

## **DR. CLAUDIO INOSTROZA BLANCHETEAU**

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### **ACADEMIC DEGREES AND PROFESSIONAL STUDIES**

2011, Doctor in Science of Natural Resources, Universidad de La Frontera, Chile.

2008, Master in Science of Natural Resources, Universidad de La Frontera, Chile.

2005, Bachelor in Agronomy, Universidad Católica de Temuco, Chile.

2005, Agricultural Engineer, Universidad Católica de Temuco, Chile.

### **DOCTORAL THESIS**

2011. Identificación y caracterización molecular de genes en respuesta al estrés por aluminio ( $Al^{3+}$ ) en arándano alto (*Vaccinium corymbosum* L.). Laboratorio de Bioquímica, Departamento de Genética Molecular y Microbiología, Facultad de Ciencias Biológicas, Pontificia Universidad Católica de Chile. Santiago, Chile. Patrocinada por Dr. Patricio Arce-Johnson.

### **POSTDOCTORAL RESEARCH**

2011-2014. "Impacto de la radiación UV-B sobre la expresión genes antioxidantes y compuestos fotoprotectores en arándanos cultivados en el sur de Chile". FONDECYT-POSDOCTORAL 3120248. (Investigador Principal).

## RESEARCH VISITS

2009. Laboratorio de Bioquímica, Departamento de Genética Molecular y Microbiología, Facultad de Ciencias Biológicas, Pontificia Universidad Católica de Chile. Santiago-Chile. "Identificación y caracterización molecular de genes en respuesta al estrés por aluminio (Al<sup>3+</sup>) en arándano alto (*Vaccinium corymbosum* L.)". Profesor Tutor: Dr. Patricio Arce-Johnson. Fecha: Enero 2009 a noviembre 2010. Financiamiento: Beca Doctoral CONICYT.

2010. Genetic Improvement of Fruits and Vegetables Laboratory of United States Department of Agriculture Agricultural Research Service Henry A. Wallace Beltsville Plant Sciences Institute. Baltimore, Maryland, USA. "Análisis de la expresión tejido-específico e hibridación in situ de genes VCAL en arándano alto (*Vaccinium corymbosum* L.)". Profesor Tutor: Dra. Janet Slovin. Fecha: Noviembre 2010 a marzo 2011. Financiamiento: Beca MECESUP-Bicentenario, UFRO.

2012. Laboratorio de Fisiología Metabólica Vegetal, Departamento de Biología Vegetal, Universidade Federal de Viçosa, Minas Gerais, Brasil. "Análisis del comportamiento fotosintético y perfiles metabólicos de líneas de introgresión de tomate sometidas a estrés por boro". Profesor Tutor: Dr. Adriano Nunes-Nesi. Fecha: Septiembre 2012 a Octubre 2012. Financiamiento: Programa MECESUP-2 Fondo Innovación, UCT.

## RESEARCH LINES

- Plant physiology and molecular biology.
- Biochemical responses of plants to environmental stresses.
- Plant genetics molecular marker assisted.

## PUBLICATIONS

41. Leiva A, Agurto M, Matus T, Hoppe G, Huidobro C, **Inostroza-Blancheteau C**, Reyes-Díaz M, Stange C, Canessa P, Vega A. 2020. Salinity impairs photosynthetic capacity and enhances carotenoid-related gene expression and biosynthesis in tomato (*Solanum lycopersicum* L. cv. Micro-Tom). Accepted for Publication in Peer J\_45254 (ISI, Impact factor 2.353).

40. Alarcón-Poblete E, González-Villagra J, de Oliveira Silva FM, Nunes-Nesi A, **Inostroza-Blancheteau C**, Alberdi M, Reyes-Díaz M. 2020. Metabolic responses of *Vaccinium corymbosum* L. cultivars to Al toxicity and gypsum amendment. *Environmental and Experimental Botany* 176: 104119 (ISI, Impact factor 3.712).

39. Tighe-Neira R, Reyes-Díaz M, Nunes-Nesi A, Recio G, Carmona E, Corgne A, Rengel Z, **Inostroza-Blancheteau C\***. 2020. Titanium dioxide nanoparticles provoke transient increase in

photosynthetic performance and differential response in antioxidant system in *Raphanus sativus* L. *Scientia Horticulturae* 269: 109418 (ISI, Impact factor 1.961).

38. González-Villagra J, Reyes-Díaz M, Alberdi M, Acevedo P, Loyola R, Tighe-Neira R, Arce-Johnson P, **Inostroza-Blancheteau C\***. 2020. Solar UV irradiation effects on photosynthetic performance, biochemical markers, and gene expression in highbush blueberry (*Vaccinium corymbosum* L.) cultivars. *Scientia Horticulturae* 259: 108816 (ISI, Impact factor: 1.961).

37. Romero-Romero JL, **Inostroza-Blancheteau C**, Reyes-Díaz M, Matte JP, Aquea F, Espinoza C, Pilar G, Arce-Johnson P. 2020. Heterologous expression of the *Arabidopsis thaliana* gene *CBF3* enhances drought and salinity tolerance of *Citrus aurantifolia* (Mexican lemon). *Journal of Soil Science and Plant Nutrition* 20: 244-252. (Impact factor 2.006).

36. Alarcón-Poblete E, **Inostroza-Blancheteau C**, Latsague M, Alberdi M, Silva FMO, Nunes-Nesi A, Poblete-Grant P, Meriño-Gergichevich C, Reyes-Díaz M. 2019. Gypsum application ameliorates morphological and photochemical damages provoked by Al toxicity in *Vaccinium corymbosum* L. cultivars. *Journal of Berry Research* 9: 665-685 (ISI, Impact factor: 2.379).

35. Cárcamo MP, Reyes-Díaz M, Rengel Z, Alberdi M, Omena-García R, Nunes-Nesi A, **Inostroza-Blancheteau C\***. 2019. Aluminum stress differentially affects physiological performance and metabolic compounds in cultivars of highbush blueberry. *Scientific Reports* 9: 11275 (ISI, Impact factor 4.525).

34. Recio-Sánchez Gonzalo, Tighe-Neira R, Alvarado C, **Inostroza-Blancheteau C**, Benito N, García-Rodríguez A, Marcos R, Pesenti H, Carmona E. 2019. Assessing the effectiveness of green synthesized silver nanoparticles with *Cryptocarya alba* extracts for remotion of the organic pollutant methylene blue dye. *Environmental Science and Pollution Research* 26: 15115-15123 (ISI, Impact factor 2.800).

