**Short *CURRICULUM VITAE* of Ricardo Santiago**

## I. Personal Data

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| **Name:** Ricardo Santiago Araújo |
| **Date and place of birth:** 2 Set 1995; Porto, Portugal |
| **Phone:** +33(0)785281556 |
| **E-mail:** ricardosa54@gmail.com |

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## II. Academic Data

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| **July 2013** | **High school graduation**  “Escola Básica e Secundária Rodrigues de Freitas”, Porto, with a final grade of 18,35 / 20. |

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| **Sept. 2013 – July 2016** | **Bachelor’s Degree in Biochemistry at Faculty of Sciences in the University of Porto.**  Completed with an average grade of 18.44 / 20 (European Grading Scale : A). |

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| **Feb. 2016 – June 2016** | **ERAMUS+ at Stockholm University from February 2016 to June 2016.** |

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| **Oct. 2016** **– May 2019** | **Master’s Degree in Biochemistry at the Gene Center in the Ludwig Maximilian University (Munich, Germany).**  Completed with an average grade of 1.8 . |
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| **Nov. 2019**  **– present** | **SEVAB doctoral school Ph.D. student in Toulouse, France, funded by the French National Centre for Scientific Research (CNRS).**  I am pursuing an interdisciplinary project with the aim of studying conformist learning in cultural learning, working with *Drosophila melanogaster* as a model. |
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## III. Complementary Education

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| **March 2011** | Cambridge English : First Certificate in English (FCE) - Score: A. |

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| **May 2012** | Cambridge English : Certificate in Advanced English (CAE) – Score: B. |

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| **Feb. 2015** | Workshop under the scope of the II JORNADAS DE BIOQUÍMICA on the topic: “*Manutenção de Animais de Laboratório—Roedores e Animais aquáticos”.* (Maintenance of lab animals – rodents and aquatic animals). |

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| **April 2016** | IELTS Academic – Overall Band Score: 8.0. |
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## IV. Research

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| **August 2015** | **University College of London, Institute for Liver and Digestive Heath,** **London** – I completed a 5 week Internship to develop and optimize a protocol to accurately and rapidly detect and treat early infection in acute liver failure and sepsis patients by photodynamic therapy. This project involved the development of a sensitive early detection method based on qPCR to help determine the timing when the photodynamic therapy should be applied and to accurately and rapidly detect early infections. I was supervised by Dr. Christophe Espirito Santo. |

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| **Nov. 2015 – Jan. 2016** | **University of Porto, Institute for Molecular and Cellular Biology (IBMC), Porto** – Concomitantly to my studies, I completed a voluntary Internship in Dr. Paulo Pereira’s research group for “Cell Growth and Differentiation”. During this time, I acquired experience in *Drosophila melanogaster* culture growth and maintenance. I also learned how to perform genotype crossings, fly selection and dissection. |

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| **Feb. 2016 – June 2016** | **University of Stockholm, Department of Biochemistry and Biophysics, Stockholm –** Bachelor project in Prof. Martin Ott’s group: “Investigation of cristae pH in yeast”. During this research project, I tagged proteins in *Saccharomyces cerevisiae* known to be preferentially located at various sites in the cell with ratiometric pHluorin2, a pH-sensitive GFP derivative. These constructed strains were used to map intra-mitochondrial proton pH and obtain a comprehensive picture of *in vivo* pH while testing district conditions such as substrate availability. We observed the existence of a proton concentration gradient that increases along the cristae. |

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| **Nov. 2016 – Feb. 2016** | **Ludwig Maximilian’s University, Gene Center, Munich** **–** I completed an 8-week Internship in Prof. Daniel Wilson’s research group to study the interaction of YqjD and YbcJ with the *Escherichia coli* ribosome. During this internship, I designed plasmids carrying the proteins of interest with a Strep-Tag. I optimized their overexpression in a BL21(DE3) system, and performed sucrose gradient fractionation. Our results suggested possible interaction between the 70S ribosome and YqjD, and the 30S and YbcJ. |

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| **Nov. 2017** | **Ludwig Maximilian’s University, Faculty of Biology, Munich** **–** I did a 4-week rotation in Dr. Bart Nieuwenhuis’s newly established research group in which I contributed to the development of *Schizosaccharomyces pombe* strains with single nucleotide polymorphisms as well as additional knock-out stains used for experimental evolution. |

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| **Feb. 2018** | **Max Planck Institute for Biochemistry, Munich** **–** I did a 4-week internship in Dr. Hannes Mutschler’s research group working with self-replicating ribozyme systems based on the hairpin ribozyme. I tested the assembly of the replicative system using a freeze-thaw cycler, while focusing on a design incorporating an internal fluorescent FAM tag. I also worked with DNAzyme as an alternative to EDC 3’ 2,3-cyclization of RNA oligomers. I was supervised by Dr. Kristian Le Vay. |

