

Dr. Jorge Farías Avendaño

jorge.farias@ufrontera.cl | [linkedin.com/in/jorge-farías-avendaño](https://www.linkedin.com/in/jorge-farías-avendaño)

AFFILIATIONS

Dean

Faculty of Engineering and Science
Universidad de La Frontera, Chile

Full Professor

Department of Chemical Engineering
Faculty of Engineering and Sciences
Universidad de La Frontera, Chile

Visiting Professor

Biochemical-Pharmaceutical Technology Department
Faculty of Pharmaceutical Sciences
University of Sao Paulo, Brazil



ACADEMIC DEGREES AND PROFESSIONAL STUDIES

Ph.D in Biotechnology, Pontificia Universidad Católica de Valparaíso, Chile
Ph.D in Biotechnology Universidad Técnica Federico Santa María, Valparaíso, Chile.
Biochemist, Pontificia Universidad Católica de Valparaíso, Valparaíso, Chile.
Bachelor in Biochemistry, Pontificia Universidad Católica de Valparaíso, Valparaíso, Chile.

WORK EXPERIENCE

2025-Present day Vice president “Asociación Iberoamericana de Instituciones de Enseñanza de la Ingeniería (ASIBEI)”.

2024-Present day Board Member “Asociación Iberoamericana de Instituciones de Enseñanza de la Ingeniería (ASIBEI)”.

2023-2025 President of Corporation of Deans of Faculties of Engineering of Chilean Universities (CONDEFI)

2021-2027 Dean of the Faculty of Engineering and Science- Universidad de La Frontera

2020-2021 -Member, Standing Committee on Appointments & Promotions, Universidad de La Frontera

2021-Present day Past President of Chilean Society for Reproduction and Development (SCHRd)

2019-2020 -President of Chilean Society for Reproduction and Development (SCHRd)

2018- Present day- Associate Editor Frontiers in Physiology Topic: Environmental, Aviation and Space Physiology)

2016-2018 - Vice President - Chilean Society for Reproduction and Development (SCHRd)

2016-Present day – Ambassador of American Society For Cell Biology (ASCB)

2018 Present day – Academic Committee Doctoral Program in Science of Natural Resources.

2016-2018 Director of Chemical Engineering Department, Universidad de La Frontera

2013-Present day - Visiting Professor - Sao Paulo University, Brasil.

2013-2015 - Executive Director of Explora-CONICYT Project, Región de La Araucanía, Chile

2012-2016 - Director South Division - Chilean Society for Reproduction and Development (SCHRd)

2011-Present day - Associate Professor, Universidad de La Frontera, Chile

2010-2013 - Board Member - Center of Research and Development of Water Resources, Tarapacá.

2008-2010 - Director - Biotechnology Institute of Tarapacá, Chile

2008-2010 – Vice President for Research- Universidad Arturo Prat, Chile (National wide position)

2000-2010 - Associate Professor - Universidad Arturo Prat, Chile

1999 - Researcher, Université Paris VI et Université Paris XIII, France.

1994- 1998 - Chief Engineer – Laboratory of Quality Assurance, CORPESCA S.A (National wide position)

SOCIETIES

2020-Present day: Member, American Society for Biochemistry and Molecular Biology (ASBMS)
2016-Present day: Ambassador of American Society For Cell Biology (ASCB), USA
2019-2020: President of Chilean Society for Reproduction and Development (SCHRd)
2016-2018: Vice President - Chilean Society for Reproduction and Development (SCHRd)
2012-2016: Director South Division - Chilean Society for Reproduction and Development (SCHRd)
2007-Present day: Regular Member, Chilean Society for Pharmacology
2007-Present day: Regular Member, The American Society for Cell Biology (ASCB), USA.
2005-present day – Regular Member, American Physiological Society (APS), USA.
2005-present day – Regular Member, American Society of Andrology (ASA), USA.

RESEARCH LINES

Pharmaceutical Biotechnology, Aquaculture Biotechnology and Bioengineering

ISI PUBLICATIONS

1. Norambuena, J.-A.; Poblete-Grant, P.; Beltrán, J.F.; De los Ríos-Escalante, P.; Aranzaez-Ríos, C.; Farías, J.G. Proteomic Profile of *Daphnia pulex* in Response to Heavy Metal Pollution in Lakes of Northern Patagonia. *Int. J. Mol. Sci.* 2025, 26, 417. <https://doi.org/10.3390/ijms26010417>
2. Pérez-Atehortúa M, Sandoval-Vargas L, Risopatrón J, Farías J, Figueroa Villalobos E, Valdebenito I. 2025. Assesment of some egg quality parameters and chorion ultrastructure characterization in Atlantic salmon (*Salmo salar*). *Aquaculture* 594 741371. Doi 10.1016/j.aquaculture.2024.741371
3. Figueroa E., Wilson R., Pereira Amorim W., Merino O., Pérez-Atehortúa M., Niedmann P., avila S., Alvarado C., Risopatrón J., Pinheiro Oliveira R., Farias J., Valdebenito I., Villasante A., Romero J. 2025. Cryopreservation of Yellowtail Kingfish (*Seriola lalandi*) sperm: Effects on metabolic enzymes and sperm quality aquaculture. *Aquaculture*. <https://doi.org/10.1016/j.aquaculture.2024.741865>
4. Castillo RL, Farías J, Sandoval C, González-Candia A, Figueroa E, Quezada M, Cruz G, Llanos P, Jorquera G, Kostin S, Carrasco R. Role of NLRP3 Inflammasome in Heart Failure Patients Undergoing Cardiac Surgery as a Potential Determinant of Postoperative Atrial Fibrillation and Remodeling: Is SGLT2 Cotransporter Inhibition an Alternative for Cardioprotection? *Antioxidants (Basel)*. 2024 Nov 14;13(11):1388. doi: 10.3390/antiox13111388. PMID: 39594530; PMCID: PMC11591087.
5. Farias JG, Herrera-Belén L, Jimenez L, Beltrán JF. PROTA: A Robust Tool for Protamine Prediction Using a Hybrid Approach of Machine Learning and Deep Learning. *Int J Mol Sci.* 2024 Sep 24;25(19):10267. doi: 10.3390/ijms251910267. PMID: 39408595; PMCID: PMC11476296.
6. Sandoval C, Torrens F, Souza-Mello V, Farías J. Editorial: Advances in novel pharmacotherapeutics and drug discovery: computational, experimental, translational, and clinical models. *Front Pharmacol.* 2024 Aug 9;15:1465835. doi: 10.3389/fphar.2024.1465835. PMID: 39185305; PMCID: PMC11341978.

7. Beltrán JF, Herrera-Belén L, Parraguez-Contreras F, Farías JG, Machuca-Sepúlveda J, Short S. MultiToxPred 1.0: a novel comprehensive tool for predicting 27 classes of protein toxins using an ensemble machine learning approach. BMC Bioinformatics. 2024 Apr 12;25(1):148. doi: 10.1186/s12859-024-05748-z. PMID: 38609877; PMCID: PMC11010298.
8. Figueroa E., Wilson R., Pereira Amorim W., Merino O., Pérez-Atehortúa M., Niedmann P., avila S., Alvarado C., Risopatrón J., Pinheiro Oliveira R., Farias J., Valdebenito I., Villasante A., Romero J. 2025. Cryopreservation of Yellowtail Kingfish (*Seriola Lalandi*) sperm: Effects on metabolic enzymes and sperm quality aquaculture. Aquaculture. <https://doi.org/10.1016/j.aquaculture.2024.741865>
9. Machuca-Sepúlveda J, López M, Fierro P, Beltrán JF, Norambuena JA, Pinheiro Oliveira R, Zamorano M, Farías JG. Ecological response of freshwater macroinvertebrates to augmented drought: A literature review and projections. Ecological Indicators 164 (2024) 112153. Doi:10.1016/j.ecolind.2024.112153
10. Sandoval C, Torrens F, Souza-Mello V, Farías J. Editorial: Advances in novel pharmacotherapeutics and drug discovery: computational, experimental, translational, and clinical models. Frontiers in Pharmacology 15:1465835. Doi 10.3389/fphar.2024.1465835.
11. Sandoval C, Canobbi L, Orrego Á, Reyes C, Venegas F, Vera Á, Torrens F, Vásquez B, Godoy K, Zamorano M, Caamaño J, Farías J. Application of Integrated Optical Density in Evaluating Insulin Expression in the Endocrine Pancreas During Chronic Ethanol Exposure and β -Carotene Supplementation: A Novel Approach Utilizing Artificial Intelligence. Pharmaceuticals (Basel). 2024 Nov 3;17(11):1478. doi: 10.3390/ph17111478. PMID: 39598390; PMCID: PMC11597364.
12. Merino O, Figueroa E, Valdebenito I, Risopatrón J, Merino M, Farías JG. Change in the swimming pattern of *Salmo salar* spermatozoa caused by the high temperature of the sperm motility activation medium. Theriogenology. 2024. Volume 219, Pages 49-58. Doi: 10.1016/j.theriogenology.2024.02.008.
13. Short SE, Zamorano M, Aranzaez-Ríos C, Lee-Estevez M, Díaz R, Quiñones J, Ulloa-Rodríguez P, Villalobos EF, Bravo LA, Graether SP, Farías JG. Novel Apoplastic Antifreeze Proteins of *Deschampsia antarctica* as Enhancer of Common Cell Freezing Media for Cryobanking of Genetic Resources, a Preliminary Study. Biomolecules. 2024 Feb 1;14(2):174. doi: 10.3390/biom14020174
14. Pérez-Atehortúa M, Short SE, Aranzaez-Rios C, Farías J, Oliveira RPS, Pereira WA, Risopatrón J, Valdebenito I, Villalobos EF. Preparation and extraction of chorion proteins from *Salmo salar* embryos at the pigmented eye stage for electrophoresis with SDS-polyacrylamide gel. MethodsX. 2024. Dec 23;12:102533. doi: 10.1016/j.mex.2023.102533.
15. Pérez-Atehortúa M, Hernández AJ, Risopatrón J, Farías J, Villalobos EF, Valdebenito I. Effect of diet composition on maturation rate of female Atlantic salmon (*Salmo salar*) during gonadal maturation. Aquaculture. 2024. Volume 582. Doi 10.1016/j.aquaculture.2023.740513.
16. Sandoval C, Vera A, Birditt K, Godoy K, Carmine F, Caamaño J, Farías J. β -Carotene Supplementation Improves Pancreas Function during Moderate Ethanol Consumption: Initial Characterization from a Morphological Overview. Int J Mol Sci. 2024 Jan 19;25(2):1219. doi: 10.3390/ijms25021219.
17. Sandoval C, Guerrero D, Muñoz J, Godoy K, Souza-Mello V, Farías J. Effectiveness of mRNA, protein subunit vaccine and viral vectors vaccines against SARS-CoV-2 in people over 18 years old: a systematic review. Expert Rev Vaccines. 2023 Jan-Dec;22(1):35-53. doi: 10.1080/14760584.2023.2156861.