33. Cariaga E, Vásquez L, Jerez J, **Inostroza-Blancheteau C**. 2019. A numerical simulation model for highbush blueberry under drought stress. *Journal of Soil Science and Plant Nutrition* 19: 98-107. (ISI, Impact factor 2.006).

32. **Inostroza-Blancheteau C\***, de Oliveira Silva FM, Durán F, Solano J, Obata T, Machado M, Fernie AR, Reyes-Díaz M, Nunes-Nesi A. 2018. Metabolic diversity in tuber tissues of native Chiloé potatoes and commercial cultivars of *Solanum tuberosum* ssp. *tuberosum* L. *Metabolomics* 14: 138 (ISI, Impact factor 3.592).

31. Tighe-Neira R, Díaz-Harris R, Leonelli-Cantergiani G, Mejías-Lagos P, Iglesias-González C, **Inostroza-Blancheteau C\***. 2018. Effect of *Ulex europaeus* extracts on polyphenol concentration in *Capsicum annuum* L. and *Lactuca sativa* L. *Journal of Soil Science and Plant Nutrition* 18: 893-903 (ISI, Impact factor 2.119).

30. Tighe-Neira R, Carmora E, Recio G, Nunes-Nesi A, Reyes-Díaz M, Alberdi M, Rengel Z, **Inostroza-Blancheteau C**. 2018. Effect of metallic nanoparticles on the structure and function of

the photosynthetic apparatus in plants. *Plant Physiology and Biochemistry* 130: 408-417 (ISI, Impact factor 2.724).

29. Romero-Romero JL, **Inostroza-Blancheteau C**, Orellana D, Aquea F, Reyes-Díaz M, Gil P, Matte JP, Arce-Johnson P. 2018. Stomata regulation by tissue-specific expression of the *Citrus sinensis* *MYB61* transcription factor improves water-use efficiency in Arabidopsis. *Plant Physiology and Biochemistry* 130: 54-60 (ISI, Impact factor 2.724).

28. Vargas M, Jofré E, Navarrete C, Bravo J, Jamett F, **Inostroza-Blancheteau C**, Ibáñez C. 2018. Seed viability, in vitro germination and rhizome production of *Leontochir ovallei*, a rare and endangered Atacama desert geophyte. *Revista Chilena de Historia Natural* 91:4 (ISI, Impact factor 0.702).

27. Alarcón-Poblete E, **Inostroza-Blancheteau C**, Alberdi M, Rengel Z, Reyes-Díaz M. 2018. Molecular regulation of aluminum resistance and sulfur nutrition during root growth. *Planta* 247: 27-39 (ISI, Impact factor 3.361).

26. Serrano A, Espinoza C, Armijo G, **Inostroza-Blancheteau C**, Poblete E, Meyer-Regueiro C, Arce A, Parada F, Santibañez C, Arce-Johnson P. 2017. Omics approaches for understanding grapevine berry development: Regulatory networks associated with endogenous processes and environmental responses. *Frontiers in Plant Science* 8: 1486 (ISI, Impact factor 4.298).

25. Castro D, Urzúa J, Rodríguez-Malebrán M, **Inostroza-Blancheteau C**, Ibáñez C. 2017. Woody leguminous trees: New uses for sustainable development of arid environments. *Journal of Sustainable Forestry* 36: 767-786 (ISI, Impact factor 0.625).

24. Reyes-Díaz M, **Inostroza-Blancheteau C\***, Berríos G, Rodrigues-Salvador A, Nunes-Nesi A, Deppe M, Demanet R, Rengel Z, Alberdi M. 2017. Physiological traits and Mn transporter genes expression in ryegrass genotypes under increasing Mn at short-term. *Plant Physiology and Biochemistry* 118: 218-227 (ISI, Impact factor 2.928).

23. **Inostroza-Blancheteau C**, Alberdi M, Berríos G, Deppe M, Demanet R, Rengel Z, Reyes-Díaz M. 2017. Physiological and biochemical responses to manganese toxicity in ryegrass (*Lolium perenne* L.) genotypes. *Plant Physiology and Biochemistry* 113: 89-97. (ISI, Impact factor 2.928).

22. Carmona ER, Reyes-Díaz M, Parodi J, **Inostroza-Blancheteau C**. 2017. Antimutagenic evaluation of traditional medicinal plants from South America *Peumus boldus* and *Cryptocarya alba* using *Drosophila melanogaster*. *Journal of Toxicology and Environmental Health, Part A* 80: 208-217 (ISI, Impact factor 2.243).

21. Luengo-Escobar A, Alberdi M, Acevedo P, Machado M, Nunes-Nesi A, **Inostroza-Blancheteau C**, Reyes-Díaz M. 2017. Distinct physiological and metabolic reprogramming undergoing long-term UV-B radiation revealed in highbush blueberry cultivars (*Vaccinium corymbosum* L.). *Physiologia Plantarum* 160: 46-64 (ISI, Impact factor 3.520).

