

CURRICULUM VITAE (resumé)**Name:** Carolina Oliveira Castro**Place and date of birth:** Aveiro, April 23, 1988**Nationality:** Portuguese**Work address:** Faculty of Sciences, University of Porto, Portugal, R. Campo Alegre S/N 4169-007 Porto; CIIMAR- Interdisciplinary Centre of Marine and Environmental Research of the University of Porto, Novo Edifício do Terminal de Cruzeiros do Porto de Leixões- Avenida General Norton de Matos, 4450-208 Matosinhos, Portugal**Phone:** +351 220402000 **Cell phone:** +351 916093035 **e_mail:** carolinacastro23@gmail.com**OrcidID:** <http://orcid.org/0000-0002-4246-5741>**ResearcherID:** <http://www.researcherid.com/rid/B-8457-2013>**Academic degrees**

PhD in Biology, at Faculty of Sciences, Porto University, 2016 (Approved with distinction).

Master in Biological Aquatic Resources, at Faculty of Sciences, Porto University, 2011 (Classification 19).

Degree in Biology, Aveiro University, 2009 (Classification 17).

Current status

Post-Doc Researcher at Interdisciplinary Centre of Marine and Environmental Research (CIIMAR), Porto University, since 2016.

Area of scientific activity: Nutrition and welfare of marine fish of interest for aquaculture.**Main research topics:** Macronutrient metabolism and utilization (metabolic and digestive capacities of fish): determination of gene expression and activity of key proteins involved in carbohydrate, lipid and protein metabolism; analyses of metabolite levels in blood and tissues. Nutritional effects on fish physiological status and welfare: determination of antioxidant defenses and oxidative damage biomarkers in fish.**Publication list**