18. Pérez-Atehortúa M, Short SE, Aranzaes-Rios C, Farías J, Oliveira RPS, Pereira WA, Risopatrón J, Valdebenito I, Villalobos EF. Preparation and extraction of chorion proteins from *Salmo salar* embryos at the pigmented eye stage for electrophoresis with SDS-polyacrylamide gel. *MethodsX*. 2023 Dec 23;12:102533. doi: 10.1016/j.mex.2023.102533. PMID: 38223216; PMCID: PMC10784690.
19. Sandoval C, Reyes C, Rosas P, Godoy K, Souza-Mello V, Farías J. 2023. Effectiveness of Cerium Oxide Nanoparticles in Non-Alcoholic Fatty Liver Disease Evolution Using In Vivo and In Vitro Studies: A Systematic Review. *Int J Mol Sci*. 2023 Oct 29;24(21):15728. doi: 10.3390/ijms242115728.
20. Beltrán JF, Belén LH, Farias JG, Zamorano M, Lefin N, Miranda J, Parraguez-Contreras F. 2023. VirusHound-I: prediction of viral proteins involved in the evasion of host adaptive immune response using the random forest algorithm and generative adversarial network for data augmentation. *Brief Bioinform*. doi: 10.1093/bib/bbad434. PMID: 38033292.
21. Sandoval C, Torrens F, Godoy K, Reyes C, Farías J. 2023. Application of Quantitative Structure-Activity Relationships in the Prediction of New Compounds with Anti-Leukemic Activity. *Int J Mol Sci*. 2023 Jul 31;24(15):12258. doi: 10.3390/ijms241512258.
22. Miranda J, Lefin N, Beltran JF, Belén LH, Tsipa A, Farias JG, Zamorano M. 2023. Enzyme Engineering Strategies for the Bioenhancement of L-Asparaginase Used as a Biopharmaceutical. *BioDrugs*. 2023 Nov;37(6):793-811. doi: 10.1007/s40259-023-00622-5.
23. Lefin N, Herrera-Belén L, Farias JG, Beltrán JF. 2023. Review and perspective on bioinformatics tools using machine learning and deep learning for predicting antiviral peptides. *Mol Divers*. 2023 Aug 26. doi: 10.1007/s11030-023-10718-3. Epub ahead of print. PMID: 37626205.
24. Machuca-Sepúlveda, J.; Miranda, J.; Lefin, N.; Pedroso, A.; Beltrán, J.F.; Farias, J.G. Current Status of Omics in Biological Quality Elements for Freshwater Biomonitoring. 2023. *Biology* 12, 923. <https://doi.org/10.3390/biology12070923>
25. Nojszewska N, Idilli O, Sarkar D, Ahouiyeck Z, Arroyo-Berdugo Y, Sandoval C, Amin-Anjum MS, Bowers S, Greaves D, Saeed L, Khan M, Salti S, Al-Shami S, Topoglu H, Punzalan JK, Farias JG, Calle Y. 2023. Bone marrow mesenchymal/fibroblastic stromal cells induce a distinctive EMT-like phenotype in AML cells. *Eur J Cell Biol*;102(3):151334. doi: 10.1016/j.ejcb.2023.151334. Epub ahead of print. PMID: 37354622.
26. Pérez-Atehortúa M, Hernández AJ, Dantagnan P, Silva M, Risopatrón J, Farías J, Figueroa Villalobos E, Valdevenito I. 2023. Chorion in fish: Synthesis, functions and factors associated with its malformations. *Aquaculture Reports*. 30 (101590). <https://doi.org/10.1016/j.aqrep.2023.101590>.
27. Lefin N, Miranda J, Beltrán JF, Herrera L, Effer B, Pessoa A, Farias JG, Zamorano M. Current state of molecular and metabolic strategies for the improvement of L-asparaginase expression in heterologous systems. 2023. *Front. Pharmacol*. 14:1208277. doi: 10.3389/fphar.2023.1208277
28. Beltrán JF, Yáñez A, Herrera-Belén L, Contreras FP, Blanco JA, Flores-Martin SN, Zamorano M, Farias JG. 2023. Antibiotic discovery against *Piscirickettsia salmonis* using a combined in silico and in vitro approach. *Microb Pathog*. 22:106122. doi: 10.1016/j.micpath.2023.106122.
29. Sandoval C, Calle Y, Godoy K, Farías J. An Updated Overview of the Role of CYP450 during Xenobiotic Metabolization in Regulating the Acute Myeloid Leukemia Microenvironment. 2023. *Int J Mol Sci*. 23;24(7):6031. doi: 10.3390/ijms24076031.

30. Merino O, Risopatrón J, Valdebenito I, Figueroa E, Farías JG. 2023. Effect of the temperature of activation medium on fish sperm quality: Impact on fertilization *in vitro* in aquaculture practice. Reviews in Aquaculture. <https://doi.org/10.1111/raq.12729>
31. Pedroso A., Herrera-Belén L., Beltrán JF., Castillo RL., Pessoa A., Pedroso E. and Farías JG. 2023. In silico Design of a Chimeric Humanized L-asparaginase. Int J Mol Sci. Doi:10.3390/ijms24087550
32. Tosta Pérez M, Herrera Belén L, Letelier P, Calle Y, Pessoa A, Farías JG. L-Asparaginase as the gold standard in the treatment of acute lymphoblastic leukemia: a comprehensive review. Med Oncol. 2023 15;40(5):150. doi: 10.1007/s12032-023-02014-9.
33. Beltrán JF, Yañez A, Herrera-Belén L, Parraguez F, Blanco J, Flores-Martin S, Zamorano M, Farias JG. 2023. Antibiotic discovery against *Piscirickettsia salmonis* using a combined *in silico* and *in vitro* approach. Microbial Pathogenesis. <https://doi.org/10.1016/j.micpath.2023.106122>
34. Ibañez-Arancibia E, Farías J, Valdebenito I. 2023. Use of antioxidants and time of cold storage: effects over viability parameters and enzymatic levels in semen of rainbow trout (*Oncorhynchus mykiss*, Walbaum, 1792). Brazilian Journal of Biology, vol. 83, e245329 | <https://doi.org/10.1590/1519-6984.245329>
35. Sandoval C, Guerrero D, Muñoz J, Godoy K, Souza-Mello V, Farias JG. 2023. Effectiveness of mRNA, protein subunit vaccine and viral vectors vaccines against SARS-CoV-2 in people over 18 years old: a systemic review. <https://doi.org/10.1080/14760584.2023.2156861>
36. Belén LH, Beltrán JF, Pessoa A, Castillo RL, De Oliveira Rangel-Yagui C, Farias JG. 2022. *Helicobacter pylori* L-asparaginase: a study of immunogenicity from an *in silico* approach. 3 Biotech, Vol 12, 286. <https://doi.org/10.1007/s13205-022-03359-0>
37. Herrera-Bravo J, Farías JG, Sandoval C, Herrera-Belén L, Quiñones J, Díaz R, Beltrán JF. 2022. nAChR-PEP-PRED: A Robust Tool for Predicting Peptide Inhibitors of Acetylcholine Receptors Using the Random Forest Classifier. International Journal of Peptide Research and Therapeutics, vol 28, 152. <https://doi.org/10.1007/s10989-022-10460-8>
38. Sandoval C, Ríos G, Sepúlveda N, Salvo J, Souza-Mello V, Farías J. 2022. Effectiveness of Copper Nanoparticles in Wound Healing Process Using In Vitro Studies: A Systematic Review. Pharmaceutics, 14(9), 1838; <https://doi.org/10.3390/pharmaceutics14091838>
39. Antileo C, Jaramillo F, Candia O, Osorio A, Muñoz C, Farías J, Proal-Nájera JB, Zhang Q, Geissen SU. 2022. Long-term nitrite-oxidizing bacteria suppression in a continuous activated sludge system exposed to frequent changes in pH and oxygen set points. Journal of Environmental Management, 318 (2022) 115545. <https://doi.org/10.1016/j.jenvman.2022.115545>
40. Aguilar-Gallardo C, Zamorano M, Farias JG, De Aguiar Quevedo K. 2022. Understanding autophagy role in cancer stem cell development. Molecular Biology Reports, <https://doi.org/10.1007/s11033-022-07299-z>
41. Quiñones, John, Rommy Díaz, Jorge F. Beltrán, Lidiana Velazquez, David Cancino, Erwin Muñoz, Patricio Dantagnan, Adrián Hernández, Néstor Sepúlveda, and Jorge G. Farías. 2022. "Analysis of Muscle Lipidome in Juvenile Rainbow Trout Fed Rapeseed Oil and Cochayuyo Meal. Biomolecules 12, no. 6: 805.

