

Education

Ph.D. student in Science at University of Campinas (UNICAMP),
Aug. 2017 – 2020 | GPA: 4.0 (4.0)

Ph.D. Visiting Student at Harvard Medical School (MA/USA)
Jul. 2019 – Feb 2020)

BSc. at São Paulo State University (UNESP), Assis, SP/ Brazil
Mar. 2009 – Dec. 2014
Degree: Biotechnological Engineering | GPA: 7.59 (10.0)

BSc. Exchange Student at Kent State University, OH/USA
Degree: Bioengineering | GPA: 3.723 (4.0)

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Summary

Extensive experience in bioprocesses and biotechnology, working on projects involving fermentation of bacteria, yeast and mammalian cells, molecular biology (Gibson assembly, cloning into *E. coli* and *P. pastoris*), enzymatic assays, heterologous expression of proteins, Single Use Bioreactor in industrial scale (500L – GMP, Delta V) and microbial cultures in bench reactors. Domain of different techniques of concentration and purification of proteins (TFF, depth filtration, AKTA) and in statistical tools for process optimization (Design of Experiment) and scale-up.

- ✓ 2.5 years of experience as a researcher in a biopharmaceutical company;
- ✓ Ability to work both at bench and administration sectors;
- ✓ Selected as part of the next Generation of Young Biotechnology Leaders to participate in the 2021 Allbiotech Summit;
- ✓ Selected to participate of the “*Healthcare Innovation and Commercialization Course 2019 - translating innovative research into meaningful commercial opportunity*” at Harvard Medical School;
- ✓ Team leader in the implementation and monitoring of cell culture bioprocess stagger from bench scale to industrial bioreactors;
- ✓ Team leader in the production and monitoring of biosimilar Manufacturing Technique (GMP);
- Team leader in the optimization of culture medium for biosimilar production;
- ✓ Team leader in the optimization of recombinant protein productivity in ten times;
- ✓ Practical application of the concept of QbD and DOE;
- ✓ Responsible for the analysis of raw data regarding to biosimilar proof of concept with multivariate adjustment;
- ✓ Responsible for comparability analysis between biosimilar and reference substance;
- ✓ Responsible for the optimization of cello-oligosaccharides production in twenty times;
- ✓ Advanced analytical skills and excellent ability to work in teams;
- ✓ Scientific award at XXV Scientific Initiation Congress from UNESP as the best oral presentation in the biological field;

Industrial Research Experiences

Biotimize Soluções em Bioprocessos, Piracicaba, SP/Brazil
Co-Founder

| Nov. 2020 – Current

Biotimize was born from the desire to develop the Biotech in Brazil. We can assist our partners with: Elaboration of projects or financial funding support; Technical and economic evaluation of projects and processes; Transfer of technologies; Bioprocess diagnosis and troubleshooting; Bioprocess development, standardization, optimization, and validation: culture media, upstream, downstream and formulation; Bioprocess Scale-up and Scale-down; Facility Design: regulatory assessment for GMP and Biosafety, mass balance, risk analysis, user requirement brief, production schedule, conceptual, basic and executive industrial projects; Strategic Planning; Financial Planning; Project management.

Cristália Produtos Químicos e Farmacêuticos, Itapira, SP/Brazil
Biotechnology Researcher

| Jan. 2015 – Jul. 2017

Focus: monoclonal antibody and recombinant protein production in bench scale and industrial scale.

At Cristália I had the opportunity to work with mammalian cell transfection, development of stable clones of cell lines (BHK, CHO), optimization of cell culture medium, protein quality, glycosylation analysis, control and monitoring of scaling up cell culture processes from bench scale (flask, Erlenmeyer, Wave - 25L) to Industrial bioreactors (5, 100 and 500L), bioassays (e. g. antiproliferative, proliferative, ADCC, Her-2, ELISA, SDS-PAGE, specific enzymatic activity) and depth filtration. I also got a practical knowledge in GMP environment and FDA and ANVISA guidelines, practical application of the concept of QbD and DOE, comparability analysis between biosimilar and reference substance, advanced analytical skills and excellent ability to work in teams.

Braille Biomedical, São José do Rio Preto, SP/Brazil

| Aug. 2014 – Dec. 2014

Internship

Focus: R&D of bioprosthesis cardiac valves and transcatheter aortic valves.

At Braille I got experience with experimental planning, development and implementation of a bovine pericardium treatment and an *in vitro* anti-calcification assay. I was a key contact of a partnership between Braille Biomédica and University College London (London), highly experienced in valve performance and fatigue tests, blood concentrators, oxygenators, filters, heat exchanger, hemolysis, statistical analysis.

