

CURRICULUM VITAE



Cármén Sofia Vieira de Sousa

Born 18th May 1988 in Porto, Portugal

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Current position:

- PhD student (2017-2021) supported by FCT grant at the University of Algarve, Centre for Marine Science, under the supervision of prof Adelino V. M. Canário in a collaborative project with prof. Liangbiao Chen from Shanghai Ocean University, on the evolution of the immune system of notothenioid fish.

Academic degrees:

- Master degree in Molecular Genetics at the University of Minho (2012-2014)
- Degree in Pathological, Cytological and Tanatological Anatomy at the Escola Superior de Saúde do Vale do Sousa (2007-2011)

Research:

- Researcher on project "Sustainable production of high quality aquaculture fish using innovative tools and production strategies and integrating novel processing methods and cold chain management" (01st June 2016 – 28th February 2017). Principal activities and responsibilities were characterizing male and female candidates with molecular markers to distinguish gender at early ages of European seabass using molecular tools, including suppression subtractive hybridization (SSH), real-time qPCR and in situ hybridization (ISH).

Name and employer address: CCMAR – Centre of Marine Sciences / University of Algarve, Campus de Gambelas, 8005-139 Faro (Portugal)

- Volunteer Researcher on project "Germ Cell regulation" (01st September 2015 – 31th May 2016). Principal activities and responsibilities were characterization of the germ cell migration and development in a specific European seabass specific albino strain using whole mount in situ hybridization (WISH) and fluorescence in situ hybridization (FISH)

Name and employer address: CCMAR – Centre of Marine Sciences / University of Algarve, Campus de Gambelas, 8005-139 Faro (Portugal)

- Researcher on project "A new regulator puberty on fish?" (01st September 2015 – 31th March 2016). Principal activities and responsibilities were collection of tissue samples (namely brain, pituitary and gonads), perfusion technique, maintenance of fish, histology, histochemistry (specific stains) and co-localization of sea bass GAL/GALRs by immunohistochemistry (conventional and whole mount) and in situ hybridization.

Name and employer address: CCMAR – Centre of Marine Sciences / University of Algarve, Campus de Gambelas, 8005-139 Faro (Portugal)

- Researcher on project “Molecular interactions between *Staphylococcus epidermidis* biofilms and the immune system of *Mus Musculus*” (01st September 2013 – 31th December 2013). Principal activities and responsibilities were determination of variability in gene expression of *S. epidermidis* in portuguese clinical isolates.

Name and employer address: Centre of Biological Engineering (CEB), University of Minho, Campus de Gualtar, 4710-057 Braga (Portugal)

- Instructor in “Biofilm Transcriptomic” workshop (15th November 2013 – 17th November 2013). Principal activities and responsibilities were RNA extraction methodologies support, purification protocols, complementary DNA synthesis and genetic expression quantification by real-time PCR.

Name and employer address: Centre of Biological Engineering (CEB), University of Minho, Campus de Gualtar, 4710-057 Braga (Portugal)

- Researcher in project “The role of *Gardnerella vaginalis* in the presence of mixed biofilms in Bacterial Vaginosis cases” (01st January 2013 – 31th May 2013). Principal activities and responsibilities were phenotypic characterization of vaginal isolates (Susceptibility tests – MIC).

Name and employer address: Centre of Biological Engineering, University of Minho, Campus de Gualtar, 4710-057 Braga (Portugal)

- Volunteer (01st June 2012 – 31th December 2012). Principal activities and responsibilities were study of susceptibility to certain antibiotics in strains isolated from vaginal samples under the project “The role of *Gardnerella vaginalis* in the presence of mixed biofilms in Bacterial Vaginosis cases”.

Name and employer address: Centre of Biological Engineering, University of Minho, Campus de Gualtar, 4710-057 Braga (Portugal)

- Internship in Pathological Service (2011). Principal activities and responsibilities were practical experience in Macroscopy, Histology, Histochemistry, Immunocytochemistry, Cytology and Screening in Gynaecological Cytology

Name and employer address: Pedro Hispano Hospital, Rua Dr. Eduardo Torres, s/n, 4464-513 Matosinhos (Portugal)

Scientific Papers

- Velez Z, Pinto P, Sousa C, Santos S, Andrade A, Alvarado A, Felip A, Zanuy S and Canário A. (2017). Responsiveness of pituitary to galanin throughout the reproductive cycle of male European sea bass (*Dicentrarchus labrax*). *General Comparative Endocrinology*, 250: 152-161.

- Castro J, Alves P, Sousa C, Cereija T, França A, Jefferson K and Cerca N (2005). Using an in-vitro biofilm model to assess the virulence potential of Bacterial Vaginosis or non-Bacterial Vaginosis *Gardnerella Vaginalis* isolates. *Scientific Reports*, 5: 11640.