<https://doi.org/10.3390/biom12060805>

42. Norambuena JA, Poblete-Grant P, Beltrán JF, De Los Ríos-Escalante P and Farías JG. 2022. Evidence of the Anthropic Impact on a Crustacean Zooplankton Community in Two North Patagonian Lakes. Sustainability 14, 6052. <https://doi.org/10.3390/su14106052>
43. Sandoval C, Mella L, Godoy K, Adeli K and Farias J. 2022. Effects of oral β -carotene supplementation on cytochrome P450 2 E1 expression of C57BL/6 mice exposed to ethanol consumption. Antioxidants, 11,1033. <https://doi.org/10.3390/antiox11051033>
44. Magnotti C, Cerqueira, Villasante A, Romero J, Watanabe I, Oliveira RPS, Farias J, Merino O, Valdebenito I, Figueroa E. Spermatological characteristics and effects of cryopreservation in Lebranche mullet spermatozoa (*Mugil liza* Valenciennes, 1836): First report of ultra-rapid freezing. 2022. Animal Reproduction Science 241, 106986. <https://doi.org/10.1016/j.anireprosci.2022.106986>
45. Beltrán JF, Parraguez Contreras F, Norambuena JA, Herrera-Belén L, Risopatrón J, Valdebenito I, Figueroa E, Farias JG. A bioinformatics analysis of the CatSper channel in the class Actinopterygii. 2022. Comparative Biochemistry and Physiology Part A: Molecular & Integrative Physiology 267 (2022) 111181. <https://doi.org/10.1016/j.cbpa.2022.111181>
46. Silva ARP, Guimaraes MS, Rabelo J, Herrera-Belén L, Perecin CP, Farias JG, Santos JHPM, Rangel-Yagui CO. Recent advances in the design of antimicrobial peptide conjugates. 2022. J. Mater. Chem. B, 2022, DOI: 10.1039/D1TB02757C.
47. Sandoval C, Farias J, Zamorano M, Herrera C. Vitamin Supplements as a Nutritional Strategy against Chronic Alcohol Consumption? An Updated Review. 2022. Antioxidants, 11, 564 <https://doi.org/10.3390/antiox11030564>
48. Herrera-Bravo J, Farias JG, Parraguez-Contreras F, Herrera-Belén L, Beltrán JF. 2022. PEP-PREDNa+: A web server for prediction of highly specific peptides targeting voltage-gated Na⁺ channels using machine learning techniques. Computer in Biology and Medicine 145(2022) 105414. <https://doi.org/10.1016/j.compbiomed.2022.105414>
49. Herrera-Bravo J, Farias JG, Parraguez Contreras F, Herrera Belén L, Norambuena JA, Beltrán JF. VirVACPRED: A Web Server for Prediction of Protective Viral Antigens. 2022. International Journal of Peptide Research and Therapeutics (2022) 28:35 <https://doi.org/10.1007/s10989-021-10345-2>
50. Beltrán JF, Zamorano M, Herrera-Belén L, Risopatrón J, Valdebenito I, Norambuena JA, Farias JA, Farias JG. A differential proteomic study reveals the downregulation of several plasma membrane Ca²⁺- Binding proteins in the sperm of Atlantic salmon (*Salmo salar*) following cold storage. 2021. Aquaculture 545 (2021) 737211.
51. Herrera-Bravo J, Herrera-Belén L, Farias JG, Beltrán JF. TAP 1.0: A robust immunoinformatic tool for the prediction of tumor T-cell antigens based on AAindex properties. 2021. Computational Biology and Chemistry 91 (2021) 107452.
52. Zamorano M, Castillo RL, Beltran JF, Herrera L, Farias JA, Antileo C, Aguilar-Gallardo C, Pessoa A, Calle Y, Farias JG. Tackling Ischemic Reperfusion Injury with the Aid of Stem Cells and Tissue Engineering. 2021. Frontiers in Physiology. <https://doi.org/10.3389/fphys.2021.705256>.
53. Contreras P, Zamorano M, Ulloa-Rodríguez P, Beltrán JF, Risopatrón J, Figueroa E, Valdebenito I & Farias JG. Diversity of chromatin condensation patterns, nuclear reorganization, evolution and phylogenetic

distribution of sperm nuclear basic proteins in fish. **2021.** Rev Fish Biol Fisheries <https://doi.org/10.1007/s11160-021-09690-8>

54. Beltrán JF, Figueiras-Fierro D, Zamorano M, Herrera-Belén L, Risopatrón J, Valdebenito I, Norambuena J & Farias JG. **2021.** Role of three plasma membrane Ca²⁺- binding proteins in the sperm motility of Atlantic salmon (*Salmo salar*). Aquaculture 538 (2021) 736537. DOI: 10.1016/j.aquaculture.2021.736537.
55. Herrera-Bravo J, Herrera-Belén L, **Farias JG** & Beltrán JF. **2021.** TAP 1.0: A robust immunoinformatic tool for the prediction of tumor T-Cell antigens based on AAindex properties. Computational Biology and Chemistry 91 (2021) 107452. DOI: 10.1016/j.compbiolchem.2021.107452.
56. Díaz R, Quiñones J, Short S, Contreras P, Ulloa-Rodríguez P, Cancino-Baier D, Sepúlveda N, Valdebenito I, **Farias JG.** 2021. Effect of exogenous lipids on cryotolerance of Atlantic salmon (*Salmo salar*) spermatozoa. **2021.** Cryobiology DOI: 10.1016/j.cryobiol.2021.01.004.
57. Cancino-Baier D, Muños E, Quiñones J, Beltrán JF, Fuentes F, **Farias J**, Loenzo JM, Díaz R, Inostroza K, Sterman Ferraz JB, Sepúlveda N. **2021.** A non-synonymous single nucleotide polymorphism in FASN gene alters FASN enzyme activity in subcutaneous and intramuscular adipose tissue in Holstein Friesian steers. Annals of Animal Science. DOI:10.2478/aoas-2020-0059.
58. Solis-Lufi K, Suazo MJ, Avila-Salem ME, Maldonado-Murúa C, Aponte H, **Farias J** and De Los Ríos-Escalante P. **2021.** Community structure of benthic invertebrates in the Allipén River basin, North Patagonia, Araucanía region (38° S, Chile). Brazilian Journal of Biology. DOI:10.1590/1519-6984.232805
59. Sandoval-Vargas L, Durmonè K, Contreras P, **Farias JG**, Figueroa E, Risopatrón J, Valdebenito I. **2021.** Cryopreservation of coho salmon sperm (*Oncorhynchus kisutch*): effect on sperm function, oxidative stress and fertilizing capacity. Aquaculture 533 (2021) 736151. DOI: 10.1016/j.aquaculture.2020.736151.
60. Quiñones J, Díaz R, Dantagnan P, Hernández A, Valdes M, Lorenzo JM, Cancino D, Sepúlveda N, **Farias JG.** **2021.** Dietary inclusion of *Durvillaea antarctica* meal and rapeseed (*Brassica napus*) oil on growth, feed utilization and fillet quality of rainbow trout (*Oncorhynchus mykiss*). Aquaculture 530, 735882 DOI: 10.1016/j.aquaculture.2020.735882.
61. Letelier P, Guzmán N, Medina G, Calcumil L, Huencho P, Mora J, Quiñones F, Jara J, Reyno C, **Farias JG**, Herrera L, Brebi P, Riquelme I, San Martín A. **2021.** Workflow optimization in a clinical laboratory using management principles in the pre-analytical phase. J Med Biochem 40: 1-7 DOI: 10.5937/jomb0-26055.
62. Effer B, Krebs Kleingesinds E, Meira Lima G, Munhoz Costa M, Sánchez-Miguel I, Pessoa A, Feijoli Santiago V, Palmisano G, **Farias JG**, Monteiro G. **2020.** Glycosylation of Erwinase results in active protein less recognized by antibodies. Biochemical Engineering Journal. DOI:10.1016/j.bej.2020.107750
63. Beltrán J, Herrera L, Lee-Estevez M, Figueroa E, Dumorné K, **Farias JG.** **2020.** The voltage-gated T-type Ca²⁺ channel is key to the sperm motility of Atlantic salmon (*Salmo salar*). Fish Physiology & Biochemistry. DOI: 10.1007/s10695-020-00829-1
64. Merino O, Durmonè K, Sandoval-Vargas Leidy, Figueroa E, Valdebenito I, **Farias JG**, Risopatrón J. **2020.** Short-term storage sperm of Coho salmon (*Oncorhynchus kisutch*) at 4°C: effect of sperm: extender dilution ratios and antioxidant butyl-hydroxytoluene (BHT) on sperm function. Cryobiology. DOI: 10.1016/j.cryobiol.2020.06.007

65. Zepeda AB, Miranda IB, Valdebenito I, Moreno R, **Farias J. 2020.** GnRHa treatments of Atlantic Salmon broodstock suppresses effects of endocrine disruptors, benefitting quality. *Animal Reproduction Science*. 217:106470. DOI: 10.1016/j.anireprosci.2020.106470.
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6. Zepeda A and **Farias JG**. **2013**. Antioxidants against oxidative stress induced by hypobaric hypoxia in testis and epididymis. Revista de Farmacología de Chile, Vol. 6, 31-36,
7. **Farías, J.G.**, D. Oyarzun & A. Zepeda. **2011**. DNA and lipid susceptibility of rat epididymal sperm cells exposed to chronic and intermittent hypobaric hypoxia. FASEB Journal 25. https://doi.org/10.1096/fasebj.25.1_supplement.1110.10

CHAPTER BOOKS

1. Figueroa E, Sandoval L, Merino O, **Farías J**, Risopatrón J & Valdebenito I. **2020**. Standard and innovative reproductive biotechnologies for the development of finfish farming. Book: Reproductive Technologies in Animals, p. 161-180. Academic Press. ISBN: 978-0-12-817107-3. (<https://www.elsevier.com/books/reproductive-technologies-in-animals/presicce/978-0-12-817107-3>)
2. Moreno, R.D., J.G. Reyes, **J.G. Farías**, A. Parada-Bustamante, V. Aguirre, A.B. Zepeda, C.A. Figueroa & J.A. Pino. **2012**. Spermatogenesis at the Extreme: Oxidative Stress as a Converging Mechanism of Testicular Damage Due to Pathological and Environmental Exposure. In: Yoichi Nemoto and Norio Inaba. (Org.). Testis: Anatomy, Physiology and Pathology. 201ed. Hauppauge NY: Nova Science publishers, Inc., 2012, v. 1, p. 1-24. (https://www.novapublishers.com/catalog/product_info.php?products_id=31527).
3. Sandoval C, Farías J, Zamorano M, Herrera C. Vitamin Supplements as Nutritional Strategy against Chronic Alcohol Consumption? An Updated Review. In: Yomna Ali Moustafa Marzok Elkhateeb, editor. Prime Archives in Biochemistry. Hyderabad, India: Vide Leaf. 2022

