

CURRICULUM VITAE ET STUDIORUM

MAIN RESEARCH AREAS

- Extensive expertise in Cellular/Molecular Biology and Pharmacology research, specializing in Immunology, Oncology, and Genetics.
- Expertise in DNA manipulation techniques employing the CRISPR/Cas9 system.
- Skilled in phenotypic characterization of immune cells utilizing flow cytometry and cell sorting methodologies.
- Vast experience in conducting *In vivo* studies using experimental models of infectious diseases and cancer (focus on hematological malignancies), specifically transgenic and knockout mice.
- Proficient in Computational Biology and Biostatistics utilizing the R programming language, with a focus in genetic association studies and Omics data analysis.

EDUCATION

2021: Ph.D in Biotechnology, Federal University of Espirito Santo, Espirito Santo, Brazil, and University of Perugia, Perugia, Italy. Final Thesis Title: Genetic variability in *NOTCH1*: association with overweight and therapeutic implications in chronic lymphocytic leukemia in the elderly.

2016: M. Sc. in Biotechnology, Federal University of Espirito Santo, Espirito Santo, Brazil. Final Dissertation Title: Evaluation of the therapeutic potential of resveratrol as a new drug against visceral leishmaniasis.

2008: Bachelor degree in Biological Sciences with honours, University of Vila Velha, Espirito Santo, Brazil. Final Thesis Title: Fungal community in senescent leaves of *Protium icicariba* in the restinga biome of Paulo Cesar Vinha State Park, Guarapari-ES.

COURSE CERTIFICATES

2020: Update in Bioinformatics Applied to Genomics: Introduction to Next Generation Sequencing Data Analysis. Albert Einstein Hospital. Sao Paulo, Brazil.

2019: Artificial Intelligence Course. Hacking Health. Vitoria, Brazil.

2019: Introduction to Computing for Bioinformatics (Perl programming language). Federal University of Minas Gerais – UFMG, Minas Gerais, Brazil.

TRAINING OR RESEARCH ACTIVITIES IN QUALIFIED ITALIAN AND FOREIGN RESEARCH INSTITUTES

2018-to date: Collaboration with University of São Paulo - USP (Brazil) for genomic data analysis of elderlies from SABE project coordinated by the Pan American Health Organization.

2017-2018: Training with Università degli studi di Perugia (Italy) in molecular and cellular biology techniques in the field of Chronic Lymphocytic Leukemia.

ORGANIZATION, COORDINATION, OR PARTICIPATION TO NATIONAL AND INTERNATIONAL RESEARCH GROUPS

2022-2023: Research fellowship (field Bioinformatics) in the project “A novel chemo-free approach to NPM1-mutated AML by omacetaxine mepessucinate plus venetoclax: from bench to bedside” at University of Perugia (Italy) under the supervision of prof. Maria Paola Martelli.

2021-2022: Post Doc in Haematology, University of Perugia – Università degli Studi di Perugia UNIPG (Italy) in the project “Development of multiparametric flow cytometry techniques in the diagnosis of Chronic Lymphocytic Leukemia” under the supervision of prof. Paolo Sportoletti.

2020-2021: Research scholarship in Haematology, University of Perugia - Università degli Studi di Perugia UNIPG (Italy) in the project “Study of new drugs anti-*NOTCH1* in CLL *in vitro* and *in vivo* models” under the supervision of prof. Paolo Sportoletti.

2016-2020: Ph. D. Fellowship in Biotechnology at Federal University of Espírito Santo – Universidade Federal do Espírito Santo UFES (Brazil) in the project “Association studies between Single Nucleotide Polymorphisms of *NOTCH1* and healthy aging – A cohort study” under supervision of prof. Flavia Errera.

2014-2016: M. Sc. Fellowship in Biotechnology at Federal University of Espírito Santo - Universidade Federal do Espírito Santo UFES (Brazil) in the project “Evaluation of the therapeutic potential of resveratrol as a new drug against visceral leishmaniasis” under supervision of prof. Daniel Claudio de Oliveira Gomes.

TEACHING ACTIVITY

Seminars:

Systems Biology, Computational Biology and Synthetic Biology in the Omics Era. IV Biology Exhibition. Original title: Biologia de sistemas, Biologia computacional e biologia sintética na era ômica. IV Mostra de Biologia. Federal University of Espirito Santo - UFES. Brazil. 2021. (Lecture Minister)

Laboratory training/tutoring:

Laboratory training provided in cell and molecular biology techniques to students at Università degli Studi di Perugia – UNIPG – Centro di Ricerca Emato Oncologica (CREO - Italy):

- Instruction in Western blotting techniques;
- Training in Real-time (qPCR) and digital PCR methodologies;
- Hands-on experience in cell culture and *In vitro* experiments;
- Instruction in flow cytometry and sorting analysis;
- Instruction in DNA manipulation using the CRISPR/Cas9 system for DNA manipulation.