20. **Inostroza-Blancheteau C\***, Acevedo P, Loyola R, Arce-Johnson P, Alberdi M, Reyes-Díaz M. 2016. Short-term UV-B radiation affects photosynthetic performance and antioxidant gene expression in highbush blueberry leaves. *Plant Physiology and Biochemistry* 107: 301-309. (ISI, Impact factor 2.928).
19. Carmona ER, **Inostroza-Blancheteau C**, Marcos R. 2016. Genotoxicity and oxidative stress of zinc oxide nanoparticles and their bulky form in *Drosophila melanogaster*. *Toxicology Industrial Health* 32: 1987-2001 (ISI, Impact factor 1.859).
18. Reyes-Díaz M, Meriño-Gergichevich C, **Inostroza-Blancheteau C**, Latsague M, Acevedo P, Alberdi M. 2016. Anatomical, physiological and biochemical traits involved in the UV-B radiation response in highbush blueberry (*Vaccinium corymbosum* L.). *Biologia Plantarum* 60: 355-366 (ISI, Impact factor 1.665).
17. Carmona ER, **Inostroza-Blancheteau C**, Obando V, Rubio L, Marcos R. 2015. Genotoxic effects of copper oxide nanoparticles in *Drosophila melanogaster*. *Mutation Research* 971: 1-11, (ISI, Impact factor 2.254).
16. Alvarez-Gerding X, Cortés-Bullemore R, Medina C, Romero-Romero JL, **Inostroza-Blancheteau C**, Aquea F, Arce-Johnson P. 2015. Improved salinity tolerance in Carrizo citrange rootstock through overexpression of glyoxalase system genes. *BioMed Research International* Volume 2015, Article ID 827951, 7 pages. (ISI, Impact factor 1.579).
15. Alvarez-Gerding X, Espinoza C, **Inostroza-Blancheteau C**, Arce-Johnson P. 2015. Molecular and physiological changes in response to salt stress in *Citrus macrophylla* W plants overexpressing Arabidopsis *CBF3/DREB1A*. *Plant Physiology and Biochemistry* 92: 71-80. (ISI, Impact factor 2.928).
14. Soto-Cerda B, **Inostroza-Blancheteau C**, Mathías M, Peñaloza E, Zuñiga J, Muñoz G, Rengel Z, Salvo-Garrido H. 2015. Marker-assisted breeding for *TaALMT1*, a major gene conferring aluminium (Al<sup>3+</sup>) tolerance in wheat (*Triticum aestivum* L.). *Biologia Plantarum* 59: 83-91 (ISI, Impact factor 1.665).
13. **Inostroza-Blancheteau C\***, Reyes-Díaz M, Arellano A, Latsague M, Acevedo P, Loyola R, Arce-Johnson P, Alberdi M. 2014. Effects of UV-B radiation on anatomical characteristics, phenolic compounds and gene expression of the phenylpropanoid pathway in highbush blueberry leaves. *Plant Physiology and Biochemistry* 85: 85-95 (ISI, Impact factor 2.756).
12. Nunes-Nesi A, Brito DS, **Inostroza-Blancheteau C**, Fernie AR, Araújo WL. 2014. The complex role of mitochondrial metabolism in plant aluminum resistance. *Trends in Plant Science* 19 (6): 399-407. (ISI, Impact factor 12.929).
11. Rojas-Lillo Y, Reyes-Díaz M, Acevedo P, **Inostroza-Blancheteau C**, Alberdi M, Mora ML. 2014. Manganese toxicity and UV-B radiation differentially influence physiology and biochemistry of highbush blueberry (*Vaccinium corymbosum* L.) cultivars. *Functional Plant Biology* 41 (2): 156-167. (ISI, Impact factor 3.145).

10. Ribera A, **Inostroza-Blancheteau C**, Cartes P, Rengel Z, Mora ML. 2013. Early induction of Fe-SOD gene expression is involved in tolerance to Mn toxicity in perennial ryegrass. *Plant Physiology and Biochemistry* 73: 77-82 (ISI, Impact factor 2.352).
9. **Inostroza-Blancheteau C**, Aquea F, Loyola R, Slovin J, Josway S, Renge Z, Reyes-Díaz M, Alberdi M, Arce-Johnson P. 2013. Molecular characterization of a calmodulin gene, *VcCaM1*, that is differentially expressed under aluminum stress in highbush blueberry. *Plant Biology* 15 (6): 1013-1018. (ISI, Impact factor 2.405).
8. **Inostroza-Blancheteau C**, Reyes-Díaz M, Alberdi M, Godoy K, Rojas-Lillo Y, Cartes P, Mora ML. 2013. Influence of selenite on selenium uptake, differential antioxidant performance and gene expression of sulfate transporters in wheat genotypes. *Plant and Soil* 369 (1-2): 47-59. (ISI, Impact factor 3.235).
7. Álvarez Viveros MF, **Inostroza-Blancheteau C**, Timmermann T, González M, Arce-Johnson P. 2013. Overexpression of *GlyI* and *GlyII* genes in transgenic tomato (*Solanum lycopersicum* Mill.) plants confer salt tolerance decreasing oxidative stress. *Molecular Biology Reports* 40 (4): 3281-3290 (ISI, Impact factor 1.958).
6. **Inostroza-Blancheteau C**, Rengel Z, Alberdi M, Mora ML, Aquea F, Arce-Johnson P, Reyes-Díaz M. 2012. Molecular and physiological strategies to increase aluminum resistance in plants. *Molecular Biology Reports* 39 (3): 2069-2079. (ISI, Impact factor 2.506).
5. **Inostroza-Blancheteau C**, Reyes-Díaz M, Aquea F, Nunes-Nesi A, Alberdi M, Arce-Johnson P. 2011. Biochemical and molecular changes in response to aluminum-stress in highbush blueberry (*Vaccinium corymbosum* L.). *Plant Physiology and Biochemistry* 49 (9): 1005-1012. (ISI, Impact factor 2.838).
4. **Inostroza-Blancheteau C**, Aquea F, Reyes-Díaz M, Alberdi M, Arce-Johnson P. 2011. Identification of aluminum-regulated genes by cDNA-AFLP of root in two contrasting genotypes of highbush blueberry (*Vaccinium corymbosum* L.). *Molecular Biotechnology* 49 (1): 32-41. (ISI, Impact factor 2.171).
3. Reyes-Díaz M, **Inostroza-Blancheteau C**, Millaleo M, Cruces E, Wulff-Zottele C, Alberdi M, and Mora ML. 2010. Long-term aluminium toxicity effects on leaf physiological and biochemical phenotypes of blueberry cultivars (*Vaccinium corymbosum* L.). *Journal of the American Society for Horticultural Science*, 135 (3): 212-222. (ISI, Impact factor 1.009).
2. **Inostroza-Blancheteau C**, Soto B, Ibáñez C, Ulloa P, Aquea F, Arce-Johnson P, Reyes-Díaz M. 2010. Mapping of aluminum tolerance loci in cereals: Tool available for crop breeding. *Electronic Journal of Biotechnology*, 13 (4): 1-12. (ISI, Impact factor 0.928).
1. **Inostroza-Blancheteau C**, Soto B, Ulloa P, Aquea F and Reyes-Díaz M. 2008. Resistance mechanisms of aluminum ( $Al^{3+}$ ) phytotoxicity in cereals: Physiological, genetic and molecular bases. *Journal of Soil Science and Plant Nutrition*, 8 (3): 57-71. (ISI, Impac factor: 0.596).