RESEARCH PROJECTS

1. 2024-2027 Artificial intelligence aided cell-instructive biomaterial scaffolds for bone regeneration. Responsible Researcher, FONDECYT Regular Competition N°620476
2. 2021-2023 Chimeric and pegylated L-asparaginases: study of the conditions of expression, production and purification of an innovative anti-leukemic biopharmaceutical with low immunogenic potential. **FAPESP-UFRO N° 2020/06982-3**
3. 2021-2023. Estudio del efecto de la temperatura de activación de los espermatozoides de *Salmo salar* y *Oncorhynchus kisutch*: Impacto en function, estado energético, capacidad fecundante y expression génica de los espermatozoides y resultado reproductivo. PI: Osvaldo Merino, Research advisor: Jorge Farías. **Postdoctorate Fellowship Fondecyt CONICYT N° 3210593.**
4. 2021-2024. Study of the relation of the nutrition of breeders with the incidence of malformations, ultrastructural and molecular changes of the chorion in embryos of Atlantic salmon (*Salmo salar*). Co-Researcher, **FONDECYT Regular Competition N°1211246.**
5. 2021-2023. Optimización of sperm cells harvesting from testicular macerate to improve artificial fertilization of eggs in *Salmo Salar*. **DIUFRO EP DI21-0111.**
6. 2018-2021. Inclusion of *brassica napus* and *durvillaea antarctica* as sustainable ingredients in the Rainbow trout (*oncorhynchus mykiss*) diet and its effect on the lipid metabolism of fillet. PI: John Quiñones, Research advisor: Jorge Farías. **Postdoctorate Fellowship Fondecyt CONICYT N° 3190287.**
7. 2018-2021. Study of the Flagellar Dynamic in the Spermatozoa of Fish to improve reproductive efficiency in Chilean Aquaculture. Responsible Researcher, **FONDECYT Regular Competition N°1180387.**
8. 2018-2019. Fish semen in-vitro handling and storage solution. PI: Patricio Ulloa, Research advisor: Jorge Farias, **FONDEF VIU18P0138**
9. 2016-2019. Study of membrane lipid composition of Atlantic salmon (*Salmo salar*) spermatozoa and its relation with semen quality. PI: Rommy Días, Research advisor: Jorge Farias. **Postdoctorate Fellowship Fondecyt CONICYT N° 3160572.**
10. 2014-2019. Production of extracellular L-asparaginase: from bioprospecting to the engineering of an antileukemic biopharmaceutical. International Researcher Associate, **FAPESP 2013/08617-7.**
11. 2015-2018. Study of the mitochondrial dynamics in the spermatozoa of fish for the optimization of reproduction in Chilean aquaculture. Responsible Researcher, **FONDECYT Regular Competition N° 1151315.**
12. 2015-2018. How would experimental warming affect freezing tolerance of Antarctic vascular plants?. Co-researcher, **FONDECYT Regular Competition N° 1151173.**

13. 2012-2015. Drug panel for resistance cancer cells and genomic instability in breast carcinogenesis. Co-researcher, **FONDECYT Regular Competition N° 1120006.**
14. 2014-2016. Production and purification of recombinant proteins with pharmaceutical interest. Director, FAPESP-UFRO 2014/50237-0.
15. 2012- 2014. Production of recombinant antibody fragments from *Pichia pastoris* cultivation of genetically modified. International Researcher Associate, FAPESP 2012/50210-9.
16. 2009-2011. Increase in aquaculture production: More seeds per biotechnologically-induced larvae settling of mollusks with commercial interest. Director FONDEF D08I1027.
17. 2010-2011. Oxidative stress and genomic instability in breast tumorigenesis. Co-researcher, FONDECYT Regular Competition N° 1080482.
18. 2010-2011. Determination of acclimation criteria in a cohort of young subjects exposed to shift system under high-altitude chronic intermittent hypoxia. Co-researcher, FONIS SA 09I20007.
19. 2009-2010. Creation of a Center for Hydric Resources in the Region of Tarapacá (R09I1001). CONICYT-Tarapacá Regional Government-University "Arturo Prat"-Mining company "Doña Inés de Collahuasi", Cerro Colorado. Board Member, Program for Regional Centers of CONICYT.
20. 2007-2010 Creation of Institute of Biotechnology of Tarapacá INNOVA CORFO 06FCO11BC-118
21. 2007-2009. obtaining commercial varieties of Chilean cold-weather orchids. Responsible Researcher, FONDEF D06I1079.
22. 2006-2007. CONICYT- Tarapacá Regional Government. Program for Regional Centers of CONICYT. Research Project coordinator, Regional center for research on energy and water (R09I1001).
23. 2002-2006. Centre for research on men in the dessert: Integrating past and present. CONICYT- Tarapacá Regional Government. Program for Regional Centers of CONICYT. Responsible Researcher Biology area and Altitude Medicine.
24. 1998-2001. Tolerance and acclimation of mining workers and others to intermittent exposure to high altitude. Responsible Researcher, FONDEF D97I1068.

Internal projects (DIUFRO/PIA/DIDUFRO/NEXER, etc., and the other universities)

1. 2024-2024 "Ingeniería de Frontera hacia el 2030"-ING2430004, Director Principal. Proyecto ANID "Instrumento de Consolidación de Resultados del Programa Nueva Ingeniería 2030 Tercera Etapa convocatoria 2024.
2. 2017-2019 Adaptations in polyextreme environments: from the molecule to humans. Co-Investigator UFRO. NEXER.
3. 2017-2019 Extremophytes: the new promising models for discovering stress tolerance mechanisms and bioactive compounds. Co-Investigator UFRO. NEXER.
4. 2012-2013. Project for complementary equipment. Director, DI12-5005-UFRO.

5. 2012-2013. Support to sponsoring professors in undergraduate and postgraduate levels. Director, DI12-2007.
6. 2012. Program for International cooperation. Director, DI11-4001-UFRO-USP.
7. 2007. Study of the anxiolytic, antidepressant and antioxidant activity of *Acantholipia denticola* in rats exposed to chronic hypobaric hypoxia. Alternate Director, General Direction of Research, Universidad Arturo Prat.
8. 2006. Cellular mechanisms of sensitivity to hypoxia in rats testicle. Director, General Direction of Research, Universidad Arturo Prat.
9. 2004. Molecular mechanisms of induction of neovascularization and their effects on spermatogenesis in rats exposed to hypobaric hypoxia: HIF-1, HSF-1 y VEGF. Director, General Direction of Research, Universidad Arturo Prat.
10. 2004. Epidemiologic and biomedical study of factors associated to high altitude problems in Chilean army recruits in Putre. Responsible Researcher, General Direction of Research, Universidad Arturo Prat.
11. 2004. Evolution of cardiovascular and hematologic parameters in rats. Responsible Researcher, General Direction of Research, Universidad Arturo Prat.
12. 2004. Exposure to high altitude in an intermittent way for more than 10 years: effects in heart and kidney. Responsible Researcher, General Direction of Research, Universidad Arturo Prat.
13. 2002. Determination of the natural history of morphological and functional changes in rats exposed to intermittent chronic hypobaric hypoxia. Responsible Researcher, General Direction of Research, Universidad Arturo Prat.
14. 2001. Evaluation of acclimation to high altitude in mining workers under chronic intermittent exposure (4000 m altitude). Director, General Direction of Research, Universidad Arturo Prat.

PRESENTATIONS AT NATIONAL/INTERNATIONAL CONGRESSES

1. Flagellate dynamics in fish sperm and its impact on reproductive efficiency. **Farias JG. Speaker. 2020.** LXIII Reunión Anual Virtual Sociedad de Biología de Chile.
2. Combinated in silico e in vivo para el estudio de canales de calcio y su relación con la motilidad espermática en salmón del Atlántico (*Salmo salar*). Beltrán JF, Herrera L and **Farías JG. 2020.** XXXI Reunión Anual Virtual Sociedad Chilena de Reproducción y Desarrollo.
3. Fish sperm physiology and aquaculture biotechnology. **Farias JG. Speaker. 2019.** 7th International Workshop Advances in Science and Technology of Bioresources, Pucón, Chile.
4. Efecto del almacenamiento en frío y la criopreservación sobre lípidos y la ultraestructura del espermatozoide de Salmón del Atlántico. **Farias JG. Speaker. 2019.** VIII Jornadas de Bioquímica y Biología Molecular de Lípidos y Lipoproteínas. Mendoza, Argentina.

5. Production of extracellular L-Asparaginase: From bioprospecting to the engineering of an antileukemic biopharmaceutical. **Farias JG. Simposista. 2019.** XLI Congreso Anual Sociedad de Farmacología de Chile, Concepción, Chile

6. Rol de los canales de Ca²⁺ dependiente de voltaje de tipo I en la activación de la motilidad de espermatozoides de salmón del atlántico (*Salmo salar*). Beltrán-Lissabet, JF; Herrera-Belén, L; Risopatrón J; Valdebenito I; **Farías, JG. 2019.** Congreso Latino Americano Conjunto de Reproducción. Santiago, Chile.

7. Short-term storage of Coho Salmon sperm (*Oncorhynchus kisutch*) at 4°C: effect of dilution on sperm fuction. Durmoné K, Merino O, Sandoval Vargas LY, Figueroa E, Contreras P, Valdebenito I, **Farias JG**, Risopatrón J. **2019.** Congreso Latino Americano Conjunto de Reproducción. Santiago, Chile.