Laboratory training in cell and molecular biology, genetics and immunology techniques to students at Universidade Federal do Espírito Santo/Federal University of Espirito Santo – UFES (Brazil):

- Instruction in Enzyme Linked ImmunoSorbent Assay (ELISA);
- Hands-on experience in *In vivo* experimental infection.

Student supervisor for thesis preparation:

Ferreira, Izabela. Polymorphism in *NOTCH1* is associated with RDW: a predictive marker of aging and mortality. Original title: Polimorfismo de *NOTCH1* associado ao RDW: um marcador preditivo de envelhecimento e mortalidade. Department of Biological Sciences/Genetics. Federal University of Espirito Santo. 2022. (M. Sc. Thesis Supervisor)

Capoccia, Silvia. Effect of curcumin in the stress of the Endoplasmatic Reticulum in patients with Chronic Lymphatic Leukemia. Department of Pharmaceutical Science. Original title: Effetto della curcumina nello stress del reticolo endoplasmatico nei pazienti affetti da leucemia linfatica cronica. Università degli Studi di Perugia. 2021 (Thesis Supervisor – “Correlatore di tesi di Laurea”)

Moura, Renan Garcia. Expression of inhibitory receptors and their ligands in lesions of patients with localized cutaneous leishmaniasis caused by *Leishmania braziliensis*. Original title: Expressão de receptores inibitórios e seus ligantes em lesões de pacientes com leishmaniose cutânea localizada causada por *Leishmania braziliensis*. Department of Pathology/Infectious diseases. Federal University of Espirito Santo. 2019. (M. Sc. Thesis Supervisor)

Correa, Andrés Mendez. Use of adjuvants for mucosals (caf09, caf01 and MPL) in the vaccines formulation against Visceral Leishmaniasis. Original title: Uso de adjuvants (CAF09, CAF01 e MPL) mucosa-compatíveis na formulação de vacinas contra a leishmaniose visceral. Department of Pathology/Biotechnology. Federal University of Espirito Santo. 2018 (M. Sc. Thesis Supervisor)

Barcelos, Divan Henrique Fernandes. Evaluation of the leishmanidal potential of bacteriokins. Original title: Avaliação do potencial leishmanicida de bacteriocinas. Department of Pathology/Biotechnology. Federal University of Espirito Santo. 2018 (M. Sc. Thesis Supervisor)

Perin, Livia Reisen. In vitro effect of alfa-bisabolol and its derivatives on Macrophages and Promastigote and amastigote of *Leishmania amazonensis* e *L. infantum*. Original title: Efeito in vitro do alfa-bisabolol e seus derivados sobre macrófagos e formas promastigotas e amastigotas de *Leishmania amazonensis* e *L. infantum*. Department of Veterinary Sciences. Federal University of Espirito Santo. 2017 (M. Sc. Thesis Supervisor)

NATIONAL AND INTERNATIONAL CONGRESS/CONFERENCES PARTICIPATION

Poster/Oral Presentation:

Fernandes, I. S. ; Silva Barcelos, Estevão Carlos ; Naslavsky, M. ; Zeidler, S. L. V. V. ; Paula, F. ; Duarte, Y. ; Bueno, M. R. P. ; Zatz, M. ; Errera, F. I. V. Polymorphisms in *NOTCH1* are associated with RDW: A predictive marker of aging and mortality. II Symposium of human and molecular genetics of Espirito Santo. 2021. (Poster Presentation)

Silva Barcelos, Estevão Carlos; Baldoni, S. ; Adamo, F. M. ; Dorillo, E. ; Sorcini, D. ; Stella, A. ; Rompietti, C. ; Falco, F. ; Rosati, E. ; Cavalcante, L. ; Giles, F. J. ; Sportoletti, P. Targeting Chronic Lymphocytic Leukemia (CLL) cells with the Glycogen Synthase Kinase-3 Beta (Gsk-3 β)-selective small molecule inhibitor, 9-Ing-41. European Hematology Association Congress Eha 2021. (Poster Presentation)