## BOOKS AND CHAPTER BOOKS

1. Tighe-Neira R, Alberdi Miren, Arce-Johnson P, Romero J, Reyes-Díaz M, Rengel Z, **Inostroza-Blancheteau C\***. 2018. Role of potassium in governing photosynthetic processes and plant yield. Chapter 8. In: Plant Nutrients and Abiotic Stress Tolerance. Hasanuzzaman M, Fujita M, Oku H, Nahar K, Hawrylak-Nowak B (Eds). Springer, DOI: 10.1007/978-981-10-9044-8\_8.
2. **Inostroza-Blancheteau C\***, Reyes-Díaz M, Ibañez C, Rengel Z, Moraga F, Aquea F. 2017. Genetic engineering for nutrient manipulation in plants. Chapter 17, Ansari AA, Gill SS and Naeem M (Eds): Plant Nutrients: Essentiality, Availability, Applications, Management and Control. Springer, DOI: 10.1007/978-3-319-58841-4\_17. ISBN 978-3-319-58840-7.
3. Tighe R, Alberdi M, Arce-Johnson P, Jesús Romero, Reyes-Díaz M, **Inostroza-Blancheteau C\***. 2017. Food with functional properties and their potential use in human health. Chapter 9. In: Superfood and functional food - An overview of their processing and utilization. Viduranga Waisundara and Naofumi Shiomi (Eds). InTech, DOI: 10.5772/67077. ISBN 978-953-51-5020-6. 354 pp.
4. Peña D, **Inostroza-Blancheteau C**, Ribera-Fonseca Alejandra and Reyes-Diaz M. 2017. Anthocyanins in berries and their potential use in human health. Chapter 8. In: Superfood and Functional Food - The development of superfoods and their roles as medicine. Naofumi Shiomi and Viduranga Waisundara (Eds). InTech, DOI: 10.5772/67104. ISBN 978-953-51-5020-6. 254 pp.
5. Reyes-Díaz M, **Inostroza-Blancheteau C**, Rengel Z. 2015. Transcriptional regulation under aluminum toxicity in woody plants species. Chapter 10. In: Signaling, Communication in Plants, Vol. 24, Sanjib Kumar Panda and František Baluška (Eds): Aluminum Stress Adaptation in Plants. Springer. DOI 10.1007/978-3-319-19968-9. ISBN 978-3-319-19967-2

## OTHER PUBLICATIONS (Reports)

1. **Inostroza-Blancheteau C**, González-Villagra J. 2020. Boro: Un micronutriente crucial para el desarrollo de las plantas y calidad de la fruta es especies hortofrutícolas. Revista Campo & Tecnología 16: 26-29.
2. González-Villagra J, **Inostroza-Blancheteau C**. 2020. Ácido Salicílico: Hormona vegetal involucrada en la tolerancia al estrés hídrico en cultivos frutícolas. Revista Campo & Tecnología 16: 30-33.
3. **Inostroza-Blancheteau C**, Velásquez Briceño A. 2019. Fruticultura en el Sur de Chile en un contexto de cambio climático. Revista Innovagro 10: 4. ISSN 0719-4358.
4. **Inostroza-Blancheteau C**, Carcamo-Fincheira P, Poblete R. 2019. Recambio varietal en arándano: Una necesidad para mantener la rentabilidad del cultivo. Revista Campo & Tecnología 12: 18-20.

5. **Inostroza-Blancheteau C**, Tighe R. 2018. Aplicaciones de la nanotecnología: Nanomateriales manufacturados en la agricultura. *Revista Campo & Tecnología* 9: 24-26.
6. Velásquez Briceño A, **Inostroza-Blancheteau C**, Alarcón Barrientos T, Rivero J, Arias Inostroza R, Chacón Fuentes M. 2017. Análisis bromatológico y fitoquímico de especies vegetales nativas recolectadas en la región de La Araucanía. *Revista Innovagro* 3: 20-23. ISSN 0719-4358.
7. **Inostroza-Blancheteau C**. 2017. Rol del metabolismo mitocondrial y su relación con la fotosíntesis y la resistencia a aluminio ( $Al^{3+}$ ) en arándano alto cultivado en el sur de Chile. *Revista Innovagro* 8: 15-18. ISSN 0719-4358.
8. **Inostroza-Blancheteau C**. 2017. Toxicidad por aluminio en arándanos cultivados en el Sur de Chile: Rol del metabolismo mitocondrial sobre la resistencia a  $Al^{3+}$  y su relación con la fotosíntesis. *Revista Campo & Tecnología* 6: 53-54.
9. **Inostroza-Blancheteau C**, Reyes-Díaz M, Alberdi M. 2013. Arándanos cultivados en el Sur de Chile: Toxicidad por aluminio ( $Al^{3+}$ ) y manganeso ( $Mn^{2+}$ ). *Revista Berries and Cherries* 21:19-24.
10. **Inostroza-Blancheteau C**, Reyes-Díaz M, Alberdi M. 2012. Aspectos fisiológicos, bioquímicos y moleculares de la toxicidad por aluminio ( $Al^{3+}$ ) en arándano cultivados en el Sur de Chile. *Revista Innovagro* 3: 20-23. ISSN 0719-4358.
11. **Inostroza-Blancheteau C**, Reyes-Díaz M, Alberdi M, Mora ML. 2008. Effect of the aluminum ( $Al^{3+}$ ) toxicity on the lipid peroxidation, and antioxidant activity in blueberry *Vaccinium corymbosum* L. Session 3, Soil-Root-Microbe Interaction & Their Effects on Biophysical Transformation, Fate, and Toxicity of Metal and Metalloids. *J. Soil Sci. Plant Nutr.* 8 (3): 219.
12. Tighe R, **Inostroza-Blancheteau C**. 2009. Collecting and Observing Nature. In: *The Engineering of Nature and the Life*. Explora-Conicyt, Government of Chile. Press G.O. Design, Santiago, Chile, pp. 7-50.

## RESEARCH PROJECTS

2020-2024. Proyecto: Role of boron nutrition and its association with aluminum toxicity on productivity and fruit quality of *Vaccinium corymbosum* L. grown in acid soils of southern Chile. FONDECYT-REGULAR 1201749. (Investigador Principal).

2019-2020. Proyecto: Estrategias para el uso eficiente del agua en áreas verdes urbanas. Concurso Interno de Proyectos de Investigación 2019. Línea Regular VIPUCT2019REG-JJ-03 (Investigador Asociado).

2019-2020. Proyecto: Programa de investigación en alimentos funcionales. Entendiendo los mecanismos de biofortificación bacteria-fruto. Concurso Interno de Proyectos de Investigación 2019. Programas de Investigación VIPUCT2019PRO-SV-05 (Director Alterno).



2018-2019. Proyecto AGRICOCH: Desarrollo de nuevas tijeras de podar con dosificador de pastapoda, para mejorar la salud de las plantas, a través de la prevención de contagio de patógenos. Octavo Concurso de Valorización de la Investigación en la Universidad 2018. Fondo de Fomento al Desarrollo Científico y Tecnológico, FONDEF, de CONICYT" FONDEF-VIU18P0063. (Profesor Patrocinante).

2018-2019. Proyecto: Colaboración científica de alto impacto mediante técnicas avanzadas, medición de intercambio de CO<sub>2</sub> a través de análisis infrarrojo (IRGA), para integrar investigaciones interdisciplinarias en el área de relación suelo-planta. Concurso Interno de Proyectos de Investigación 2018. Fondo de Financiamiento para Equipamiento (FEQUIP). FEQUIP2018-CI-04. (Director).