8. Cryopreservation of yellowtail kingfish sperm (*seriola lalandi*): effects on sperm physiology. Figueroa E, Wilson R, Lee-Estevez M, Sandoval L, Risopatrón J, **Farias JG**, Valdebenito I, Romero J. **2019.** Congreso Latino Americano Conjunto de Reproducción. Santiago, Chile.

9. Role of AMP-activated protein kinase (AMPK) in motility of fresh and cryopreserved spermatozoa from atlantic salmon (*salmo salar*). Lee-Estevez M, Herrera L, Díaz R, Beltrán JF, Figueroa E, Durmoné K, Ulloa-Rodríguez P, Short S, Risopatrón J, Valdebenito I, **Farias J. 2019.** Congreso Latino Americano Conjunto de Reproducción. Santiago, Chile.

10. Sandoval L, Risopatrón J, Durmorné K, Merino O, Figueroa E, Farias J, Valdebenito I. Effects of different cryoprotectants and membrane stabilizers on the cryopreservation of Coho Salmon (*Oncorhynchus kisutch*) sperm. Sandoval L, Risopatrón J, Durmorné K, Merino O, Figueroa E, **Farias J**, Valdebenito I. **2019.** Congreso Latino Americano Conjunto de Reproducción. Santiago, Chile.

11. Effects of cryopreservation on cyclic-AMP dependent protein kinase (PKA) in spermatozoa of *S. salar*. 2018. Lee-Estevez M, Herrera L, Díaz R, Beltrán JF, Figueroa E, Durmoné K, Ulloa-Rodríguez P, Short S, Valdebenito I and **Farías J. 2018.** VII International Symposium on Animal Biology of Reproduction (ISABR), Focus: Reproductive Biotechnology and Future, Aracaju, Brasil.

12. Effects of cold storage and cryopreservation on ultrastructure of Atlantic salmon (*Salmo salar*) spermatozoa. Díaz R, Durmoné K, Short S, Lee-Estevez M, Ulloa-Rodríguez P, Valdebenito I, **Farías JG. 2018.** XXIX Annual Meeting Sociedad Chilena de Reproducción y Desarrollo. Concón, Chile.

13. Apoplastic extracts with antifreeze activity of *Deschampsia Antarctica* as a cryoprotectant of *Salmo salar* spermatozoa. Short S, Bravo LA, Díaz R, Lee-Estevez M, Zepeda AB and **Farias JG. 2018.** XXIX Annual Meeting Sociedad Chilena de Reproducción y Desarrollo. Concón, Chile.

14. Treatment of Atlantic Salmon broodstock (*Salmo salar*) with GnRH affects the quality of their offspring. Zepeda AB, Miranda I, Valdebenito I, **Farias JG**, Moreno RD. **2018.** XXIX Annual Meeting Sociedad Chilena de Reproducción y Desarrollo. Concón, Chile.

15. Design, construction and extracellular expression of L-asparaginase from *Dickeya chrysanthemi* in yeast. Effer B, **Farías JG**, Monteiro G. **2018**. 20th Global Congress on Biotechnology & 3rd International Conference on Enzymology and Molecular Biology, London, UK.
16. Characterization of antifreeze activity in apoplastic extract of *Deschampsia antarctica*. Farias JG, Short S, Bravo L. **2018**. 20th Global Congress on Biotechnology & 3rd International Conference on Enzymology and Molecular Biology, London, UK.
17. Study of the potential use of antifreeze protein of *Deschampsia antarctica* in the cryopreservation of *Salmo salar* spermatozoa. Short S, Farias JG, Díaz R, Bravo L. **2018**. 20th Global Congress on Biotechnology & 3rd International Conference on Enzymology and Molecular Biology, London, UK.
18. Patagonian blenny (*Eleginops maclovinus*) spermatozoa characterization and quality markers evaluation under chilling storage. Ulloa P, Contreras P, Durmoné K, Lee-Estevéz M, Figueroa E, Valdebenito I, Risopatrón J, **Farías J.G.** **2017**. ASCB EMBO, 2017C annual meeting, Philadelphia, Pennsylvania, USA.
19. Supplementation with α -tocopherol and ascorbic acid in the cryopreservation of Atlantic salmon spermatozoa (*salmo salar*): effect on antioxidant enzymatic activity and sperm function. Figueroa E, Lee-Estevéz M, Ulloa P, Valdebenito I, **Farías J.G.** **2017**. XXVIII Annual meeting of Chilean Society of Reproduction and Development. Concón, Chile.
20. AMP-activated protein kinase (AMPK) activity is reduced in spermatozoa of *salmo salar* after motility activation and under cryopreservation conditions. Lee-Estevéz M, Figueroa E, Díaz R, Ulloa-Rodríguez P, Contreras P, Risopatrón J, Valdebenito I, Cosson J, **Farías J.G.** **2017**. XXVIII Annual meeting of Chilean Society of Reproduction and Development. Concón, Chile.
21. Characterization and short-term storage of the Patagonian Blenny (*Eleginops maclovinus*) sperm. Ulloa P, Contreras P, Figueroa E, Risopatrón J, Valdebenito I, **Farías JG.** **2017**. XXVIII Annual meeting of Chilean Society of Reproduction and Development. Concón, Chile.
22. Effect of Barley Dehydrin (P80) on post-thawing sperm quality of Atlantic salmon (*salmo salar*). Short SE, Bravo LA, Díaz R, Lee-Estevéz M, Figueroa E, Zepeda AB, **Farías J.G.** **2017**. XXVIII Annual meeting of Chilean Society of Reproduction and Development. Concón, Chile.
23. Sperm of Pink Cusk-ell (*Genypterus blacodes*, Schneider 1801): Effect of pH, Osmolarity and temperature on sperm motility. Durmoné K, Valdebenito I, Risopatrón J, Figueroa E, Ulloa P, Cosson J, **Farías J.G.** **2017**. XXVIII Annual meeting of Chilean Society of Reproduction and Development. Concón, Chile.
24. Reproductive parameters of Atlantic Salmon (*Salmo salar*) from recirculation culture systems. Zepeda AB, Díaz R, Short SE, Valdebenito I, **Farias JG**, Moreno RD. **2017**. XXVIII Annual meeting of Chilean Society of Reproduction and Development. Concón, Chile.

25. Effects of cryopreservation on oxidative stress and antioxidant enzyme activity in spermatozoa of Atlantic salmon (*Salmo salar*). Figueroa E, Lee-Estévez M, Valdebenito I, Risopatron J, Pinheiros R, **Farias JG. 2016.** Cell Biology 2016, ASBC annual meeting, San Francisco, CA, USA.
26. Figueroa E, Lee-Estevez M, Ulloa P, Valdebenito I, Risopatrón J, **Farías J.G. 2016.** Effect of cryopreservation on the ultra-structure and mitochondrial function in sperm Atlantic Salmon (*Salmo salar*). XXVII Annual meeting of Chilean Society of Reproduction and Development. Antofagasta, Chile.
27. Lee-Estevez M., Larama G., Figueroa E., **Farías JG. 2016.** Study of the effect of cryopreservation and cold storage on mitochondrial DNA sequence of sperm Atlantic salmon (*Salmo salar*). XXVII Annual meeting of Chilean Society of Reproduction and Development. Antofagasta, Chile.
28. Díaz R, Figueroa E, Ulloa P, Short S, Lee M, Dumorné K, Valdebenito I, **Farías JG. 2016.** Effect of cryopreservation on the lipid composition of the membrane of sperm Atlantic salmon (*Salmo salar*). XXVII Annual meeting of Chilean Society of Reproduction and Development. Antofagasta, Chile.
29. Contreras P, Ulloa P, Cheuquemán C, Merino O, Figueroa E, Valdebenito I, **Farías J**, Risopatrón J. **2016.** Semen storage Patagonian Sea Bass (*Eleginops maclovinus*) at 4 ° C: effect of dilution on sperm function. XXVII Annual meeting of Chilean Society of Reproduction and Development. Antofagasta, Chile.
30. Ulloa P, Contreras P, Figueroa E, Risopatrón J, Valdebenito I, **Farías JG. 2016.** Features sperm Patagonian sea bass (*Eleginops maclovinus*) and the effect of cold storage on the contents of ATP and basal oxygen consumption over time. XXVII Annual meeting of Chilean Society of Reproduction and Development. Antofagasta, Chile.
31. Valdebenito I, Ubilla A, Figueroa E, Risopatrón J, **Farías JG. 2015.** In vitro management of fish gametes: problematic and challenges. XXVI Annual meeting of Chilean Society of Reproduction and Development. Antofagasta, Chile.
32. Figueroa E., Valdebenito I, Merino O, Ubilla A, Risopatrón J, **Farías JG. 2015.** Cryopreservation of Atlantic salmon sperm (*Salmo salar*): effects on sperm physiology. XXVI Annual meeting of Chilean Society of Reproduction and Development. Antofagasta, Chile.
33. **Farías JG**, Castillo R, Elías Figueroa, Stefania E Short, Andrea B Zepeda, Carolina A. Figueroa. **2015.** Pharmacological strategies for the prevention of the effect of intermittent hypobaric hypoxia in rat testis. XXXVII Congress of the Society of Pharmacology of Chile, Coquimbo, Chile.
34. Figueroa E., Valdebenito I, Risopatrón J, Short S.E., Zepeda A.B., Figueroa C.A., **Farías JG. 2015.** Cryopreservation induces alterations in the mitochondrial function of Atlantic salmon spermatozoa (*Salmo salar*). XXXVII Congress of the Society of Pharmacology of Chile, Coquimbo, Chile.
35. Torres K.M., Lopes, A.M., Costa-Silva, T.A. , Pessoa-Jr, A., **Farias, JG. 2015.** pH and thermal stabilities of extracellular L-Asparaginase produced from *Aspergillus terreus*. 28º Congresso Brasileiro de Microbiologia, Floreanópolis, Brasil.