- Sousa C, França A and Cerca N (2014). Assessing the source of gene expression variability in *S. epidermidis* biofilms and a simple method to reduce it. *Biotechniques*, 57 (6): 295-301.

- Alves P, Castro J, Sousa C, Cereija T and Cerca N (2014). Gardnerella vaginalis outcompetes 29 other bacterial species isolated from BV patients in vitro and biofilm formation model. The Journal of Infectious Diseases, 210 (4): 593-6.

Scientific Posters

- IX Conferência Portuguesa de Ciências Polares, Covilhã, Portugal, 6th-7th November 2017. Designation: "Evolution of the immune system in Antarctic notothenioids" whose authors are Sousa C, Guerreiro P, Power D, Chen L and Canário A.

- IX Conferência Portuguesa de Ciências Polares, Covilhã, Portugal, 6th-7th November 2017. Designation: "Modulation of iron-related immune genes and oxidative stress in the Antarctic Bullhead, Notothenia coriiceps challenged with a bacterial endotoxin" whose authors are Martinez D, Guerreiro PM, Oyarzun R, Sousa C, Pontigo JO, Canário AVM, Vargas-Chacoff, L.

- VIII Conferência Portuguesa de Ciências Polares, Lisbon, Portugal, 26th-28th October 2016. Designation: "Evolution and constraints of immune response in Antarctic notothenioid fishes" whose authors are Guerreiro P, Sousa C, Silva S, Louro B, Chen L and Canário A.

Name and type of organization providing education and training: Centre of Marine Sciences (CCMAR), University of Algarve, Campus de Gambelas, 8005-139 Faro (Portugal)

- BIOMED 2014, Koycegiz, Turkey, 24th-27th August 2014. Designation: "Analysis of gene expression variability in Staphylococcus epidermidis biofilms" whose authors are Sousa C and Cerca N.

Name and type of organization: Centre of Biological Engineering (CEB), University of Minho, Campus de Gualtar, 4710-057 Braga (Portugal)

- Micro Biotec'13, Aveiro, Portugal, 6th-8th December 2013. Designation: "Analysis of gene expression variability in Staphylococcus epidermidis biofilms" whose authors are Sousa C, França A, Cerca N.

Name and type of organization: Centre of Biological Engineering (CEB), University of Minho, Campus de Gualtar, 4710-057 Braga (Portugal)

- ESIDOG Congress 2013, London, United Kingdom, 25th-27th October 2013. Designation: "Can a specific sub-group of biofilm-forming Gardnerella vaginalis strains be the real causative agent of bacterial vaginosis?" whose authors are Castro J, Machado A, Alves P, Sousa C, Cereja TB, França A, Jefferson KK, Cerca N.

Name and type of organization: Centre of Biological Engineering (CEB), University of Minho, Campus de Gualtar, 4710-057 Braga (Portugal)

- BioMicroWorld 2013, Madrid, Spain, 2nd-4th October 2013. Designation: "Functional analysis of virulence potential from Gardnerella vaginalis and other anaerobes commonly associated with bacterial vaginosis" whose authors are Castro J, Machado A, Alves P, Sousa C, Cereja TB, França A, Jefferson KK, Cerca N.

Name and type of organization: Centre of Biological Engineering (CEB), University of Minho, Campus de Gualtar, 4710-057 Braga (Portugal)

- Eurobiofilms 2013, Ghent, Belgium, 9th-12th September 2013. Designation: "Gardnerella vaginalis virulence potential outcompetes with 30 other microorganisms isolated from BV patients" whose authors are Alves P, Castro J, Sousa C, Cereja TB, Cerca N.

Name and type of organization: Centre of Biological Engineering (CEB), University of Minho, Campus de Gualtar, 4710-057 Braga (Portugal)

- Eurobiofilms 2013, Ghent, Belgium, 9th-12th September 2013. Designation: "Isolation of Gardnerella vaginalis from BV patients and healthy women: analysis of virulence through adherence, biofilm formation and cytotoxicity assays" whose authors are Castro J, Alves P, Sousa C, Cereja TB, Cerca N.

Name and type of organization: Centre of Biological Engineering (CEB), University of Minho, Campus de Gualtar, 4710-057 Braga (Portugal)

- Biofilms 5, Paris, France, 10th-12th December 2012. Designation: "Characterization of biofilm-forming microorganisms isolated from vaginal exudate in Portugal" whose authors are Alves P, Castro J, Sousa C, Cereja T, Henriques A and Cerca N.