2017-2020. Proyecto: Phytohormones and its association with resistance mechanisms of Al and Mn toxicity in highbush blueberry cultivars growing in acid soil: A strategy for improving yield and quality of plants. FONDECYT-REGULAR 1171286. (Co-Investigador)

2016-2019. Proyecto: The role of mitochondrial metabolism and its relation with photosynthesis and aluminum resistance (Al<sup>3+</sup>) in highbush blueberry (*Vaccinium corymbosum* L.) grown in acid soil of southern Chile. FONDECYT INICIACIÓN 11160355. (Investigador Principal).

2016-2018. Proyecto: Suelo ácido en el Sur de Chile y su efecto sobre el metabolismo primario de las plantas. Concurso Nacional de Atracción de Capital Humano Avanzado del Extranjero, Modalidad de Estadías Cortas (MEC). Institución Asociada. PAI80160036. (Investigador Asociado).

2016-2018. Proyecto Interno: Concurso Línea Grupos de Investigación 2016 (Grupo de Investigación Bio-Nanomateriales), VIPUCT201GI-CI-01 (Director).

2014-2017. Proyecto: Role of magnesium nutrition and manganese excess on productivity and quality of *Lolium perenne* L. grown in acid soils of southern Chile. FONDECYT REGULAR 1141250. (Co-Investigador).

2013-2014. Proyecto Interno: Fondo de Financiamiento para la Creación de Programas de Doctorado. VRA-DGIP-UCT-2013. (Investigador Participante).

2012-2014. Proyecto: Impacto de la radiación UV-B sobre la expresión genes antioxidantes y compuestos fotoprotectores en arándanos cultivados en el sur de Chile. FONDECYT-POSDOCTORAL 3120248. (Investigador Principal).

2010-2013. Proyecto: Crop rhizospher mangement in acid Andisoils of Southern Chile for improving plant nutrition and food quality. FONDECYT REGULAR 1100625. (Investigador Asistente).

2008-2010. Proyecto: Factores ambientales del Sur de Chile que regulan el crecimiento y la calidad de *Vaccinium corymbosum* L.: Efecto de la acidez del suelo y la radiación UV-B sobre la capacidad fotosintética y antioxidante de arándano alto. FONDECYT REGULAR 1080372. (Tesis Doctoral).

2008-2010. Proyecto: Factores ambientales del Sur de Chile que regulan el crecimiento y la calidad de *Vaccinium corymbosum* L.: Efecto de la acidez del suelo y la radiación UV-B sobre la capacidad fotosintética y antioxidante de arándano alto. FONDECYT REGULAR 1080372. (Ayudante de Investigación, hasta octubre 2008).

2007-2008. Proyecto: Respuestas fisiológicas frente al efecto combinado de radiación UV-B y estrés por aluminio en *Ugni molinae* Turcz y *Vaccinium corymbosum* L. en los suelos ácidos del sur de Chile. Bicentenario-CONICYT PSD-26. (Investigador Colaborador).

2005-2007. Proyecto: Características fisiológicas de Proteáceas que explicarían la capacidad de colonizar diferentes tipos de hábitats en el bosque templado del Sur de Chile. FONDECYT REGULAR 1050640. (Ayudante de Investigación).

2007-2008. Proyecto: Descubriendo las potencialidades que presenta la naturaleza, desarrollando ciencia y tecnología en escuelas rurales de la Novena Región. XI Concurso Nacional de Proyectos de Divulgación y Valoración de la Ciencia y la Tecnología. Programa EXPLORA-CONICYT ED11/072. (Profesional Coordinador).

2000-2004. Proyecto: Domesticación adicional de *Lupinus angustifolius*: Estimación de heredabilidad de la proporción de pared de la vaina, del grosor de la cubierta seminal y del peso del grano, y selección recurrente para estos caracteres. FONDECYT REGULAR 1000609. (Práctica Profesional).

## PRESENTATION AT NATIONAL/INTERNATIONAL CONGRESSES

### INTERNATIONAL CONGRESS

39. Tighe-Neira R, Reyes-Díaz M, Carmona-Ortiz E, Recio-Sanchez G, Nunes-Nesi A, **Inostroza-Blancheteau, C.** Titanium dioxide nanoparticles increase the photosynthetic performance, but not the antioxidant system in *Solanum lycopersicum* L. 2019. In XVIII National Plant Biochemistry and Molecular Biology Congress, XI Symposium México-USA & 1st ASPB Mexico Section Meeting, 28 – 31 october, Mérida, Yucatán, México.

38. Reyes-Díaz M, Cáceres-Gómez C, Altamirano-Sarabia K, Godoy C, Alberdi M, **Inostroza-Blancheteau C,** Gonzalez-Villagra J, Luengo-Escobar A. Impact of exogenously applied MeJA on stomata density and photosynthetic performance in two *Vaccinium corymbosum* L. cultivars under aluminum and manganese toxicity. 2019. In 6th International Horticulture Research Conference, september 30<sup>th</sup> - october 5<sup>th</sup>, Venice, Italy.

37. Cárcamo-Fincheira P, Reyes-Díaz M, Omena-García R, Nunes-Nesi A, **Inostroza-Blancheteau C.** Impact of aluminum (Al<sup>3+</sup>) on tricarboxylic acids cycle and its relationship with resistance mechanisms in Al-contrast genotypes of highbush blueberry (*Vaccinium corymbosum* L.). 2019. In 6th International Horticulture Research Conference, september 30<sup>th</sup> - October 5<sup>th</sup>, Venice, Italy.