36. Figueroa, C.A., Zepeda A.B., Abdalla D.S.P., Maranhao A.Q., **Farias JG**, Pessoa A. **2014**. Evaluation of impact of metanol concentration and low temperature of culture on oxidative stress in genetically modified *P. pastori*. XX Jornadas de Biología de Levaduras Professor Nicolau van Uden. Lisboa, Portugal.
37. Zepeda, A.B., C.A. Figueroa, Abdalla D.S.P., Maranhao A.Q., **Farias JG**, Pessoa A. **2014**. Evaluation of different methods cell lysate to improve the analysis of LDH enzyme activity in yeast *P. pastori*. XX Jornadas de Biología de Levaduras Professor Nicolau van Uden. Lisboa, Portugal.
38. Figueroa, CA., A.B. Zepeda, Abdalla D.S.P., Maranhao A.Q., **Farias JG**, Pessoa A. **2014**. Effects of condition of culture on mitochondrial membrane potential and viability of genetically modified *P. pastori*. XX Jornadas de Biología de Levaduras Professor Nicolau van Uden. Lisboa, Portugal.
39. Figueroa, C.A., Zepeda A.B., Abdalla D.S.P., Maranhao A.Q., **Farias J.G**, Pessoa A. **2014**. Effect of condition of culture on mitochondrial membrane potential and viability of genetically modified *P. pastori*. 5th World Congress on Biotechnology. Valencia, Spain.
40. Zepeda, A.B., C.A. Figueroa, Abdalla D.S.P., Maranhao A.Q., **Farias J.G**, Pessoa A. **2014**. AOX expression is affected negatively for low concentration of methanol in cultures of yeast *P. pastori*. 5th World Congress on Biotechnology. Valencia, Spain.
41. **Farías, J.G.**, E. Short, A. Zepeda, C. Figueroa, V. Llanquiao & R. Castillo. **2014**. Effects of Omega-3 supplementation in the REDOX status of testis from rats exposed to intermittent hypobaric hypoxia. XXXVI Congress of the Society of Pharmacology of Chile, Chillán, Chile.
42. Castillo, R., González-Candia A., **Farías J.G.**, Herrera E.A. **2014**. Cardioprotective effects induced by administration of Omega-3 in rats exposed to intermittent hypoxia. XXXVI Congress of the Society of Pharmacology of Chile, Chillán, Chile.
43. Figueroa, C.A., Zepeda A.B., Abdalla D.S.P., Maranhao A.Q., **Farias J.G.**, Pessoa A. **2013**. Effects of temperature and concentration of methanol on the expression of oxidative damage biomarkers in membranes of recombinant *P. pastori*. 20th Latin-American Congress on Pharmacology and Therapeutics. La Habana, Cuba.
44. Zepeda, A.B., Figueroa C.A., Abdalla D.S.P., Maranhao A.Q., **Farias J.G.**, Pessoa A. **2013**. Comparison of different culture conditions of genetically-modified *Pichia pastori* to produce scFv antibody fragment anti-LDL (-). 20° Latin-American Congress on Pharmacology and Therapeutics. La Habana, Cuba.
45. Weinacker, D., Zepeda A.B., Figueroa C.A., Pessoa A., **Farías J.G**. **2013**. Production of scFv antibody fragment in recombinant *Pichia pastori* under different concentration of cobalt sulfate. 20° Latin-American Congress on Pharmacology and Therapeutics. La Habana, Cuba.

46. Figueroa. C.A., Zepeda A.B., Abdalla D.S.P., Maranhao A.Q., Pessoa A., **Farías J.G. 2013.** Evaluation of the influence of temperature and methanol on intracellular hydrogen peroxide generation in recombinant *Pichia pastori*. IV Workshop in Bioresources. Pucón, Chile.
47. Zepeda, A.B., Figueroa C.A., Abdalla D.S.P., Maranhao A.Q., Pessoa A., **Farías J.G. 2013.** Effects of different culture conditions on the concentration of endogenous and exogenous protein from *P. pastori*. IV Workshop in Bioresources. Pucón, Chile.
48. Figueroa, C.A., Zepeda A.B., Ulloa P., Abdalla D.S.P., Maranhao A.Q., **Farias J.G., A. Pessoa. 2013.** Evaluation of the effect of culture conditions, temperature and methanol on cell viability of *P. pastoris*. 27° Congresso Brasileiro de Microbiologia (CBM 2013), Natal, Rio Grande, Brazil.
49. Zepeda, A.B., Figueroa C.A., Ulloa P., Abdalla D.S.P., Maranhao A.Q., Farías J.G., Pessoa A. **2013.** Evaluation of different lysis methods to improve endogen protein analysis in yeast *P. pastori*. 27° Congresso Brasileiro de Microbiologia (CBM 2013), Natal, Rio Grande, Brazil.
50. Arias, C., A. Zepeda, Figueroa C., Pessoa A, Pulgar V.M., Mardones L.A. , Castillo R.L., **Farías, J.G. 2013.** Plasma markers of oxidative stress and hypoxia in rats exposed to chronic intermittent hypoxia. XXXV Annual congress of the Society of Pharmacology of Chile. Valdivia, Chile.
51. **Farías, J.G. 2013.** Cellular and molecular mechanisms in hypoxic testicles: Possible pharmacologic targets. XXIV Annual meeting of Chilean Society of Reproduction and Development. Valdivia, Chile.
52. Zepeda, A.B., C.A. Figueroa, Weinacker D.F., Feitosa V., Díaz C.A., Pessoa A., **Farías J.G. 2012.** Evaluation of biomarkers of hypoxia and thermal stress in *P. pastoris* yeasts. XXI Latin-American Congress of Microbiology (ALAM 2012), Sao Paulo, Brazil.
53. Figueroa, C.A., Zepeda A.B., Weinacker D.F, Feitosa V., Díaz C.A., Pessoa A., Farías **J.G. 2012.** Evaluation of oxidative damage in recombinant *Pichia pastoris*. XXI Latin-American Congress of Microbiology (ALAM 2012), Sao Paulo, Brazil.
54. Barrios, L., Reyes J.G., Nolasco J., Zepeda A.B., Figueroa C.A., **Farías J.G. 2012.** Interrelation models based in structural equations, of molecular markers, apoptosis, vascularization and temperature, in testis from rats exposed to hypobaric hypoxia. XXIII Annual meeting of Chilean Society of Reproduction and Development. Viña del Mar, Chile.
55. **Farias J. 2011.** Molecular model to explain the effects of hypobaric hypoxia in rat tissue. 3rd International Workshop Advance in Science and Technology of Bioresources. Pucón, Chile.
56. Pino, J.A., Paillamanque J., Osses N., Bernalles S., Gómez F., **Farías J.G.,** Celedón G., González G., Moreno R.D., Reyes J.G. 2011. Reactive oxygen/nitrogen species (ROS/RNS) production in rat spermatogenic cells subjected to heat stress and its correlation with mitochondrial uncoupling capacity. Cell Signaling Networks Conference (CSN 2011). Merida, Yucatan, México.

57. **Farías, J.G.**, L.G. Aguayo, J. Fuentealba, A.B. Zepeda, G.M. Calaf & J.G. Reyes. **2011**. Protective role of BB-4 in male reproductive system of rats exposed to intermittent hypobaric hypoxia. XXXIII Annual congress of the Society of Pharmacology of Chile. Olmué, Chile.
58. Zepeda, A.B. & **J.G. Farías**. **2011**. Evaluation of biomarkers of testicular damage in rats exposed to intermittent hypobaric hypoxia. XXII Annual meeting of Chilean Society of Reproduction and Development. Viña del Mar, Chile.
59. Oyarzún, D.A., A.B. Zepeda & **J.G. Farías**. **2010**. Effect of chronic and intermittent hypobaric hypoxia on DNA oxidative damage in rat epididymis sperm cells. XXI Annual meeting of Chilean Society of Reproduction and Development. La Serena, Chile.
60. Pino, J.A., D.A. Oyarzún, G. Celedón, R.D. Moreno, **J.G. Farías** & J.G. Reyes. **2010**. Production of reactive species of oxygen (ROS) and mitochondrial oxidative metabolism in spermatogenic cells under thermal stress. XXI Annual meeting of Chilean Society of Reproduction and Development. La Serena, Chile.
61. **Farías, J.**, M. Puebla, A. Acevedo, P. Tapia, E. Gutiérrez, A. Zepeda, C. Juantok, G. Calaf & J. Reyes. **2009**. Lipid peroxidation in testis and epididymis under intermittent hypobaric hypoxia: protective role of ascorbic acid. 34th ASA Annual Meeting; XX North American Testis Workshop; ASA Special Symposium, Philadelphia, USA.
62. Puebla, M.C., P.J. Tapia, A. Acevedo, E. Gutiérrez & **J.G. Farías**. **2009**. Ascorbic acid protects from oxidative damage produced by intermittent hypobaric hypoxia in testis and epididymis in Wistar rats. Free Radicals and Antioxidants in Chile 2009, VI Meeting of SFRBM South American Group, Santiago, Chile.
63. Acevedo, A., M. Puebla, P. Tapia & **J.G. Farías**. **2009**. Berry fruit extracts: protective role in testis exposed to intermittent hypobaric hypoxia. Free Radicals and Antioxidants in Chile **2009**, VI Meeting of SFRBM South American Group, Santiago, Chile.
64. Romo, E., P. Chávez-Crooker., P.J. Tapia, M. Puebla & **J.G. Farías**. **2009**. Determination of optimal bioleaching consortium bacteria for low grade mineral of chalcopyrite and bornite. 18th International Biohydrometallurgy Symposium. Bariloche, Argentina.
65. **Farías, J.G.** **2009**. Lipid peroxidation in testis and epididymis under intermittent hypobaric hypoxia: protective role of ascorbic acid. XX Annual meeting of Chilean Society of Reproduction and Development. La Serena, Chile.
66. Romo, E., **J.G. Farías**, P. Prat. Chávez, J. Zapata, L. Todd & M. Chávez. **2009**. Determination of optimal bioleaching consortium bacteria for sulfolix project to Sociedad Contractual Minera el Abra. Hydrocopper. Antofagasta, Chile.
67. Puebla, M., P. Tapia, E. Gutiérrez, A. Acevedo, A. Zepeda, C. Juantok & **J.G. Farías**. **2008**. Expression and activity of glutathione reductase in testis and epididymis of rats exposed to intermittent hypobaric hypoxia. Role of ascorbic acid. XVIII Congress of Latin-American Association of Pharmacology in Chile, Santiago, Chile.

