

PERSONAL INFORMATION



Sandra Cristina Machado da Silva

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Sex F | Date of birth 11/07/1988 | Nationality Portuguese

WORK EXPERIENCE

June 2016-Present

Research Assistant Fellowship

Centre for Marine Sciences (CCMAR), Gambelas, Faro, Portugal

In this project we aim to investigate the molecular and physiological mechanisms of the thermal and osmoregulatory responses of *Notothenia*.

September 2013-March 2016

Research Assistant Fellowship

Centre for Marine Sciences (CCMAR), Gambelas, Faro, Portugal

In this project I carried out scientific research on fish phosphate metabolism and endocrine regulation. My research activities included setting up a fish kidney primary cell culture, flux cytometry, histological preparations, molecular biology techniques (RNA extractions, nucleic acid quantification, cDNA synthesis, PCR, quantitative real-time PCR and DNA cloning, primer design, bioinformatics and phylogenetic analysis), membrane biology and epithelial transport studies in Ussing chambers and ex vivo organ preparations using radioactive tracers, radioimmunoassays for plasma steroids, enzymatic activity determination using kinetic assays and protein identification by SDS/PAGE and Western blot, mineral analyses using an osmometer and colorimetric kits, spectrophotometry and flame photometry. I applied basic techniques of animal manipulation, such as sedation protocols, injection, blood collection and biometric and anatomical observations. I collaborated in the supervision of Master and undergraduate students and helped visiting collaborators. I was involved in project managerial duties such as ordering reagents and keeping track of inventory. Science communication activities.

June 2014-July 2014

Short Term Training

University of Connecticut, Dept. of Physiology and Neurobiology, USA

Under the supervision of Prof. Larry Renfro I improved my expertise in cell culture methods, membrane biology and epithelial transport studies in Ussing chambers using radioactive tracers and protein identification by SDS/PAGE and Western blot. I was involved in in vivo physiology experiments and samplings at Woods Hole Marine Biological Lab.

March 2013-September 2013

Volunteer Research Assistant

University of Trás-os-Montes e Alto Douro, Institute for Biotechnology and Bioengineering, Genomics and Biotechnology Research Centre, Vila Real

Plant DNA extraction protocols. Restriction Fragment Length Polymorphism (RFLP) as molecular marker.

October 2012-July 2013

Bachelor Thesis Supervisor

Genetic and Biotechnology, University of Trás-os-Montes e Alto Douro, Institute for Biotechnology and Bioengineering, Genomics and Biotechnology Research Centre, Vila Real

Geraldo, Margarida. BSc thesis titled "Avaliação da genotoxicidade de *Ginkgo biloba* em *Drosophila melanogaster*", Supervised by Professor Isabel O'Neill Gaivão and Sandra Silva (MSc). (17/20).

October 2012-November 2012

Volunteer Research Assistant

Centro hospitalar Trás-os-Montes e Alto Douro, Cytogenetics Laboratory, Medical Genetics Service

Culture of human normal and leukemic peripheral blood cells. Culture of leukemic bone marrow cells. Amniotic fluid cells culture. Chromosome banding techniques (GTL, CBL and NOR banding). FISH, Fluorescent in situ hybridization. Chromosome identification and analysis. Spermograms. Cryopreservation of human cells. Preparation of solutions and maintenance of stocks.

January 2011-June 2012

Volunteer Research Assistant

University of Trás-os-Montes e Alto Douro, Research Center in Sports Sciences, Health Sciences and Human Development, Vila Real

Single Cell Gel Electrophoresis in human lymphocytes.

December 2010-June 2012

Master Thesis

University of Trás-os-Montes e Alto Douro, Genomics and Biotechnology Research Centre
Effect of Ginkgo biloba leaves extract on HepG2 cell line evaluated by the single cell gel electrophoresis assay, DNA damage assessed by fluorescence microscopy and the software CometAssay IV at National Health Institute Doutor Ricardo Jorge, Porto.