36. Tighe-Neira R, Reyes-Díaz M, Nunes-Nesi A, Recio G, Carmona E, **Inostroza-Blancheteau C**. Impacts of titanium dioxide particles on photosynthetic performance and antioxidant system in *Raphanus sativus*. 2018. In 2nd Global Conference on Plant Science and Molecular Biology, september 20-22, Rome, Italy.
35. Cárcamo-Fincheira Paz, Reyes-Díaz M, Alberdi M, Nunes-Nesi A, Omena-García R, **Inostroza-Blancheteau C**. Aluminum toxicity differentially affects carbohydrates concentration in *Vaccinium corymbosum* L. cultivars. 2018. 2nd Global Conference on Plant Science and Molecular Biology, september 20-22 at Rome, Italy.
34. Cárcamo-Fincheira P, Reyes-Díaz M, Alberdi M, Omena-García R, Nunes-Nesi A, **Inostroza-Blancheteau C**. Ascorbic acid and its role in the photosynthesis and aluminum toxicity in highbush blueberry (*Vaccinium corymbosum* L.). 2018. In XXXII Reunión Argentina/XVI Congreso Latinoamericano de Fisiología Vegetal, november 11-15, Universidad Nacional de Córdoba, Córdoba, Argentina.
33. Tighe-Neira R, Reyes-Ríaz M, Carmona-Ortiz E, Recio-Sanchez G, Corgne A, Jones W, Nunes-Nesi A, **Inostroza-Blancheteau C**. Translocation of TiO<sub>2</sub> nanoparticles and antioxidant system response in *Solanum lycopersicum* L. 2018. In XXXII Reunión Argentina/XVI Congreso Latinoamericano de Fisiología Vegetal, november 11-15, Universidad Nacional de Córdoba, Córdoba, Argentina.
32. Calderón-Reyes C, Cáceres-Gómez C, Pincheira-Abarzúa M, Godoy-Durán R, Alberdi M, **Inostroza-Blancheteau C**, Reyes-Díaz M. Manganese (Mn) toxicity differentially affects growth and oxidative stress of highbush blueberry (*Vaccinium corymbosum* L.) cultivars. 2018. In XXXII Reunión Argentina/XVI Congreso Latinoamericano de Fisiología Vegetal, november 11-15, Universidad Nacional de Córdoba, Córdoba, Argentina.
31. Cárcamo-Fincheira P, Reyes-Díaz M, Alberdi M, Nunes-Nesi A, Omena-García R, **Inostroza-Blancheteau C**. Malate dehydrogenase and its relationship with aluminum stress in highbush blueberry (*Vaccinium corymbosum* L.). 2018. XXXII Reunión Argentina de Fisiología Vegetal/XVI Congreso Latinoamericano de Fisiología Vegetal. Universidad Nacional de Córdoba, 11 al 15 de noviembre, Córdoba, Argentina.
30. Calderón-Reyes C, Godoy-Durán R, Pincheira-Abarzúa M, **Inostroza-Blancheteau C**, Alberdi M, Nunes-Nesi A, Reyes-Díaz M. Effect of manganese (Mn) toxicity on physiological and biochemical features of *Vaccinium corymbosum* L. Blueberry cultivar Camellia. 2017. In 6<sup>th</sup> International Workshop, Advances in Science and Technology of Bioresources, Universidad de La Frontera, november 29-30 and december 1, Pucón, Chile.
29. Tighe-Neira R, Reyes-Díaz M, Carmona-Ortiz E, Recio-Sanchez G, **Inostroza-Blancheteau C**. Short-term effect of titanium dioxide nanoparticles (TiO<sub>2</sub> NPs) on physiological performance, oxidative damage and antioxidant system in *Raphanus sativus* L. 2017. In 6th International

Workshop, Advances in Science and Technology of Bioresources, Universidad de La Frontera, november 29-30 and december 1, Pucón, Chile.

28. Cárcamo-Fincheira P, Reyes-Díaz M, Tighe-Neira R, **Inostroza-Blancheteau C**. Short-term evaluation of aluminum toxicity in highbush blueberry (*Vaccinium corymbosum* L.) cultivar "Camellia". 2017. In 6th International Workshop, Advances in Science and Technology of Bioresources, Universidad de La Frontera, november 29-30 and december 1, Pucón, Chile.

27. Tighe-Neira R, Reyes-Díaz M, Carmona-Ortiz E, Recio-Sanchez G, **Inostroza-Blancheteau C**. Effect of TiO<sub>2</sub> nanoparticles on photosynthesis and photosynthetic pigments in *Raphanus sativus* L. 2017. XVI Congresso Brasileiro de Fisiologia Vegetal, september 24-28, Sao Pedro, Sao Paulo, Brasil.

26. Tighe-Neira R, Reyes-Díaz M, Carmona-Ortiz E, Recio-Sanchez G, **Inostroza-Blancheteau C**. Impact of TiO<sub>2</sub> nanoparticles on antioxidant system and oxidative stress in *Raphanus sativus* L. 2017. XVI Congresso Brasileiro de Fisiologia Vegetal, september 24-28, Sao Pedro, Sao Paulo, Brasil.

25. Reyes-Díaz M, **Inostroza-Blancheteau C**, Cartes P, Berríos G, Deppe M, Demanet R, Alberdi M. Relationship between manganese and magnesium and their effects on two contrasting Mn-resistance perennial ryegrass genotypes. 2017. 18<sup>th</sup> International Plant Nutrition Colloquium, Plant nutrition for global green growth, University of Copenhagen, august 21-24, Copenhagen, Denmark.

24. **Inostroza-Blancheteau C**, Huiquian M, Reyes-Díaz M, Berríos G, Deppe Mariana, Demanet R, Alberdi M. Manganese and magnesium interaction on ryegrass cultivars: effect of their concentrations on antioxidant responses. 2016. XXXI Reunión Argentina de Fisiología Vegetal, Universidad Nacional del Nordeste, november 13-16, Corrientes, Argentina.

23. Reyes-Díaz M, **Inostroza-Blancheteau C**, Berríos G, Deppe M, Demanet R, Alberdi M. Manganese excess and its relationship with nutrient concentrations and *Nramp* gene expression in ryegrass roots. 2016. XXXI Reunión Argentina de Fisiología Vegetal, Universidad Nacional del Nordeste, november 13-16, Corrientes, Argentina.

22. **Inostroza-Blancheteau C**, Reyes-Díaz M, Berríos G, Deppe M, Demanet R, Alberdi M. Effects of manganese excess on photosynthetic performance in ryegrass cultivars. 2015. In 5<sup>th</sup> International Workshop, Advances in Science and Technology of Bioresources, Universidad de La Frontera, december 2-4, Pucón, Chile.

21. Berríos G, Reyes-Díaz M, **Inostroza-Blancheteau C**, Deppe M, Demanet R, Alberdi M. Physiological and biochemical features of perennial ryegrass cultivars grown under increased magnesium doses at low pH conditions. 2015. In 5<sup>th</sup> International Workshop, Advances in Science and Technology of Bioresources, Universidad de La Frontera, december 2-4, Pucón, Chile.

20. **Inostroza-Blancheteau C**, Reyes-Díaz M, Berríos G, Deppe M, Demanet R, Alberdi M. Physiological and biochemical response to manganese excess in ryegrass cultivars. 2015. In

International Conference “Plant Abiotic Stress Tolerance III”. Vienna International Science Conferences and Events Association. June 29- July 01, Vienna, Austria.