68. Tapia, P.J., M.C. Puebla, E.E. Gutiérrez, A. Acevedo & **J.G. Farías**. 2008. Antiapoptotic role of HSP70 in spermatogenic cells of rats exposed to chronic hypobaric hypoxia. XVIII Congress of Latin-American Association of Pharmacology of Chile, Santiago, Chile.
69. Gutiérrez, E., G. Cruz, R. Leoncini, C. Juantok, A. Zepeda, J. López, P. Tapia & **J.G. Farías**. 2007. Oxidative hemolysis induced by AAPH, role of chronic hypobaric hypoxia and ascorbic acid in the sensitivity to oxidative damage. XXIX Annual congress of the Society of Pharmacology of Chile. La Serena, Chile.
70. Gutiérrez, E., G. Cruz, R. Leoncini, C. Juantok, A. Zepeda, J. López, P. Tapia & **J.G. Farías**. 2007. Effect of hypobaric hypoxia and ascorbic acid in body and organs weight in rats. XXIX Annual congress of the Society of Pharmacology of Chile. Iquique, Chile.
71. Bustos-Obregón, E., **J.G. Farías**, E. Peña-Galo, I. Maurer & J.G. Reyes. 2006. Testicular and hepatic damage in mice exposed to simulated hypobaric hypoxia. 14th European Testis Workshop, Bad Aibling. Germany.
72. **Farías, J.G.**, E. Bustos-Obregón & J.G. Reyes. 2005. Endocrine changes in the hypophysis-gonad axis induced by hypobaric hypoxia in male rats. II Latin-American Symposium of Mother-Fetus Interaction & Placenta: From Basic TO Clinical Research and XIX Annual Meeting of the Chilean Physiological Society. Santiago, Chile.
73. Ceas, C., S. Braüchi, **J.G. Farías**, J. Bacigalupo & J.G. Reyes. 2005. Apoptosis induced by prolonged exposure to odorants in cultured cells from rat olfactory epithelia. II Latin-American Symposium Mother-fetus Interaction & Placenta: From Basic TO Clinical Research and XIX Annual Meeting of the Chilean Physiological Society. Santiago, Chile.
74. **Farías, J.G.**, E. Bustos-Obregón & J.G. Reyes. 2005. Increased in testicular temperature and vascularization induced by hypobaric hypoxia in rats. XVIII Testis Workshop. Seattle, USA.
75. **Farías, J.G.**, E. Bustos-Obregón & J.G. Reyes. 2005. Increased in testicular temperature and vascularization induced by hypobaric hypoxia in rats. XVI Annual meeting of Chilean Society of Reproduction and Development. Reñaca, Chile.
76. **Farías, J.G.**, E. Bustos-Obregón & J.G. Reyes. 2005. Increase of testicular vascularization in rats exposed to hypobaric hypoxia. IV Annual meeting of the Society of Andrology and Gametology of Chile, VI International Summer Days for Reproductive Medicine and Biotechnology, First International Symposium of male sexual and erectile dysfunction. Temuco, Chile.
77. Silva, V., **J.G. Farías** & E. Bustos-Obregón. 2005. Protective effect of melatonin in testis of adult mice treated with lead acetate. IV Annual meeting of the Society of Andrology and Gametology of Chile, VI International Summer Days for Reproductive Medicine and Biotechnology, First International Symposium of male sexual and erectile dysfunction. Temuco, Chile.
78. Brito, J., K. Guillen, X. Troncoso, P. Siques, E. Sanchez, **J.G. Farías**, G. Soto & P. Siques. 2003. Characteristics of accidents received in an Emergency Unit. Forum of Surgery of XLVII Annual Congress of Chilean Chapter of American College of Surgeons. Santiago, Chile.

79. **Farías J.**, G. Soto, P. Siques & J. Brito. **2002**. Effect of chronic intermittent hypobaric hypoxia on the beta adrenergic receptor-adenylate cyclase system in heart rat. V World Congress on Mountain Medicine and High Altitude Physiology and VIII Congress of the Spanish Society of Medicine and Mountain Aid. Barcelona, Spain.
80. Brito, J., **J.G. Farías**, G. Soto, P. Siques & L. Barrios. **2002**. Blood pressure in intermittent hypobaric hypoxia: a comparative cross-view among epidemiological and experimental results. V World Congress on Mountain Medicine and High Altitude Physiology and VIII Congress of the Spanish Society of Medicine and Mountain Aid. Barcelona, Spain.
81. Brito, J., P. Siques, **J.G. Farías**, L. Barrios, G. Soto. **2002**. Acute mountain sickness (AMS) and headache epidemiological characteristics in intermittent work at high altitude. V World Congress on Mountain Medicine and High Altitude Physiology and VIII Congress of the Spanish Society of Medicine and Mountain Aid. Barcelona, Spain.
82. Brito, J., L. Barrios, P. Siques, **J.G. Farías** & G.A Soto. **2002**. Acute mountain sickness, arterial hypertension and headaches and assessment parameters association: a logistic regression model. V World Congress on Mountain Medicine and High Altitude Physiology and VIII Congress of the Spanish Society of Medicine and Mountain Aid. Barcelona, Spain.
83. Siques, P., J. Brito, **J.G. Farías** & L. Barrios. **2002**. Respiratory diseases in intermittent work at high altitude: epidemiological characteristics. V World Congress on Mountain Medicine and High Altitude Physiology and VIII Congress of the Spanish Society of Medicine and Mountain Aid. Barcelona, Spain.
84. Siques, P., J. Brito, Y. Muñoz, C. Ureta, L. Barrios, **J.G. Farías** & G. Soto. 2002. Intermittent work at high altitude: a new epidemiological situation. V World Congress on Mountain Medicine and High Altitude Physiology and VIII Congress of the Spanish Society of Medicine and Mountain Aid. Barcelona, Spain.
85. Siques, P., J. Brito, **J.G. Farías** & L. Barrios. **2002**. Eye, skin and ear diseases in intermittent workers at high altitude: epidemiological characteristics. V World Congress on Mountain Medicine and High Altitude Physiology and VIII Congress of the Spanish Society of Medicine and Mountain Aid. Barcelona, Spain.
86. **Farías, J.G.**, G. Soto, P. Siques & J. Brito. **2001**. Effect of chronic intermittent hypobaric hypoxia (4,600 m) on beta receptor-adenylate cyclase coupling in rat heart. VIII Ibero-American Congress and 1st Peruan Congress of Cell Biology. Lima, Perú.
87. **Farías, J.G.**, G. Soto, P. Siques, J. Brito. 2001. Effect of chronic intermittent hypobaric hypoxia (4,600 m) on adenylyl cyclase in rat heart. Animal model. XLIV Annual meeting of the Chilean Society of Biology. Pucón, Chile.
88. **Farías, J.G.**, G. Soto, P. Siques & J. Brito. **2001**. Evaluation of process of acclimation to intermittent hypoxia at cellular level of physiologic heart function in an animal model (rat) through determination of Adenilyl-cyclase in hear membranes. VI Meeting if Research Projects. Iquique, Chile.

89. **Farías, J.G.**, F. León-Velarde, G. Soto, J. Brito & J.P. Richalet. **2000.** Blood parameters and ventricular hypertrophy in intermittent hypoxia (4,600m) in rats. IV World Congress on Mountain Medicine and High Altitude Physiology. Arica, Chile.
90. **Farías, J.G.**, R. Germack, F. León-Velarde, G. Soto, J. Brito & J.P. Richalet. **2000.** Effect of intermittent hypoxia (4,600m) on expression of beta adrenergic receptor in rat heart. IV World Congress on Mountain Medicine and High Altitude Physiology. Arica, Chile.
91. León-Velarde, F., **J.G. Farías**, G. Soto, J. Brito & J.P. Richalet. **2000.** Time course of heart rate, systolic blood pressure and body weight in intermittent hypoxia (4,600m) in conscious rats. IV World Congress on Mountain Medicine and High Altitude Physiology. Arica, Chile.
92. Brito, J., C. Gandolfo, T. Barlaro, P. Siques, F. León-Velarde & **J.G. Farías**. **2000.** Necropsy findings in decreased rats during chronically intermittent hypobaric hypoxia exposure a preliminary report. IV World Congress on Mountain Medicine and High Altitude Physiology. Arica, Chile.
93. **Farías J.G.**, G. Soto, P. Siques & J. Brito. **2000.** Effects of intermittent hypoxia (4600 m) on the heart frequency, systolic pressure, heart ventricles and blood parameters in rats. XLIII Annual meeting of Society of Biology of Chile. Pucón, Chile.

ACADEMIC EXPERIENCE

Undergraduate level courses

2011-Present IIQ300-Cellular Biology
 2011-Present IIQ356-General Biochemistry
 2011-Present IIQ470-Metabolic Engineering and Fermentations
 2011-Present IIQ553-Biotechnology Processes
 2011-Present IIQ525-Immunology
 2011-Present IIQ527-Enzymology and Protein Structure
 2011-2015 IIQ469-Genetic Engineering
 2011-2015 IIQ430-Molecular Biology
 2011-Present APA343-Molecular Biology

Graduate level courses

2016-present day PCN107 Biotechnology for the development of sustainable aquaculture. Doctoral Program in Sciences of Natural Resources. Universidad de La Frontera.

2011-present day PBME41-Molecular basis of cell communication in physiological and pathological conditions. Doctoral Program in Applied Cellular and Molecular Biology. Universidad de La Frontera.