Name and type of organization: Centre of Biological Engineering (CEB), University of Minho, Campus de Gualtar, 4710-057 Braga (Portugal)

Academic Formation

- Basic Life support course (16th November 2018)

Name and type of organization: Centre of Marine Sciences (CCMAR), University of Algarve, Campus de Gambelas, 8005-139 Faro (Portugal)

- Effective Scientific Writing course (15th October 2018)

Name and type of organization: Centre of Marine Sciences (CCMAR), University of Algarve, Campus de Gambelas, 8005-139 Faro (Portugal)

- Workshop on data limited methods for fisheries using R (15th October 2018)

Name and type of organization: Centre of Marine Sciences (CCMAR), University of Algarve, Campus de Gambelas, 8005-139 Faro (Portugal)

- Organizing committee of SIBIC2018 (12th - 15th June 2018)

Name and type of organization: Centre of Marine Sciences (CCMAR), University of Algarve, Campus de Gambelas, 8005-139 Faro (Portugal)

- R for absolute beginners (1 ECTS) (4th - 5th June 2018)

Name and type of organization: Centre of Marine Sciences (CCMAR), University of Algarve, Campus de Gambelas, 8005-139 Faro (Portugal)

- Workshop Biosensors: Applications and Potential for bioactive compounds screening (20th February 2018)

Name and type of organization: Centre of Marine Sciences (CCMAR), University of Algarve, Campus de Gambelas, 8005-139 Faro (Portugal)

- Workshop in Laboratory residues management (30th January 2018)

Name and type of organization: Centre of Marine Sciences (CCMAR), University of Algarve, Campus de Gambelas, 8005-139 Faro (Portugal)

- Analysis of Differential Expression with RNAseq (28 h) (4th – 7th December 2017)

Name and type of organization: Instituto Gulbenkian de Ciência, Apartado 14, 2781-901 Oeiras (Portugal)

- Science Communication course (1 ECTS) (2nd – 3rd November 2017)

Name and type of organization: Centre of Marine Sciences (CCMAR), University of Algarve, Campus de Gambelas, 8005-139 Faro (Portugal)

- EMBL-EBI Bioinformatics workshop (1 ECTS) (2nd – 3rd October 2017)

Name and type of organization: Centre of Marine Sciences (CCMAR), University of Algarve, Campus de Gambelas, 8005-139 Faro (Portugal)

- R for absolute beginners (1 ECTS) (5th - 6th June 2017)

Name and type of organization: Centre of Marine Sciences (CCMAR), University of Algarve, Campus de Gambelas, 8005-139 Faro (Portugal)

- Laboratory Animal Science course – FELASA for category B (1st April 2016- 31th December 2016) for mammals and fish

Name and type of organization: SPCAL – Portuguese Society of Science in Laboratory Animals, Pharmacy College of University of Coimbra, Coimbra, Portugal.

- Basic Life Support Provider (valid from 28 October 2016 until 31 October 2021)

Name and type of organization: European Resuscitation Council, Emile Vanderveldelaan 35, Niel, Belgium.

- “Laboratory Animal Diseases and Pathology: Interaction with Research” Workshop (6th May 2014)

Name and type of organization: IBMC – Institute of Molecular Biology and Cell, University of Oporto, Porto, Portugal.

- “Biofilm Transcriptomic Workshop” (31th August 2012 – 02nd September 2012)

Name and type of organization: Centre of Biological Engineering (CEB), University of Minho, Campus de Gualtar, 4710-057 Braga (Portugal)

- Course in Macroscopy - 50 hours (3ECTS) (15th May 2012 – 30th June 2012). Final grade: 18/20.

Name and type of organization: Health Sciences School of Vale do Sousa - ESSVS (CESPU), Rua Central de Gandra, 1317, 4585 – 116 Paredes (Portugal)

- Course in Cytopathology - 32 hours (2ECTS) (15th October 2010 – 30th October 2010). Final grade: 18/20.

Name and type of organization: Health Sciences School of Vale do Sousa - ESSVS (CESPU), Rua Central de Gandra, 1317, 4585 – 116 Paredes (Portugal)

- "Gynaecological Cytology – Basic and Advanced Principles" (29th October 2009)

Name and type of organization: IPATIMUP – Institute of Molecular Pathology and Immunology of University of Oporto, Rua Dr. Roberto Frias, s/n, 4200-465 Porto (Portugal)

- Course in Forensic Medicine (24th March 2008 – 28th March 2008)

Name and type of organization: Portucalense Infante D. Henrique University, Rua Dr. António Bernardino de Almeida, nº 541, 4200-072 Porto

Skills

Official Language: Portuguese.

Other Languages: English (Dialogue: Sufficient, Oral reading: Sufficient, Written: Good); Spanish (little knowledge) and French (little knowledge)