19. Berríos G, Jiménez D, Cerda Y, Soto M, Reyes-Díaz M, **Inostroza-Blancheteau C**, Deppe M, Demanet R, Alberdi M. Evaluation to manganese toxicity of perennial ryegrass cultivars grown under acid conditions. 2014. In 2nd International Symposium, “Soil, Plant and Microorganism”. Universidad de La Frontera, 24-26 november, Pucón, Chile.

18. **Inostroza-Blancheteau C**, Reyes-Díaz M, Parra-Almuna L, Paredes C, Mora ML. Interactive effect of selenite and phosphorus on lipid peroxidation and expression of phosphate transporter genes in wheat (*Triticum aestivum* L.). 2014. In 2nd International Symposium, “Soil, Plant and Microorganism”. Universidad de La Frontera, 24-26 november, Pucón, Chile.

17. **Inostroza-Blancheteau C**, Reyes-Díaz M, Musante F, Acevedo P, Alberdi M. UV-Sunscreens effects on physiological and biochemical responses in highbush blueberry grown in field conditions. 2014. In Plant Biology Europe, FESPB/EPSO 2014 Congress. June 22<sup>nd</sup>-26<sup>th</sup>, Dublin, Ireland.

#### **NATIONAL CONGRESS**

16. Cárcamo-Fincheira P, Reyes-Díaz M, Nunes-Nesi A, **Inostroza-Blancheteau C**. Caracterización metabólica de ecotipos de maqui blanco y maqui negro (*Aristotelia chilensis* [Mol.] Stuntz) de la Región de La Araucanía. 2020. En LXX Congreso Agronómico de Chile, 7-9 enero, Facultad de Agronomía e Ingeniería Forestal, Pontificia Universidad Católica de Chile, Santiago, Chile.

15. Reyes-Díaz M, Pino-Jaramillo R, González-Villagra J, Ribera-Fonseca A, Cartes P, **Inostroza-Blancheteau C**, Luengo-Escobar A. Jasmonato de metilo como una herramienta para mejorar la productividad y calidad de fruta de arándano (*Vaccinium corymbosum* L.) cv. Legacy. 2020. En LXX Congreso Agronómico de Chile, 7-9 enero, Facultad de Agronomía e Ingeniería Forestal, Pontificia Universidad Católica de Chile, Santiago, Chile.

14. Cárcamo-Fincheira P, Reyes-Díaz M, Nunes-Nesi A, Omena-García R, **Inostroza-Blancheteau C**. Ciclo de los ácidos tricarbóxicos y su relación con el desempeño fotosintético y el contenido de ascorbato en genotipos Al-contrastante de arándano alto. 2020. En LXX Congreso Agronómico de Chile, 7-9 enero, Facultad de Agronomía e Ingeniería Forestal, Pontificia Universidad Católica de Chile, Santiago, Chile.

13. Tighe-Neira R, Reyes-Díaz M, Nunes-Nesi A, Carmona-Ortiz E, Recio-Sánchez G, **Inostroza-Blancheteau C**. Nanopartículas y micropartículas de dióxido de titanio (TiO<sub>2</sub>) provocan disminución de la fotosíntesis e incremento del uso eficiente del agua en *Solanum lycopersicum* L. 2020. En LXX Congreso Agronómico de Chile, 7-9 enero, Facultad de Agronomía e Ingeniería Forestal, Pontificia Universidad Católica de Chile, Santiago, Chile.

12. Cárcamo-Fincheira P, Reyes-Díaz M, Nunes-Nesi A, Omena-García R, **Inostroza-Blancheteau C**. Efecto de la toxicidad por aluminio sobre el desempeño fotosintético en cultivares aluminio

contrastantes de arándano alto (*Vaccinium corymbosum* L.) en un experimento de tiempo largo. 2019. En IV Congreso Chileno de Berries, 2-4 octubre, Valdivia, Chile.

11. Cárcamo-Fincheira P, Soto-Cerda B, Quian-Ulloa R, **Inostroza-Blancheteau C**. Effect of aluminum toxicity ( $Al^{3+}$ ) on radical growth, oxidative damage and antioxidant metabolism on flax (*Linum usitatissimum* L.). 2017. X Plant Biology Meeting, 4 to 7 december, Villarrica, Chile.

10. Cárcamo-Fincheira P, Jara M, **Inostroza-Blancheteau C**. Characterization of antioxidant metabolism in two wild types of Maqui *Aristotelia chilensis* (Mol.) Stuntz. 2016. In XI Reunión de Biología Vegetal, 28 de noviembre al 01 de diciembre, Chillán, Chile.

9. Tighe-Neira R, Leonelli-Cantergiani G, Días-Harris R, Claverie-Burgos L, Catribil-Linconao S, **Inostroza-Blancheteau C**. Evaluación de extractos acuoso y metanólico de *Ulex europaeus* L., sobre la germinación y crecimiento de *Lolium multiflorum* L. 2016. En 67° Congreso Agronómico de Chile, Facultad de Ciencias Agronómicas, Universidad de Chile, 29 de noviembre al 02 de diciembre, Santiago, Chile.

8. Leiva-Ampuero A, Stange Klein C, **Inostroza-Blancheteau C**, Reyes-Díaz M, Vega A. Effect of long-term salinity stress on carotenoid biosynthesis in *Solanum lycopersicum* fruits. 2015. X Plant Biology Meeting, december 1-4, Valdivia, Chile.

7. Morales P, Reyes-Díaz M, Acevedo P, Alberdi M, **Inostroza-Blancheteau C**. Influencia de la radiación ultravioleta en el metabolismo secundario de frutos de arándano alto (*Vaccinium corymbosum* L.) 2015. En II Congreso Chileno de Berries, 13-14 agosto, Temuco, Chile.

6. Escobar B, Obando V, Carmona ER, **Inostroza-Blancheteau C**. Potencial genotóxico de nanopartículas de óxido de cobre en células somáticas de *Drosophila melanogaster*. 2014. En I Congreso de Toxicología, 10-14 noviembre, Santiago, Chile.

5. Escobar B, Obando V, Carmona ER, **Inostroza-Blancheteau C**. Estudio antigenotóxico de plantas medicinales *Cryptocarya alba* (Molina) Looser, *Peumus boldus* Molina y *Buddleja globosa* Hope a través del ensayo SMART en alas de *Drosophila melanogaster*. 2014. En I Congreso de Toxicología, 10-14 noviembre, Santiago, Chile.

4. **Inostroza-Blancheteau C**, Reyes-Díaz M, Fabiola Durán, Solano J, Silva FMO, Nunes-Nesi A. A metabolomic approach to study the native potatoes (*Solanum tuberosum* spp. *tuberosum*) grown in southern Chile. 2014. In IX Reunión de Biología Vegetal, 1-4 diciembre, La Serena, Chile.

