

Education

- 2018- **PhD (c) in Biochemistry**
University of Cambridge – Department of Biochemistry
Regulation of antibiotic production in bacteria
- 2016 **PhD student in Chemical Engineering and Biotechnology**
University of Chile – Centre for Biotechnology and Bioengineering (CeBiB)
- 2014 **Master in Biochemistry** (honours)
University of Chile – Center for Bioinformatics and Integrative Biology (CBIB; Andres Bello University)
Antarctic bacteria for fluorescent nanoparticle production
- 2010 **Food Engineering** (second best-ranked student)
University of La Serena – Center for Advanced Studies in Arid Zones (CEAZA)
Plant genetic diversity
- 2008 **Bachelor of Food Science** (first graduate of generation)
University of La Serena

Honours and Awards

- 2020 **Microbiology Society Conference Grant awardee.** Edinburgh Annual Conference (cancelled)
- 2019 **Selected as Biosummit 3.0 participant.** Community Biotechnology Initiative for open science
Massachusetts Institute of Technology (MIT) Media Lab, USA
- 2019 **Latin America Young Scientist scholarship.** Awarded by International Society for Microbial Ecology (ISME) to present at Latin America ISME congress
- 2019 **Conference Attendance Scholarship for Doctoral Students.** Awarded by Chilean National Agency of Research and Development (ANID-Chile)
- 2017 **ANID-Chile Cambridge PhD Scholarship.** Awarded by ANID-Chile and Cambridge Trust
- 2017 **São Paulo Research Foundation (FAPESP) awardee for Advanced Science School**
University of Sao Paulo, Brazil
- 2017 **100 Biotechnology Young Leaders of Latin America (ALLBiotech)**
- 2016 **Young Scientists Program (YSP).** Awarded by International Union of Biochemistry and Molecular Biology (IUBMB) to the most outstanding 40 young scientists worldwide
University of British Columbia, Canada
- 2016 **Pacific Alliance Scholar.** Awarded by The Pacific Alliance for training of advanced human capital
- 2016 **National Doctoral Fellowship.** ANID-Chile Full PhD scholarship
- 2016 **Ecology and Diversity of Marine Microorganisms (ECODIM IX) International Course**
University of Concepcion, Chile
- 2013 **Postgraduate Thesis on Antarctic Issues.** Grant awarded by Chilean Antarctic Institute (INACH)
- 2013 **Graduate School Fellowship for National Conferences.** Awarded by University of Chile
- 2013 **International Research Fellowship for Graduate Students.** Awarded by University of Chile
Ludwig-Maximilians-Universität München (University of Munich), Germany

- 2012 **Canada–Chile Leadership Exchange Scholarship**. Awarded by Department of Foreign Affairs, Trade and Development of Canada
McGill University, Canada
- 2011 **National Master Fellowship**. ANID–Chile Full Master scholarship
- 2006 **Bicentennial Scholarship**. Awarded by Ministry of Education of Chile for undergraduates with outstanding academic performance

Research Experience

- 2018– PhD project: **“Novel regulators of antibiotic biosynthesis in *Serratia* sp. ATCC 39006”**. Prof. George Salmond. **Molecular Microbiology group, University of Cambridge**. Cambridge, UK
(Jan–)
- 2017 Research stay as Pacific Alliance Scholar: **“Development of novel synthetic antimicrobial peptides”**. Prof. Sergio Orduz. **Functional Biology group, National University of Colombia**. Medellín, Colombia
(Mar–Jul)
- 2015 Assistant Researcher: **“Unravelling the regulatory mechanisms that modulate grain yield performance during water stress of *Chenopodium quinoa*: Relationship between drought tolerance and senescence during grain filling”**. Dr. Luisa Bascuñan. **Biotechnology Lab, CEAZA**. La Serena, Chile
(May–Dec)
- 2014 Assistant Researcher: **“Identification of antimicrobial peptides from Chilean coastal mollusks and potential biotechnological use”**. Dr. María Inés Becker. **Foundation ‘Science and Technology for Development’**. Santiago, Chile
(Mar–Dec)
- 2012–13 Master project: **“Isolation of Antarctic bacteria resistant to cadmium and tellurite for fluorescent nanoparticles (quantum dots) production”**. Dr. José Pérez-Donoso. **Bionanotechnology and Microbiology Group, CBIB**. Santiago, Chile
(May–Nov)
- 2013 Research stay: **“Evaluation of fluorescent nanoparticles biosynthesized by magnetotactic bacterium *Magnetospirillum gryphiswaldense*”**. Dr. Dirk Schüler. **Biocenter LMU, University of Munich**. Munich, Germany
(Jun–Aug)
- 2012–13 Research stay: **“Characterization of nanoparticles biosynthesized by Antarctic bacteria”**. Prof. Jay Nadeau. **Department of Biomedical Engineering, McGill University**. Montreal, Canada
(Oct–Jan)
- 2011–12 Research Unit: **“Isolation and characterization of bacteria resistant to heavy metals and quantum dots producers from mining wastes”**. Dr. José Pérez-Donoso. **Biochemistry and Molecular Biology Lab, University of Chile**. Santiago, Chile
(Dec–Jan)
- 2011 Research Unit: **“Assesment of genotoxic potential of methyl methanesulfonate using the zebrafish model”**. Dr. Manuel Ellahueñe. **Bioassays Lab, National Center of the Environment (CENMA)**. Santiago, Chile
(Aug–Nov)
- 2009–11 Research Assistant: **“Genetic diversity analysis of *Prosopis flexuosa* populations located in ‘Quebrada Morel’ priority site”**. Dr. Alexandra Stoll. **Plant Molecular Biology Lab, CEAZA**. La Serena, Chile
(Dec–Feb)