2011-present day	PBM031-Formulation thesis project type Fondecyt. Doctoral Program in Applied Cellular and Molecular Biology. Universidad de La Frontera.
2011-present day	Selected Topics in Biology and Biomedicine. Doctoral Program in Biological Sciences Mention Cellular and Molecular Biology. Universidad de Antofagasta.
2011-present day	PBM010-Cellular and Molecular Biology. Doctoral Program in Applied Cellular and Molecular Biology. Universidad de La Frontera.
2011-present day	PBM011-Cellular and Molecular Biology Applied. Doctoral Program in Applied Cellular and Molecular Biology. Universidad de La Frontera.
2011-present day	PBM040-Advance doctoral thesis I. Doctoral Program in Applied Cellular and Molecular Biology. Universidad de La Frontera.
2011-present day	PBME09-Advances in molecular diagnostics. Doctoral Program in Applied Cellular and Molecular Biology. Universidad de La Frontera.
2011-present day	PBM021-Research unit. Doctoral Program in Applied Cellular and Molecular Biology. Universidad de La Frontera.
2011-present day	PBME05-Advances in molecular diagnostics. Doctoral Program in Applied Cellular and Molecular Biology. Universidad de La Frontera.
2011-present day	PBME03-Drafting of scientific papers. Doctoral Program in Applied Cellular and Molecular Biology. Universidad de La Frontera.
2011-present day	GIB103- Biotechnology and Molecular Biology. Master of Engineering Sciences Mention Biotechnology. Universidad de La Frontera.

SUPERVISOR OF GRADUATE AND UNDERGRADUATE THESIS

Ph.D. Thesis Supervisor

1. **Alejandro Pedroso (Cuba).** Doctoral Program in Applied Cellular and Molecular Biology, Universidad de La Frontera. Universidad de La Frontera. 2021 at day
2. **María Tosta (Venezuela).** Doctoral Program in Applied Cellular and Molecular Biology, Universidad de La Frontera. Universidad de La Frontera. 2021 at day
3. **Eliana Ibáñez (Chile).** Doctoral Program in Applied Cellular and Molecular Biology, Universidad de La Frontera. Universidad de La Frontera. 2021 at day
4. **Jorge Machuca (Chile).** Doctoral Program in Sciences of Natural Resources, Universidad de La Frontera. 2023 at day
5. **Juan Norambuena (Chile).** Doctoral Program in Sciences of Natural Resources, Universidad de La Frontera. 2019-2022
6. **Wellison Amorim Pereira (Brasil)** Doctoral Program in Applied Cellular and Molecular Biology, Universidad de La Frontera. Universidad de Sao Pablo (Brazil). 2021-2023
7. **Lisandra Herrera (Cuba).** Doctoral Program in Applied Cellular and Molecular Biology, Universidad de La Frontera. 2018-2021

8. **Jorge Beltrán (Cuba).** Doctoral Program in Applied Cellular and Molecular Biology, Universidad de La Frontera. 2018-2021
9. **Katherin Solis (Chile).** Doctoral Program in Sciences of Natural Resources, Universidad de La Frontera 2016-2020
10. **Stefania Short (Argentina).** Doctoral Program in Applied Cellular and Molecular Biology, Universidad de La Frontera. 2016-2019
11. **Manuel Lee-Estevez (Cuba).** Doctoral Program in Applied Cellular and Molecular Biology, Universidad de La Frontera. 2016-2019
12. **Brian Effel (Colombia).** Doctoral Program in Applied Cellular and Molecular Biology, Universidad de La Frontera-Universidad de Sao Pablo (Brazil). 2016-2019
13. **Patricio Ulloa (Chile).** Doctoral Program in Sciences of Natural Resources, Universidad de La Frontera. 2016-2019
14. **Kelly Durmoné (Haití).** Doctoral Program in Sciences of Natural Resources, Universidad de La Frontera. 2015-2018
15. **Elías Figueroa (Chile).** Doctoral Program in Applied Cellular and Molecular Biology, Universidad de La Frontera-Universidad de Sao Pablo (Brazil). 2014-2017
16. **Andrea Zepeda (Chile).** Doctoral Program in Applied Cellular and Molecular Biology, Universidad de La Frontera-Universidad de Sao Pablo (Brazil). 2011-2015
17. **Carolina Figueroa (Chile).** Doctoral Program in Applied Cellular and Molecular Biology, Universidad de La Frontera-Universidad de Sao Pablo (Brazil). 2011-2015
18. **Daniel Weinacker (Chile).** Doctoral Program in Applied Cellular and Molecular Biology, Universidad de La Frontera-Universidad de Sao Pablo (Brazil). 2011-2016
19. **Luis Barrios (Chile).** Doctorado en Salud Pública mención Bioestadística, Universidad de Alicante, España. 2008-2010

Master Thesis Supervisor

1. **Javiera Miranda (Chile).** Master Program in Engineering Mention Biotechnology, Universidad de La Frontera. 2022-2023.
2. **Nicolás Lefin (Chile).** Master Program in Engineering Mention Biotechnology, Universidad de La Frontera. 2022-2023.
3. **María Jesús Suazo (Chile).** Master Program in Sciences of Natural Resources, Universidad de La Frontera. 2018-2019
4. **Valter Feitosa (Brasil).** Magister em Tecnologia Bioquímico-Farmacêutica, Universidad de São Paulo (FAPESP). 2011-2014

Undergraduate Thesis Supervisor:

1. **Javiera Miranda.** Civil Engineering in Biotechnology, Faculty of Engineering and Sciences, Universidad de La Frontera. (2023)
2. **Nicolás Lefin.** Civil Engineering in Chemical, Faculty of Engineering and Sciences, Universidad de La Frontera. (2023)
3. **Claudia Martínez.** Civil Engineering in Biotechnology, Faculty of Engineering and Sciences, Universidad de La Frontera. (2022)
4. **Vicente Llanquinao.** Civil Engineering in Biotechnology, Faculty of Engineering and Sciences, Universidad de La Frontera. (2014)
5. **Patricio Ulloa.** Civil Engineering in Biotechnology, Faculty of Engineering and Sciences, Universidad de La Frontera. (2014)
6. **Karin Torres.** Civil Engineering in Biotechnology, Faculty of Engineering and Sciences, Universidad de La Frontera. (2014)
7. **Stefania Short.** Civil Engineering in Biotechnology, Faculty of Engineering and Sciences, Universidad de La Frontera. (2014)
8. **Alejandro Acevedo.** Engineering in Biotechnology, Universidad Arturo Prat. (2009)
9. **Daniela Oyarzún.** Engineering in Biotechnology, Universidad Arturo Prat. (2009)
10. **Eduardo Romo.** Engineering in Biotechnology, Universidad Arturo Prat. (2009)
11. **Guillermo Bravo.** Engineering in Biotechnology, Universidad Arturo Prat. (2009)
12. **Carolina Jaime.** Engineering in Biotechnology, Universidad Arturo Prat. (2009)
13. **Mónica Seguel.** Engineering in Fisheries and Aquaculture, Universidad Arturo Prat. (2009)
14. **Maritza Allende.** Biochemistry, Pontificia Universidad Católica de Valparaíso. (2009)
15. **Rossana Leonccini.** Marine Biology, Universidad Arturo Prat. (2009)
16. **John Galiardi.** Marine Biology, Universidad Arturo Prat. (2009)
17. **Carmen Garate.** Marine Biology, Universidad Arturo Prat. (2009)

CONSULTANCY SERVICES FOR PUBLIC INSTITUTIONS

2011-present day - Referee for the following ISI journals:

- African Journal of Environmental Science and Technology
- Aging

- Andrologia
- Animal Reproduction Science
- Annual Review & Research in Biology
- Aquaculture
- Aquaculture Research
- Biochemistry Research International
- Biological Research
- Bioscience, Biotechnology and Biochemistry
- Biomolecules
- Biomedicine & Pharmacotherapy
- Blood Reviews
- Cardiovascular Therapeutics
- Cell Biochemistry & Function
- Cell Factory
- Clinical Endocrinology
- Cryobiology
- Experimental and Therapeutic Medicine
- Expert Opinion
- Frontiers in Cell and Developmental Biology
- Frontiers in Microbiology
- Frontiers in Physiology
- High Altitude Medicine & Biology
- Journal Annals of Microbiology
- Journal of Andrology
- Journal of Applied Biomedicine
- Journal of Cellular and Molecular Medicine
- Journal of Fish Biology
- Journal of Cellular and Molecular Medicine
- Journal of Tropical Medicine & Public Health
- Microbial Cell Factories
- Molecule
- Nutrients
- PLOS ONE

- Preparative Biochemistry & Biotechnology
- Protoplasma
- Redox report
- Reproduction
- The Journal of Biological Chemistry
- Theriogenology
- Yeast

SCHOLARSHIP AND ACADEMIC AWARDS

- 2025 Recognition of Ranking of the most cited academics in the world Stanford University. Aquaculture Area.
- 2023-2024 Recognition of Data Science ANID 2023-2024. First position in scientific production Universidad de La Frontera
- 2019 Recognition for copyright author of research results, Office of Innovation & Technology Transfer, Universidad de La Frontera
- 2018 Best oral presentation, ISABR 2018, Brazil.
- 2013 Recognition for good teaching practices, Vicerrectoría Académica, Universidad de La Frontera.
- 2013 Recognition for outstanding participation in Programa Explora CONICYT.
- 2012 Appointment as “Regular Member”, American Physiology Society, USA.
- 2009 The American Society of Andrology, the ASA Internacional Liaison Committee and Lalor Foundation International, USA.
- 2005 Fundación Andes C-13855: Research fellowship, Universidad de Hamburgo, Germany.
- 2005 MECESUP UCV-0206: Research fellowship, Research Center BIOMOCETI of Universities París VI and París XIII, France.
- 2002 Doctoral CONICYT fellowship, Program of Regional Centers, Research Center for Men in Dessert.
- 1999 INSERM-CONICYT: Research fellowship, Laboratoire, Réponses cellulaires et fonctionnelles a l’ hypoxie, Universidad Paris XIII, France.