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| **May 2018 – Nov. 2018** | **Max Planck Institute for Biochemistry, Munich** **–** I did my master thesis in Dr. Hannes Mutschler’s research group. I focused on the optimization of the self-replicating ribozyme design by *in vitro* selection for improved ligation junctions. In parallel, I worked on a simplified system with less junctions. I worked under the supervision of Dr. Kristian Le Vay. |

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| **Nov. 2019 – present** | **Laboratory of Evolution and Biological Diversity (EDB), Toulouse –** For my PhD, I am undertaking an interdisciplinary project at the crossroads of biology and the social sciences with the goal of conducting a comparative study of conformist learning in humans and non-human species (Drosophila melanogaster). I aim to gain insights into animal culture and social learning, and ultimately achieve a better understanding of the deep nature of human conformity.  My research is performed in collaboration with researchers at IAST (Institute for Advanced Study in Toulouse) and CRCA (Centre de Researches sur la Cognition Animale).  The project is funded by CRNS and jointly supervised by Prof. Etienne Danchin (EDB), Dr.Arnaud Pocheville (EDB), Dr. Guillaume Isabel (CRCA), Dr. Sabine Nöbel (IAST) and Prof. Paul Seabright (IAST). |

## V. Laboratory Methodology Experience

I have extensive experience with several model organisms, including culturing and handling of *Staphylococcus haemolyticus*, *Escherichia coli*, *Drosophila melanogaster* and *Schizosaccharomyces pombe*.

Additionally, I can prepare competent cells of different organisms and I am proficient in several *in vivo* techniques such as chemical transformation, cell lysis, drop dilution, sucrose gradient fractionation and general genomic manipulation and cloning.

In conjunction with vector design, I can use these skills for protein tagging, overexpression, precipitation and purification employing several strategies. I have experience with fluorescence tags such as different GFP variants and tagging for isolation with the strep tag. I have a grasp of bright field and fluorescence microscopy.

I have experience with PCR, real time qPCR, RT-PCR, stitch PCR colony PCR and MEGAWHOP cloning. I am also proficient in UV/visible and fluorescence spectroscopy. I have worked with different gel types (agarose, SDS-PAGE and TBU) and can perform gel extraction.

I have experience working with RNA including sequence design and *in vitro* transcription. I am also trained in *in vitro* selection.

I have a lot experience in animal behavioral experiments using *Drosophila melanogaster*. I have also experience designing and conducting online experiments, particularly in the field of human social psychology.

I have worked extensively with R and I basic experience with MATLAB and phyton.

## VI. Publications

2019 - Kinetic coupling of the respiratory chain with ATP synthase, but not proton gradients, drives ATP production in cristae membranes.

## VII. Main Research topics of interest

Right now, my main, ever-changing topics of interest include animal culture, cultural evolution, molecular biology, evolutionary biology, synthetic biology, ecology, behavioural ecology, conservation and origin of life research.

## VIII. Other competences and miscellaneous interests

**Languages:** I speak Portuguese (native language) and English (C2) fluently. Moreover, I have a good grasp of Spanish (B2) and a basic level of German (B1). I am currently developing my skills in French (B2).

**Communication**: I have interdisciplinary communication experience, having worked as a city guide in Munich for Nova Fairy tales, a professional touring agency. As the first member of the Munich branch, I had full creative control over the content of the tour, which I created independently to go over a wide range of aspects, which included history, politics, language and culture.

**Hobbies:** I am deeply interested in a broad range of scientific fields and read works of scientific vulgarization very regularly. I am passionate about plastic arts and practice painting, drawing and ceramics on a weekly basis. I practice sports (martial arts) with high regularity. I am also passionate about history, cuisine, backpacking, reading and world cinema.

## VIV. Grants and Awards

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| **2006** | Student Merit Award of the Luso-Francês School, *for the behavior, hard work and academic performance.* |

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| **2014** | Student Merit Award of the Faculty of Sciences Student’s Association, University of Porto, for the best grades achieved in the first year class of the Biochemistry Bachelor Degree. |

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| **2015** | Grant from Calouste Gulbenkian Foundation to fund a 5 week research internship at UCL in Prof. Clare Seldon’s group with the project ”Accurately detect, quantify and treat early infections during acute liver failure and sepsis”. |

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| **2016** | Student Merit Award of the Faculty of Sciences, University of Porto, awarded by António Fernando Silva, Director of the Faculty, for achieving the best final grades in the completed Biochemistry Bachelor Degree. |

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| **2016** | University Award “Doctor João Cabral” (Biochemistry) of the Faculty of Sciences, University of Porto, awarded by António Fernando Silva, Director of the Faculty, for achieving the best grades in the Analytical Chemistry and the Bioinorganic Chemistry courses. |

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| **2016** | University Award “Doctor Fernando Serrão” (Biochemistry) of the Faculty of Sciences, University of Porto, awarded by António Fernando Silva, Director of the Faculty, for achieving the best grades in the Organic Chemistry I and Organic Chemistry II courses. |

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| **2018** | ICBAS University Award for 2015-2016. |
| **2021** | AUF scientific vulgarisation award - « Concours Conter et rencontrer les sciences ». |