Silva Barcelos, Estevão Carlos; Rompietti, C. ; Papa, B. ; Falco, F. ; Baldoni, S. ; Dorillo, E. ; Adamo, F. M. ; Stella, A. ; Sartori, S. ; Scialdone, A. R. ; Guarente, V. ; Mondani, E. ; Cecchini, D. ; Cantelmi, M. G. ; Rosati, E. ; Sportoletti, P. Curcumin exhibits in vitro and in vivo anti-leukemic activity

interfering with the Notch1 pathway inducing Endoplasmic Reticulum stress in Chronic Lymphocytic Leukemia. XVI Congresso Nazionale Sies 2021. (Poster Presentation)

Fernandes, I. S. ; Souza, V. P. ; Adami, J. B. ; Bonfim, J. A. ; Silva Barcelos, Estevão Carlos; Errera, F. I. V. In silico valuation of the functional impact of SNPs associated with Asthma. IV Biology Exhibition. 2021. (Poster Presentation)

Silva Barcelos, Estevão Carlos; Gomes, Daniel Cláudio Oliviera ; Pereira, M. F. Phagocytosis, Persistence and cytokines production upon stimulation of human macrophages with *Staphylococcus aureus* of different lineages. XXIX Brazilian congress of microbiology. 2017. (Poster Presentation)

Silva Barcelos, Estevão Carlos; Gomes, Daniel Cláudio Oliviera ; Pereira, M. F. Antileishmania activity of resveratrol in a murine model of visceral leishmaniasis. 1st International Multidisciplinary Microscopy School and Exhibition. 2016. (Oral Presentation)

Barcelos, E. C. S.; Pescinalli, N. ; Gomes, D. C. O. Intranasal vaccination with Saag increase the immunogenic immune response against mastitis caused by *S. Aureus*. XXXIX Congress of the Brazilian Society of Immunology. 2014. (Poster Presentation)

Organization/Participation:

I Symposium of Human and Molecular Genetics of Espirito Santo. Federal University of Espirito Santo. Brazil. 2019. (Organizing Committee)

II Open Door Biotechnology: Bio economy and Biodiversity. Federal University of Espirito Santo. Brazil. 2019 (Symposium Monitor)

Chronic Lymphocytic Leukemia: Advances in Pathogenesis and Treatment. Venice, Italy. 2018 (Participation)

I Symposium of Head and Neck Cancer: Clinical conduct in the face of new challenges. Federal University of Espirito Santo. 2017 (Organizing Committee)

1st International Multidisciplinary Microscopy School and Exhibition. Federal University of Espirito Santo. 2016. (Participation)

XXXIX Congress of the Brazilian Society of Immunology. Brazil. 2014 (Participation)

PRIZES AND AWARDS FOR RESEARCH ACTIVITIES

Silva Barcelos, Estevão Carlos; Fernandes, I. S. ; Souza, V. P. ; Adami, J. B. ; Bonfim, J. A.; Errera, F. I. V. In silico valuation of the functional impact of SNPS associated with Asthma. II Symposium of human and Molecular Genetics. Federal University of Espirito Santo - Ufes. 2021. (Best Oral Presentation)

SCIENTIFIC PROFILE

(Orcid ID: 0000-0001-7076-6165; Scopus ID: 57189375292)

BIBLIOMETRIC INDEX (updated the 11/07/2023)

- NUMBER OF PUBLICATIONS: 7 in international journals with "peer-review" (cited in PubMed and Scopus and / or ISI Web of knowledge-Journal Citation Reports)

- TOTAL NUMBER OF CITATIONS: 38 (**Scopus**); 52 (Google Scholar)

- TOTAL IF: 51.86

- H INDEX: 3 (**Scopus**); 3 (Google Scholar)

LANGUAGES

English (fluent); Italian (fluent); Portuguese (mother language); Spanish (functional skills)

