September 27<sup>th</sup> – 30<sup>th</sup>, Rimini, Italy.

Jerez-Cepa, I., Xavier, M.J., Engrola, S., Conceição, L.E.C., Valente, L.M.P. 2021. Dietary antioxidant supplementation boots intermediary metabolism in Senegalese sole postlarvae. *Aquaculture Europe* 20. April 12<sup>th</sup> – 15<sup>th</sup>, Online.

Xavier, M.J., Conceição, L.E.C., Valente, L.M.P., Engrola, S. 2020. Natural antioxidants as modulators of robustness in fish. *Encontro Ciência 2020*. November 3<sup>rd</sup> – 4<sup>th</sup>, Online.

Xavier, M.J., Engrola, S., Conceição, L.E.C., Manchado, M., Carballo, C., Gonçalves, R., Colen, R., Figueiredo, V., Valente, L.M.P. 2019. Dietary antioxidant supplementation promotes growth in Senegalese sole post-larvae. *SEB2019 – The Society for Experimental Biology*. July 2<sup>nd</sup> – 5<sup>th</sup>, Seville, Spain.

Engrola, S., Xavier, M.J., Gonçalves, R., Colen, R., Valente, L.M.P., Rocha, R.J.M., Conceição, L.E.C. 2019. Building fish resilience *via* nutrition. *SEB2019 – The Society for Experimental Biology*. July 2<sup>nd</sup> – 5<sup>th</sup>, Seville, Spain.

Xavier, M., Gonçalves, R., Conceição, L.E.C., Valente, L.M.P., Engrola, S. 2018. Improving growth performance through early nutrition. *SIBIC VII – Congresso Ibérico de Ictiologia*. June 12<sup>th</sup> – 15<sup>th</sup>, Faro, Portugal.

Engrola, S., Gonçalves, R., Xavier, M.J., Batista, V., Teodósio, M.A., Conceição, L.E.C. 2018. Improving fish viability under challenging temperatures. *18<sup>th</sup> International Symposium on "Nutrition and Feeding Fish"*. June 12<sup>th</sup> – 15<sup>th</sup>, Las Palmas de Gran Canárias, Spain.

## ● CERTIFICATION

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05/2018 – Portugal

National certificate for animal experimentation for scientific purposes (FELASA category B).

## ● RESEARCH SKILLS

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### Zootechnical

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Experience in rearing fish in RAS and flow-through systems; Fish nutrition trials: growth performance, stress challenge; Rearing and weaning of marine larvae; Production and enrichment of live feed (Artemia).

### Methodological

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Proximate composition analysis; Molecular and biochemical analyses of biomarkers related to redox status and stress response

## ● LANGUAGE SKILLS

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**Mother tongue(s):** PORTUGUESE

**Other language(s):**

UNDERSTANDING

SPEAKING

WRITING

	Listening	Reading	Spoken production	Spoken interaction	
<b>ENGLISH</b>	C1	C1	B2	B2	B2

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

## ● **COMPUTER SKILLS**

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Microsoft (Word, Excel, PowerPoint, Teams, Project)

SPSS, Statistica and Minitab - Statistical analyses

Endnote and Mendeley - Citation management