15. **Castro, C.**, Diógenes, A., Coutinho, F., Panerat, S., Corraze, G., Pérez-Jiménez, A., Peres, H., Oliva-Teles, A. 2016. Liver and intestine oxidative status of gilthead sea bream fed vegetable oil and carbohydrate rich diets. *Aquaculture*. 464: 665-672.
14. Coutinho, F., **Castro, C.**, Rufino-Palomares, E., Ordóñez-Grande, B., Gallardo, M.A., Kaushik, S., Oliva-Teles, A., Peres, H. 2016. Dietary arginine surplus does not improve intestinal nutrient absorption capacity, amino acid metabolism and oxidative status of gilthead sea bream (*Sparus aurata*) juveniles. *Aquaculture*. 464: 480–488.
13. **Castro, C.**, Corraze, G., Diogenes, A., Larroquet, L., Panerat, S., Oliva-Teles, A. 2016. Regulation of glucose and lipid metabolism by dietary carbohydrate levels and lipid sources in gilthead sea bream juveniles. *Br J Nutr*. 116:19-34.
12. **Castro, C.**, Corraze, G., Basto, A., Larroquet, L., Panerat, S., Oliva-Teles, A. 2016. Dietary lipid and carbohydrate interactions: implications on lipid and glucose absorption, transport and metabolism in gilthead sea bream (*Sparus aurata*) juveniles. *Lipids*. 51: 743-755.
11. Coutinho, F., Peres, H., **Castro, C.**, Pérez-Jiménez, A., Pousão-Ferreira, P., Oliva-Teles, A., Enes, P. 2016. Metabolic responses to dietary protein/carbohydrate ratios in zebra sea bream (*Diplodus cervinus*, Lowe, 1838) juveniles. *Fish Physiol Biochem*. 42: 343-352.
10. Guerreiro, I., Couto, A., Machado, M., **Castro, C.**, Pousão-Ferreira, P., Oliva-Teles, A., Enes, P. 2016. Prebiotics effect on immune and hepatic oxidative status and gut morphology of white sea bream (*Diplodus sargus*). *Fish Shellfish Immun*. 50:168-74.
9. Coutinho, F., **Castro, C.**, Rufino-Palomares, E., Ordóñez-Grande, B., Gallardo, M.A., Oliva-Teles, A., Peres, H. 2016. Dietary glutamine supplementation effects on amino acid metabolism, intestinal nutrient absorption capacity and antioxidant response of gilthead sea bream (*Sparus aurata*) juveniles *Comp Biochem Physiol A*. 191:9-17.
8. **Castro, C.**, Couto, A., Pérez-Jiménez, A., Serra, C.R., Díaz-Rosales, P., Fernandes, R., Corraze, G., Panerat, S., Oliva-Teles, A. 2016. Effects of fish oil replacement by vegetable oil blend on digestive enzymes and tissue histomorphology of European sea bass (*Dicentrarchus labrax*) juveniles. *Fish Physiol Biochem*. 42:203-17.
7. **Castro, C.**, Pérez-Jiménez, A., Coutinho, F., Díaz-Rosales, P., Serra, C.A., Panerat, S., Corraze, G., Peres, H., Oliva-Teles, A. 2015. Dietary carbohydrate and lipid sources affect differently the oxidative status of European sea bass (*Dicentrarchus labrax*) juveniles. *Br J Nutr*. 114:1584-93.
6. **Castro, C.**, Corraze, G., Pérez-Jiménez, A., Larroquet, L., Cluzeaud, M., Panerat, S., Oliva-Teles, A. 2015. Dietary carbohydrate and lipid source affect cholesterol metabolism of European sea bass (*Dicentrarchus labrax*) juveniles. *Br J Nutr* 114:1143-56.
5. Coutinho, F., Peres, H., Castro, C., Pérez-Jiménez, A., Magalhães, R., Oliva-Teles, A. 2015. Dietary protein requirement of zebra seabream (*Diplodus cervinus*, Lowe 1838) juveniles. *Aquaculture Nutrition*. DOI: 10.1111/anu.12269.
4. **Castro, C.**, Corraze, G., Panerat, S., Oliva-Teles, A. 2015. Effects of fish oil replacement by a vegetable oil blend on digestibility, postprandial serum metabolite profile, and lipid and glucose metabolism of European sea bass (*Dicentrarchus labrax*) juveniles. *Aquac Nutr*. 21: 592-603.
3. Guerreiro, I., Peres, H., Castro, C., Pérez-Jiménez, A., Castro-Cunha, M., Oliva-Teles, A. 2014. Water temperature does not affect protein sparing by dietary carbohydrate in Senegalese sole (*Solea senegalensis*) juveniles. *Aquaculture Research*. 45: 289–298.
2. **Castro, C.**, Pérez-Jiménez, A., Coutinho, F., Pousão-Ferreira, P., Brandão, T.M., Oliva-Teles, A., Peres, H. 2013. Digestive enzymes of meagre (*Argyrosomus regius*) and white seabream (*Diplodus sargus*). Effects of dietary brewers spent yeast supplementation. *Aquaculture*, 416-417:322-327. doi: 10.1016/j.aquaculture.2013.09.042.
1. **Castro, C.**, Pérez-Jiménez, A., Guerreiro, I., Peres, H., Castro-Cunha, M., Oliva-Teles, A. 2012. Effects of temperature and dietary protein level on hepatic oxidative status of Senegalese sole juveniles (*Solea senegalensis*). *Comp Biochem Physiol A*. 163:372-8.

Communications

Oral communications

5. Diógenes, A., **Castro, C.**, Carvalho, M., Oliva-Teles, A., Peres, H. 2015. Effect of dietary replacement of fishmeal by corn distillers dried grains with solubles (DDGS) in diets for turbot *Scophthalmus maximus* L. juveniles. 2015. AQUACULTURE EUROPE 15- EAS15- Rotterdam, Netherland - October 20-23, 2015.
4. Pérez-Jiménez, A., **Castro, C.**, Moutinho, S., Coutinho, F., Matos, E., Aires, T., Oliva-Teles, A., Peres, H. Erythrocyte oxidative status of (*Dicentrarchus labrax*) fed on tryptophan supplemented diets under non-stressful and stress ful conditions of hypoxia challenge. AQUACULTURE EUROPE 14- EAS14- San Sebastián, Spain - October 14-17, 2014.
3. Kanashiro, E., Díaz-Rosales, P., **Castro, C.**, Diógenes, A., Oliva-Teles, A., Peres, H. Effect pf taurine and hydroxyproline supplementation in low fishmeal diets for European sea bass (*Dicentrarchus labrax*). AQUACULTURE EUROPE 14- EAS14- San Sebastián, Spain - October 14-17, 2014.
2. **Castro, C.**, Corraze, G., Pérez-Jiménez, A., Larroquet, L., Cluzeaud, M., Panserat, S., Oliva-Teles, A. How dietary carbohydrates and lipid source affect lipid and carbohydrate metabolism in European sea bass (*Dicentrarchus labrax*) juveniles? AQUACULTURE EUROPE 14- EAS14- San Sebastián, Spain - October 14-17, 2014.
1. **Castro, C.**, Pérez-Jiménez, A., Coutinho, F., Peres, H., Costas, B., Pousão-Ferreira, P., Brandão, T.M., Oliva-Teles, A. Can brewers yeast, a byproduct of brewing industry, be used in fish diets? IJUP 2012 – Investigação Jovem na Universidade do Porto. Porto, Portugal. 22-24 February 2012.