- 2009 Research Assistant: “High hydrostatic pressure effect on physicochemical properties of proteins and their interactions with selected food additives”. Dr. Gipsy Tabilo. Biochemistry Lab, University of La Serena. La Serena, Chile (Aug–Dec)
- 2007–09 Research Assistant: “Genetic divergence of Algarrobo (*Prosopis chilensis*): Basis for selection and breeding program”. Dr. Ximena Moncada. Plant Molecular Biology Lab, CEAZA. La Serena, Chile (Dec–Jun)
- 2006 Research Unit: “R&D Capacity of global aquaculture production: Balanced food for exportable species”. Prof. Mario Pérez-Won. Department of Food Engineering, University of La Serena. La Serena, Chile (Jul–Dec)

Publications

- 2019 “Genetic diversity and structure of the vulnerable species *Prosopis chilensis* (Molina) Stuntz in the Coquimbo Region, Chile”. Moncada X, Plaza DO, Stoll A, Payacán C, Seelenfreund D, Martínez E, and Squeo FA. *Gayana Botanica Journal*
- 2016 “Biological synthesis of fluorescent nanoparticles by cadmium and tellurite resistant bacteria from Antarctica: Exploring novel natural nanofactories”. Plaza DO, Gallardo C, Straub YD, Bravo D and Pérez-Donoso JM. *Microbial Cell Factories*. DOI: 10.1186/s12934-016-0477-8
- 2014 “Low-temperature biosynthesis of fluorescent semiconductor nanoparticles (CdS) by oxidative stress resistant Antarctic bacteria”. Gallardo C*, Monrás JP*, Plaza DO, Collao B, Saona LA, Durán-Toro V, Venegas FA, Soto C, Ulloa G, Vásquez CC, Bravo D and Pérez-Donoso JM. *Journal of Biotechnology*. 187:108–115. * Same contribution
- 2012 “Nanotechnology from Antarctic: Isolation of bacteria able to produce fluorescent nanoparticles”. Gallardo C, Plaza DO, Monrás JP, San Martín C, Bravo D, Vásquez CC and Pérez-Donoso JM. *Chilean Antarctic Reviews*
- 2011 “Effect of air-temperature and diet composition on drying process of pellets for Japanese Abalone (*Haliotis discus hannai*) feeding”. Vega-Galvez A, Lemus-Mondaca R, Plaza-Sáez D and Pérez-Won M. *Science and Food Technology*. 31:694–702

Selected International Conferences

- 2019 1st Latin America International Society for Microbial Ecology (ISME) congress. Plaza DO and Salmond G. “Novel regulators of antibiotic biosynthesis in an enterobacterium model” (Poster)
Valparaíso, Chile
- 2017 Annual Brazilian Biophysical Society Meeting. Plaza DO and Orduz S. “Novel synthetic peptides against *Pseudomonas aeruginosa* biofilms: de novo strategy” (Poster)
Santos, Brazil
- 2016 16th International IUBMB Congress: “Signalling Pathways in Development, Disease and Aging”. Plaza DO, Gallardo C, Straub YD, Bravo D and Pérez-Donoso JM. “Synthesis of fluorescent nanoparticles by using bacteria from Antarctica: New prospects from mysterious inhabitants” (Poster)
Vancouver, Canada
- 2014 XXII Latin American Congress of Microbiology and IV Colombian Conference of Microbiology. Plaza DO, Gallardo C, Bruna N, Bravo D and Pérez-Donoso JM. “Potential of Antarctic bacteria to synthesize fluorescent nanoparticles: Exploiting the biomineralization of heavy metals” (Poster)
Cartagena de Indias, Colombia
- 2013 5th Congress of European Microbiologists (FEMS). Gallardo C, Plaza DO, Monrás JP, Venegas F, Saona L, Duran V, Pizarro J, Gran A, Órdenes N, Straub Y, Vega F, Ulloa G, Pradenas G, Bravo D and Pérez-Donoso JM.

“Isolation of oxidative stress resistant Antarctic bacteria able to biosynthesize fluorescent semiconductor nanoparticles (CdS and CdTe) at low temperatures” (Poster)
Leipzig, Germany

2013 **10th International Conference on Nanosciences and Nanotechnologies.** *Plaza DO, Straub Y, Gallardo C, Bruna N, Monrás JP, Bravo D and Pérez-Donoso JM.* “Low temperature biosynthesis of CdS and CdTe quantum dots by two *Pseudomonas* spp. isolated from Antarctica: New insights related to cadmium and tellurite resistance” (Poster)
Thessaloniki, Greece

2013 **10th International Conference on Nanosciences and Nanotechnologies.** *Venegas FA, Durán VM, Plaza DO, Monrás JP and Pérez-Donoso JM.* “Bacterial biosynthesis of CdS quantum dots: Relevance of metabolic state and cellular fate” (Poster)
Thessaloniki, Greece

2013 **VII Latin American Congress of Antarctic Science.** *Plaza DO, Straub, YD, Gallardo, C, Bruna N, Monrás JP, Bravo D and Pérez-Donoso JM.* “Biosynthesis of fluorescent nanoparticles using psychrotolerant bacteria genus *Psychrobacter*: Comparative advantages of Antarctic continent” (Oral)
La Serena, Chile