Biotech Jr – Junior Enterprise from Biotechnological Engineering degree at UNESP, Assis, SP/Brazil | Apr. 2009 – Mar. 2012
Jan 2012 – Mar 2012: CEO

Jan 2011 – Dec 2011: Deputy CEO

Jan 2010 – Dec 2010: Deputy Director of R&D Department

Apr 2009 – Dec 2009: Member of R&D Department

Responsibilities: administer and supervise meetings, projects and equipments; elaboration of annual company strategical planning, coordinate in a concentric way all the company's departments, company presentation to external public, delegate activities and schedule management.

Academic Research Experiences

Ph.D. Visiting Student, Harvard Medical School, MA/USA

| Jul. 2019 – Feb. 2020

Focus: Expression of Intrinsically Disordered Proteins in *Pichia pastoris*.

In the Dr. Pamela Silver laboratory, I'm designing and generating yeast strain for optimal expression and secretion of intrinsically disordered proteins (IDP). I'm also contributing to optimization of gene expression constructs for IDPs for compatibility with yeast expression system. Focus is being placed on maximizing the yield of functional protein translation by testing promoters, ribosomal binding sites, codon usage, etc. I will test conditions and genetic modifications of yeast strains to minimize undesirable protein cleavage as part of the secretion pathway, to avoid protein aggregation, and to maximize purity of secreted proteins.

Ph.D. in Bioenergy, UNICAMP, Campinas, SP/Brazil

| Aug. 2017 – Oct. 2020

Focus: Optimization of cello-oligosaccharides production by enzymatic hydrolysis of sugarcane straw via heterologous expression of cellulolytic and oxidative enzymes.

In the Ph.D. program, our aims are to characterize the pre-treated sugarcane straw; to perform a literature review to identify cellulolytic and oxidative enzymes able to hydrolyze the lignocellulosic biomass in cello-oligosaccharides; to select interesting genes and to clone them in *E. coli* or *P. pastoris*. Moreover, it is also objectives of this research project to produce and purify the super-expressed enzymes and to evaluate the possible enzymes mixtures by experimental design in order to maximize the production of cello-oligosaccharides. Finally, it is a purpose of this project to obtain a hydrolyzed stock rich in cello-oligosaccharide for further fermentation by *Geobacillus*.

Pharmacology and Phytotherapy Laboratory, UNESP, Assis, SP/Brazil

| Mar. 2010 – Aug. 2014

Undergraduate Researcher

Focus: "Evaluation of anti-oxidant and anti-cancer potential in B16 and 4T1 cancer cells of *Annona crassiflora*, *Annona muricata* and *Annona squamosa* (Annonaceae)" and "Anti-glicant and anti-oxidant potential of *Copaifera langsdorffi* and *Mandevilla velutina*". Both projects were sponsored by FAPESP (Sao Paulo Research Foundation).

At UNESP Pharmacology and Phytotherapy Laboratory I got practical experience with carcinogen inducer in bacterial culture; fibroblasts, B16 (melanoma) and 4T1 (breast) cancer cells culture; cryopreservation and defreeze techniques; cell counting by Trypan Blue and MTT; cell enzymatic kinetics; experience with UV-VIS spectroscopy, inverted microscopy, agarose gel electrophoresis, *in vitro* hemolysis assay and statistical analysis. Some assays were made under Experimental Oncology Unit from UNIFESP (São Paulo) partnership.

WPI Bioengineering Institute, Worcester

| May. 2013 – Aug. 2013

Associate Researcher

Focus: R&D of a biosensor to detect infection in human body, in Dr. Christopher Lambert's research group.

At WPI I could learn about bacterial culture in ITO slices, ITO coated slices with APTMS, development of microfluidic channel device, biofilm formation, and I got some experience with electrochemical impedance spectroscopy (EIS).

Liquid Crystal Institute, Kent State University, Kent - Ohio

| Oct. 2012 – May. 2013

Undergraduate Researcher

Focus: production of an elastomer to be used as tissue engineering scaffold, in Elda Hegmann's research group.

At LCI I could learn about star block copolymers synthesis and crosslinking promotion to develop a biocompatible cholesterol liquid crystal, I got experience with IR and NMR techniques and development of a peptide-coated elastomer to cell attachment assistance.

Scientific Award: "Best Biological Project" entitled "Evaluation of anti-oxidant and anti-cancer potential in B16 and 4T1 cancer cells of *Annona crassiflora*, *Annona muricata* e *Annona squamosa* (Annonaceae)" presented at XXV Scientific Initiation Congress from UNESP - Barra Bonita/ Nov. 2013, and at the 3° Biotechnology World Congress - Dubai, Feb. 2014.