Posters in conferences

22. Díaz-Rosales, P., **Castro, C.**, Corraze, G., Panserat, S., Oliva-Teles, A. 2017. Effects of dietary lipid and carbohydrate interactions on resistance to thermal stress by gilthead sea bream (*Sparus aurata*). Aquaimprove Workshop- 2nd edition- Porto Portugal- 17th March, 2017.
21. **Castro, C.**, Couto, A., Diógenes, A., Corraze, G., Panserat, S., Serra, C.R., Oliva-Teles, A. 2017. Intestine histomorphology, digestive enzymes, and microbiota of gilthead sea bream fed vegetable oil and carbohydrate rich diets. Aquaimprove Workshop- 2nd edition- Porto Portugal- 17th March, 2017.
20. Diógenes, A., **Castro, C.**, Serra, C.R., Rego, A., Oliva-Teles, A., Peres, H. 2016. Exogenous enzymes supplementation of distillers dried grains with solubles based diets modulates the activity of digestive enzyme and microbiota in turbot (*Scophthalmus maximus* L.) juveniles. AQUACULTURE EUROPE 16- EAS16- Edinburgh, Scotland- September 20-23, 2016.
19. Guerreiro, I., Machado, M., **Castro, C.**, Costas, B., Oliva-Teles, A., Enes, P. 2015. Effects of prebiotics on hepatic oxidative status and immune response of white sea bream *Diplodus sargus*. AQUACULTURE EUROPE 15- EAS15- Rotterdam, Netherland - October 20-23, 2015.
18. Diógenes, A., **Castro, C.**, Carvalho, M., Oliva-Teles, A., Peres, H. 2015. Exogenous enzymes supplementation enhanced digestibility of DDGS based diets for turbot *Scophthalmus maximus* L. juveniles. AQUACULTURE EUROPE 15- EAS15- Rotterdam, Netherland - October 20-23, 2015.
17. Coutinho, F., **Castro, C.**, Rufino-Palomares, E.E., Magalhães, R., Oliva-Teles, A Peres, H. 2015. Dietary glutamine supplementation modulates liver and intestine antioxidant response of gilthead sea bream (*Sparus aurata*) juveniles. AQUACULTURE EUROPE 15- EAS15- Rotterdam, Netherland - October 20-23, 2015.
16. Machado, M., **Castro, C.**, Oliva-Teles, A., Costas, B. 2015. Acute stress but not dietary lipid source modulates the innate immune response of European sea bass *Dicentrarchus labrax* juveniles. AQUACULTURE EUROPE 15- EAS15- Rotterdam, Netherland - October 20-23, 2015.
15. **Castro, C.**, Pérez-Jiménez, A., Coutinho, F., Diógenes, A., Corraze, G., Panserat, S., Peres, H., Oliva-Teles, A. 2015. Effect of an acute handling stress on hepatic oxidative status of European sea bass fed diets differing in lipid source and carbohydrate content. AQUACULTURE EUROPE 15- EAS15- Rotterdam, Netherland - October 20-23, 2015.
14. Coutinho, F., **Castro, C.**, Rufino-Palomares, E.E., Magalhães, R., Oliva-Teles, A Peres, H. 2015. A suplementação de dietas com arginina modula a resposta enzimática antioxidante no fígado e no intestino de juvenis de dourada (*Sparus aurata*). XV Congreso Nacional de Acuicultura (CNA) y I Congreso Ibérico de Acuicultura (CIA) Huelva, Spain. 13-16 October, 2015.
13. Coutinho, F., **Castro, C.**, Rufino-Palomares, E.E., Magalhães, R., Oliva-Teles, A Peres, H. 2015. A suplementação de dietas com arginina acima das necessidades não tem efeito no crescimento, no metabolismo dos aminoácidos e na composição corporal em juvenis de dourada (*Sparus aurata*). XV Congreso Nacional de Acuicultura (CNA) y I Congreso Ibérico de Acuicultura (CIA) Huelva, Spain. 13-16 October, 2015.
12. Pérez-Jiménez, A., **Castro, C.**, Rufino-Palomares, E.E., Matos, E., Aires, T., Oliva-Teles, A., Peres, H. 2015. Niveles elevados de triptófano en la dieta afectan negativamente el estado oxidativo de eritrocitos en juveniles de lubinas (*Dicentrarchus labrax*) independientemente de la densidad del cultivo.. XV Congreso Nacional de Acuicultura (CNA) y I Congreso Ibérico de Acuicultura (CIA) Huelva, Spain. 13-16 October, 2015.
11. Pérez-Jiménez, A., **Castro, C.**, Coutinho, F., Pousão-Ferreira, P., Brandão, T.M., Oliva-Teles, A. Peres, H. 2015. Estado oxidativo en hemolisado de corvina (*Argyrosomus regius*) y sargo (*Diplodus sargus*) alimentados con diferentes niveles dietarios de excedentes de levadura de cerveza (*Saccharomyces pastorianus*). XV Congreso Nacional de Acuicultura (CNA) y I Congreso Ibérico de Acuicultura (CIA) Huelva, Spain. 13-16 October, 2015.
10. Pérez-Jiménez, A., **Castro, C.**, Coutinho, F., Pousão-Ferreira, P. Brandão, T.M., Oliva-Teles, A. Peres, H. 2014. Effects of dietary Brewer's spent yeast (*Saccharomyces pastorianus*) supplementation on digestive tract oxidative status of meagre (*Argyrosomus regius*). AQUACULTURE EUROPE 14- EAS14- San Sebastián, Spain - October 14-17, 2014.
9. Peres, H., Pérez-Jiménez, A., **Castro, C.**, Coutinho, F., Costas, B., Brandão, T.M., Oliva-Teles, A. 2014. Effects of dietary Brewer's spent yeast (*Saccharomyces pastorianus*) supplementation in meagre (*Argyrosomus regius*) growth performance and cell mediated immunity. AQUACULTURE EUROPE 14- EAS14- San Sebastián, Spain - October 14-17, 2014.