October 2010-October 2012

Collaborator

University of Trás-os-Montes e Alto Douro, [University Library](#)

Organization, responsibility, teamwork, resilience, leadership and time planning skills.

March 2009-September 2009

Bachelor Student

University of Trás-os-Montes e Alto Douro, [Genomics and Biotechnology Research Centre](#)

Effect of growth regulators and vitamins in *Mentha x piperita* micropropagation. Design, formulation, and optimization of media. Plant Tissue Sterilization. Ex vivo acclimatization and conservation of the plant material obtained *in vitro*.

EDUCATION AND TRAINING

March 2016 - Present

Laboratory Animal Science – FELASA Category B

Department of Biomedical Sciences and Medicine
Centre for Molecular and Structural Biomedicine, University of Algarve, Faro

November 2015

Technical Workshop on Electrophysiology in Biological Systems

Centre for Marine Sciences (CCMAR), Gambelas, Faro, Portugal

Patch-clamp, intracellular potential measuring techniques. Extracellular potential measures: EEG and EOG techniques. Epithelial electrophysiology, the classical Ussing methodology. Epithelial electrophysiology, the modified Ussing methodology.

February 2012-April 2012

Initial Pedagogical Training for Trainers

Gestitome - Formação contabilidade e consultoria, Vila Real

Final: 5/5

October 2009 – June 2012

Master's degree in Comparative and Technological Molecular Genetics

University of Trás-os-Montes e Alto Douro

General Cytogenetics (15/20), Cellular Dynamics (15/20), Advanced Molecular Genetics (16/20), Microbial Genetics (15/20), Technology of Nucleic Acids and GMOs (17/20), Animal Molecular Cytogenetics (12/20), Plant Molecular Cytogenetics (16/20), Evolutionary and Comparative Molecular Genetics (12/20), Functional and Applied Molecular Genetics (10/20), Cell Imaging Technology (13/20).

MSc thesis titled “Efeito do extracto de folhas de *Ginkgo biloba* em células HepG2 tratadas com Paraquato.”, supervised by Professor Isabel O’Neill Gaivão and Professor Fernanda Leal. 18/20.

Final: 16/20.

September 2006 – September
2009

Degree in Biotechnology

Coimbra Higher School of Agriculture

Introduction to Biotechnology(12/20), Biology (14/20), English and Communication (13/20), Physics (13/20), Mathematics and Computer Science (14/20), Technological Workshops I (12/20), Chemistry and Biochemistry (12/20), Instrumental Analysis (10/20), Statistics (17/20), Genetics (14/20), Molecular Biology (15/20), Anatomy, Physiology and Nutrition (15/20), Technological Workshops II (12/20), Biochemical Engineering (16/20), Genetic Engineering (17/20), Applied Microbiology (14/20), Immunology (15/20), Cell Culture (15/20), Crop and Animal Production (13/20), Unit Operations in Biotechnology (13/20), Animal Biotechnology (15/20), Plant Biotechnology (13/20), Enzymatic and Fermentation Technology (13/20), Environmental and Food Biotechnology (13/20), Organization and Analysis of Projects (13/20), Biotechnology and Biofuels (13/20), Plant Physiology and Productivity (14/20), Enterprise Management and Entrepreneurship (12/20), Organizational Sociology (15/20).

BSc thesis titled “Efeito dos reguladores de crescimento e das vitaminas na micropropagação de *Mentha x piperita* (Hortelã-pimenta).”, Supervised by Professor Kiril Bahcevandziev and Professor Fernanda Leal. 17/20.

Final: 14/20.

PERSONAL SKILLS

Mother tongue Portuguese

Other languages

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C1	B2	C1	C1	B1

Levels: A1/2: Basic user - B1/2: Independent user - C1/2 Proficient user

Communication skills Good listener and communicator who effectively conveys information verbally and in writing. Resourceful team player who excels at building trusting relationships with colleagues.

Organisational / managerial skills Goal-driven leader who maintains a productive climate. Results-driven achiever with exemplary planning and organizational skills, along with a high degree of detail orientation.