COMPLETE LIST OF PUBLICATIONS IN INTERNATIONAL JOURNALS

- 1) Adamo, FM, Silva Barcelos EC, De Falco F, Dorillo E, Rompietti C, Sorcini D, Stella A, Del Papa B, Baldoni S, Esposito A, Geraci C, Arcaleni R, Pennetta C, Ragonese F, Moretti L, Mameli M, Di Ianni M, Rosati E, Fioretti B, Sportoletti P. Therapeutic Targeting Potential of Novel Silver Nanoparticles Coated with Anti-CD20 Antibody against Chronic Lymphocytic Leukemia. *Cancers*. 2023. Accepted on July 09 2023. (No citation, IF: 6.63)
- 2) Sorcini D, De Falco F, Gargaro M, Bozza S, Guarente V, Cardinali V, Stella A, Adamo FM, Silva Barcelos EC, Rompietti C, Dorillo E, Geraci C, Esposito A, Arcaleni R, Capoccia S, Mameli MG, Graziani A, Moretti L, Cipiciani A, Riccardi C, Mencacci A, Fallarino F, Rosati E, Sportoletti P. Immune correlates of protection by vaccine against SARS-CoV-2 in patients with chronic lymphocytic leukaemia. *Br J Haematol*. 2022 Dec 9;10.1111/bjh.18602. doi: 10.1111/bjh.18602. Epub ahead of print. (1 citation, IF: 8.61)
- 3) De Falco F, Rompietti C, Sorcini D, Esposito A, Scialdone A, Baldoni S, Del Papa B, Adamo F, Silva Barcelos EC, Dorillo E, Stella A, Di Ianni M, Screpanti I, Sportoletti P, Rosati E. GSK3 β is a critical, druggable component of the network regulating the active NOTCH1 protein and cell viability in CLL. *Cell death and disease*. Provisionally accepted in 08 Aug 2022. (No citation, IF 2022: 8.46)
- 4) Baldoni S, Del Papa B, De Falco F, Dorillo E, Sorrentino C, Rompietti C, Adamo FM, Nogarotto M, Cecchini D, Mondani E, Silva Barcelos EC, Moretti L, Mameli MG, Fabi B, Sorcini D, Stella A, Giancola R, Guardalupi F, Ulbar F, Plebani S, Guarente V, Rosati E, Di Nicola M, Marchioni M, Di Ianni M, Sportoletti P. NOTCH1 Activation Negatively Impacts on Chronic Lymphocytic Leukemia Outcome and Is Not Correlated to the NOTCH1 and IGHV Mutational Status. *Front Oncol*. 2021 May 26;11:668573. doi: 10.3389/fonc.2021.668573. PMID: 34123837; PMCID: PMC8187905. (2 citation; IF 2021: 5.36)
- 5) Del Papa B, Baldoni S, Dorillo E, De Falco F, Rompietti C, Cecchini D, Cantelmi MG, Sorcini D, Nogarotto M, Adamo FM, Mezzasoma F, Silva Barcelos EC, Albi E, Iacucci Ostini R, Di Tommaso A, Marra A, Montanaro G, Martelli MP, Falzetti F, Di Ianni M, Rosati E, Sportoletti P. Decreased NOTCH1 Activation Correlates with Response to Ibrutinib in Chronic Lymphocytic Leukemia. *Clin Cancer Res*. 2019;25(24):7540-7553. doi: 10.1158/1078-0432.CCR-19-1009. (18 citations; IF 2021: 13.8)
- 6) Di Ianni M, Baldoni S, Del Papa B, Aureli P, Dorillo E, De Falco F, Albi E, Varasano E, Di Tommaso A, Giancola R, Accorsi P, Rotta G, Rompietti C, Silva Barcelos EC, Campese AF, Di Bartolomeo P, Screpanti I, Rosati E, Falzetti F, Sportoletti P. NOTCH1 Is Aberrantly Activated in Chronic Lymphocytic Leukemia Hematopoietic Stem Cells. *Front Oncol*. 2018;8:105. doi: 10.3389/fonc.2018.00105. eCollection 2018. (24 citations; IF 2021: 5.36)
- 7) Stegmiller, NP, Silva Barcelos EC, Leal, JM, Covre, LP, Donatele, DM, De Matos Guedes, HL, Cunegundes, MC, Rodrigues, RR, Gomes, DCO. Intranasal vaccination with adjuvant-free S.

Aureus antigens effectively protects mice against experimental sepsis. *Vaccine*. 2016;16:30147/5. Doi: 10.1016/j.vaccine.2016.04.018. (7 citations; IF 2021: 3.64)

BOOK AND BOOK CHAPTERS

Fernandes IS, Sousa VP, Bride LL, Barcelos ECS, Marcarini BG, Ditchfield AD, Paula F, Rodrigues MCS, Rosetti EP, Errera FVI. Genetics in the omics era: analysis of important issues for the training of the dentist of the future In: Cristina Berger Fadel; Alessandra de Souza Martins. (Org.). *Dentistry and comprehensive care: aspects of professional training and health services*. First ed, Publishing company Cientifica, 2021, v. 1, p. 124-157.

SUBMITTED MANUSCRIPT

Silva Barcelos, Estevao Carlos et al. Genetic variation in *NOTCH1* is associated with excessive weight in Brazilian elderly. Manuscript submitted to the *Scientific Reports* on 13 Mar 2023. (Under revision)

Silva Barcelos, Estevao Carlos et al. *NOTCH1* mutated CLL displays high endoplasmic reticulum stress response with druggable potential. Manuscript submitted to *Frontiers in Oncology* on 08 May 2023. (Under revision)

29/08/2023