8. Díaz-Rosales, P., Kanashiro, E., **Castro, C.**, Magalhães, R., Oliva-Teles, A., Peres, H. 2014. Improved digestibility of plant feedstuff based diets in sea bass (*Dicentrarchus labrax*) with exogenous enzymes. AQUACULTURE EUROPE 14- EAS14- San Sebastián, Spain - October 14-17, 2014.
7. Couto, A., **Castro, C.**, Pérez-Jiménez, A., Díaz-Rosales, P., Serra, C.R., Oliva-Teles, A. 2014. Vegetable oil in European sea bass diets: Effects on digestive enzymes and intestinal histomorphology. AQUACULTURE EUROPE 14- EAS14- San Sebastián, Spain - October 14-17, 2014.
6. Coutinho, F., Peres, H., **Castro, C.**, Pérez-Jiménez, A., Oliva-Teles, A. 2014. Dietary glutamine supplementation has limited effects on liver oxidative status of Gilthead seabream (*Sparus aurata*) juveniles. AQUACULTURE EUROPE 14- EAS14- San Sebastián, Spain - October 14-17, 2014.
5. **Castro, C.**, Pérez-Jiménez, A., Coutinho, F., Díaz-Rosales, P., Serra, C.R., Peres, H., Oliva-Teles, A. 2014. Dietary carbohydrates and lipid source affect oxidative status of European sea bass (*Dicentrarchus labrax*) juveniles. AQUACULTURE EUROPE 14- EAS14- San Sebastián, Spain - October 14-17, 2014.
4. Guerreiro, I., Peres, H., Castro-Cunha, M., Pérez-Jiménez, A., **Castro, C.**, Oliva-Teles, A.M. 2011. Can dietary carbohydrates compensate a protein reduction in Senegalese sole (*Solea senegalensis*) juveniles? Effect of water temperature. XIII Congreso Nacional Acuicultura. Barcelona, Spain. 21-24 November 2011.
3. Pérez-Jiménez, A., **Castro, C.**, Guerreiro, I., Castro-Cunha, M., Peres, M.H., Oliva-Teles, A. 2011. Effect of dietary protein level on oxidative status of *Solea senegalensis* juveniles reared at different temperatures. XIII Congreso Nacional Acuicultura. Barcelona, Spain. 21-24 November 2011.
2. **Castro, C.**, Guerreiro, I., Pérez-Jiménez, A., Castro-Cunha, M., Peres, M.H., Oliva-Teles, A. M. 2011. Efecto de la reducción del nivel de proteína dietaria en el metabolismo intermediario hepático de juveniles de lenguado senegalés (*Solea senegalensis*) cultivados a dos temperaturas. XIII Congreso Nacional Acuicultura. Barcelona, Spain. 21-24 November 2011.
1. **Castro, C.**, Antunes, S.C., Pereira, R., Rasteiro, M.G., Rocha-Santos, T.A.P., Soares, A.M.V.M., Gonçalves, F., Lopes, I. 2010. Further evidence for the lack of ecotoxicity of TiO₂ and TiSiO₄ nanoparticles to aquatic and soil biota. SETAC Europe 20th Annual Meeting. Seville, Spain. 23-27 May 2010.