Job-related skills Highly analytical thinking with demonstrated talent for identifying, scrutinizing, improving, and streamlining complex work processes. Enthusiastic, knowledge-hungry learner, eager to meet challenges and quickly assimilate new concepts.

Computer skills Computer-literate performer with extensive software proficiency covering wide variety of applications.

Driving licence B

ADDITIONAL INFORMATION

Publications

Guerreiro PM, Alves A, Silva SC, Becker AG, Canario AVM, Wilson JM and Fuentes J. Does the urinary bladder play a role in fish renal function? Some hints from phosphate and calcium transport studies. "10º Congreso de la Asociación Ibérica de Endocrinología Comparada", 23-25 September 2015, Universidad Jaume I, Castellon, Spain, Poster.

Silva SC, Alves A, Canario AVM, Power DM and Guerreiro PM. Expression of FGF23/KLOTHO system in the sea bass: tissue distribution and regulation by dietary Pi. "10º Congreso de la Asociación Ibérica de Endocrinología Comparada", 23-25 September 2015, Universidad Jaume I, Castellon, Spain, Poster.

Alves A, Silva SC, Canario AVM, Power DM and Guerreiro PM. Dietary Pi restriction in sea bass and hormonal modulation of phosphorus and calcium intestinal absorption. "10º Congreso de la Asociación Ibérica de Endocrinología Comparada", 23-25 September 2015, Universidad Jaume I, Castellon, Spain, Poster.

Silva SC, Alves A, Becker AG and Guerreiro PM. Is there a role for the fish urinary bladder in renal function? Preliminary studies on phosphate balance. Annual Meeting of the Society for Experimental Biology, June-July 2015, Prague, Czech Republic, Poster.

Guerreiro, P.M., Becker, A.G., Louro, B., Couto, E., Silva, S. and Canario, A.V.M. It's getting warm and watery!! The stress endocrine axis of *Notothenia rossii* and *N. coriiceps* in response to environmental challenges. 11th International Congress on the Biology of Fish, August 2014, Edinburgh, UK, Poster.

Silva, S.C., Soares, J., Silva, A.M., Leal, F., Gaivão, I. Effect of *Ginkgo biloba L.* leaves extract in HepG2 cells treated with Paraquat, IV Jornadas Nacionais de Genética e Biotecnologia, 1-3 March 2012, p. 65, UTAD, Vila Real, Poster.

Silva, SC – Efeito do extracto de folhas de *Ginkgo biloba* em células HepG2 tratadas com Paraquato (2012). MSc thesis. University of Trás-os-Montes e Alto Douro (Article In preparation).

Silva, SC – Efeito dos reguladores de crescimento e das vitaminas na micropropagação de *Mentha x piperita* (Hortelã-pimenta). BSc thesis. Coimbra Higher School of Agriculture.

Presentations

Guerreiro, P.M., Silva S, Alves A, Becker AG, Power DM, Canário AVM, Parker S and Renfro JL. Krogh's principle or a multiple fish model approach to phosphate balance: is there a centrally regulated intestinal-skeletal-renal axis? XV European Congress of Ichthyology, 7-11 September 2015, Porto, Portugal, Oral Communication.

Silva, S.C., Leal, F., Silva, A.M., Soares, J., Gaivão, I. *Ginkgo biloba*: amiga ou inimiga da saúde? Efeitos no DNA nuclear, VI Jornadas de Biologia, 18- 20 October 2012 p. 3, UTAD, Vila Real, Oral Communication.

Silva, S.C. A Origem do Cancro, Famelab – International Competition of Scientific Communication, Ciência Viva and British Council, 28 April, 2012, Semi-final Communication.

Silva, S.C. O cancro pode ser uma doença prevenível?, Cancro, a doença do século XXI, Escola Secundária de Camilo Castelo Branco, Vila Real, Oral Communication.

Monday, May 1, 2017

Sandra Elisbina Machado da Silva