Participation in research projects

Project title: Valorização do excedente de levedura da indústria cervejeira – potencial de utilização em dietas para os juvenis de linguado. Financial entity: Projectos Pluridisciplinares- categoria UNICER, Univ. Porto (Portugal), Concurso 2010. Time period: 2010-2011. Partial time. Main research: Aires Oliva-Teles.

Project title: Effect on lipid metabolism of vegetable lipid interaction with carbohydrate in an important marine aquaculture fish species, European sea bass (*Dicentrarchus labrax*). Financial entity: FCT (Fundação para a Ciência e a Tecnologia). Ref: PTDC/MAR-BIO/4107/2012. Time period: 2013-2015. Full time. Main research: Aires Oliva-Teles.

Project title: L-tryptophan as tool to mitigate stressful conditions in European sea bass (*Dicentrarchus labrax*). Financial entity: Pluridisciplinares da Universidade do Porto and SORGAL-Soja de Portugal (PP-IJUP2012-SOJA DE PORTUGAL-12). Concurso 2012. Time period: 2013-2014. Partial time. Main research: Amalia Pérez-Jiménez.

Project title: Essential oils in turbot feed (*Scophthalmus maximus*). Researcher contracts with the industry: Financed by SORGAL SA. (2013), 5 000 euros. Partners: CIIMAR and SORGAL. Main research: Helena Peres.

Project title: AMINOAQUA - Projeto piloto para o aumento da produtividade e sustentabilidade do cultivo de peixes marinhos com recurso a ácidos aminados funcionais. Financial entity: PROMAR – Programa Operacional Pesca 2007-2013 Eixo 3, Medida: Projetos Piloto. Promoter: Faculdade de Ciências da Universidade do Porto. Time period: 2014-2015. Funding: 144,852.88€. Main research: Helena Peres.

Project title: ALGAFISH- Inclusion of microalgae in sea bass diets: boosting immunity through nutrition. FCT (Fundação para a Ciência e a Tecnologia). Ref: P2020-PTDC/MAR-BIO/6233/2014. Time period: 2016-2019. Full time. Funding: 169488.00€. Main research: Ana Isabel Santos Couto.

Honours and awards

Best poster prize “EAS Student Group Ibrahim Okumus Award” awarded by European Aquaculture Society Student Group (EAS-SG) to reward the best student poster in AQUACULTURE EUROPE 15- EAS152015- Rotterdam, Netherland - October 20-23, 2015.

Grant for a COST Action (FA1305: POLYPONIC - evaluation of multiple fish species production in combination with hydroponics (aquaponic-polyculture) in the FishGlassHouse) at the campus of the University of Rostock, Germany, March-April, 2016.

Grant for an international advanced school on sustainable blue growth, organized by Istituto Nazionale di Oceanografia e di Geofisica Sperimentale-OGS in Trieste (Italy) from 10 to 19 July 2017.