3. Cerda Y, Millaleo R, **Inostroza-Blancheteau C**, Mariana Deppe, Rolando Demanet, Miren Alberdi M, Reyes-Díaz M. Short-term assessment of Mn tolerance of ryegrass cultivars under acidic conditions. 2014. In IX Reunión de Biología Vegetal, 1-4 diciembre, La Serena, Chile.

2. Jiménez D, Reyes-Díaz M, **Inostroza-Blancheteau C**, Deppe M, Demanet R, Alberdi M. Ryegrass physiological and biochemical responses to increasing Manganese (Mn) doses under acid

conditions. 2014. En LVII Reunión de la Sociedad de Biología de Chile, 25-27 noviembre, Puerto Varas, Chile.

1. **Inostroza-Blancheteau C**, Reyes-Díaz M, Musante F; Acevedo P, Alberdi M. UV-Sunscreen effects on the photochemical features and oxidative stress in highbush blueberry under field conditions. 2014. En LVII Reunión de la Sociedad de Biología de Chile, 25-27 noviembre, Puerto Varas, Chile.

\*36 National and International congresses were held between 2005 and 2013.

## **ACADEMIC ACTIVITIES**

### **Undergraduate courses:**

2018 to date: AGRO1148, Plant Physiology.

2018 to date: AGRO1162, Fruit Production I.

2017: AGRO1176, Fruit Production II.

### **Postgraduate courses:**

2017 to date: DCA3109, Research Advances.

2017 to date: DCA3107, Thesis Project.

2016 to date: DCA3106, Research Unit.

2016 to date: DCA3209, Biochemistry and Stress Response Mechanisms in Plants.

2015 to date: DCA3105, Seminary.

2015 to date: DCA3230, Plant Biotechnology.

2015 to date: DCA3202, Advanced Plant Physiology.

2015 to date: DCA3102, Agricultural Production Systems.

2013: AGRM2513, Plant Biotechnology.

## **SUPERVISOR OF GRADUATE AND UNDERGRADUATE THESIS**

### **Doctoral Thesis Supervisor:**

2017 to date: Paz Cárcamo Fincheira, Doctoral Thesis: "Malate dehydrogenase (MHD) and its relationship with photosynthetic activity, organic acid exudation and resistance to aluminum ( $Al^{3+}$ ) in Al-contracting genotypes of high blueberry (*Vaccinium corymbosum* L.)". Doctorate Program in Agricultural Sciences, Faculty of Natural Resources, Universidad Católica de Temuco, Temuco, Chile.

2018 to date: Ricardo Tighe Neira, Doctoral Thesis: "Evaluation of the effect of TiO<sub>2</sub> nanoparticles on the efficiency of photosynthesis at the metabolic and molecular level in *Solanum lycopersicum*". Doctorate Program in Agricultural Sciences, Faculty of Natural Resources, Universidad Católica de Temuco, Temuco, Chile.

2014 to date: Dr. Inostroza-Blancheteau, participates in several committees that evaluate Doctoral Thesis.

#### **Undergraduate Thesis Supervisor:**

2019-2020. María Ignacia Silva, Agricultural Engineer Thesis, "Efecto de nanoparticulas de dióxido de titanio (NPs TiO<sub>2</sub>) sobre el desempeño fisiológico y metabolismo antioxidante en tomate (*Solanum lycopersicum* L.)". Department of Agricultural Sciences and Aquaculture, Faculty of Natural Resources, Universidad Católica de Temuco, Temuco, Chile. Grade Exam 04/06/2020.

2018-2020. Tania González Mourguet, Agricultural Engineer Thesis, "Evaluation of high and low density plastic covers on photosynthesis and antioxidant system in high blueberry (*Vaccinium corymbosum* L.)", Department of Agricultural Sciences and Aquaculture, Faculty of Natural Resources, Universidad Católica de Temuco, Temuco, Chile. Grade Exam 17/04/2020.

2018-2019. Brenda Hetz Huenchullán, Agricultural Engineer Thesis, "AGRICOCCH: Development of a pruning paste dosing device for scissors, which improves the health of plants, through the prevention of pathogen contagion", Department of Agricultural Sciences and Aquaculture, Faculty of Natural Resources, Universidad Católica de Temuco, Temuco, Chile. Grade Exam 13/12/2019.

2018-2019. Valentina Figueroa Boggie, Agricultural Engineer Thesis, "Effect of aluminum nanoparticles on photosynthetic performance and antioxidant system in perennial ballica (*Lolium perenne* L.), Department of Agricultural Sciences and Aquaculture, Faculty of Natural Resources, Universidad Católica de Temuco, Temuco, Chile. Grade Exam 07/05/2019.

2017-2018. Jairo Carbajal Araneda, Agricultural Engineer Thesis, "Agroecological management evaluation on vigor and antioxidant metabolism in white strawberry (*Fragaria chiloensis* L. Duch.) in the Purén Commune, Araucanía Region, Department of Agricultural Sciences and Aquaculture, Faculty of Natural Resources, Universidad Católica de Temuco, Temuco, Chile. Grade Exam 26/12/2018.

2016-2017. Nicole Waisser Gutierrez, Agricultural Engineer Thesis, "Effect of excess manganese (Mn) on the physiological and biochemical characteristics of perennial ballica (*Lolium perenne* L.), in nutrient solution", Escuela de Agronomía, Facultad de Recursos Naturales, Universidad Católica de Temuco, Temuco, Chile. Grade Exam 20/12/2017.

2013-2014. Pamela Morales Muñoz, Agricultural Engineer Thesis, "Effects of UV radiation on antioxidant metabolism and soluble solids in the fruits of two blueberry cultivars (*Vaccinium corymbosum* L.)", School of Agronomy, Faculty of Natural Resources, Universidad Católica de Temuco, Temuco, Chile. Grade Exam 07/08/2015.

2013-2014. Francisco Musante, Agricultural Engineer Thesis, "Effects of UV filters on biochemical and molecular responses in high blueberry (*Vaccinium corymbosum* L.), grown in field conditions",



School of Agronomy, Faculty of Natural Resources, Universidad Católica de Temuco, Temuco, Chile. Grade Exam 29/12/2014.

2012-2013. Fabiola Duran, Agricultural Engineer Thesis, "Characterization of the antioxidant metabolism of the skin and the pulp in native potato varieties (*Solanum tuberosum* ssp. *tuberosum* L.), cultivated in southern Chile", School of Agronomy, Faculty of Natural Resources, Universidad Católica de Temuco, Temuco, Chile. Grade Exam 05/11/2014.

2012-2013. Alejandro Arellano, Agricultural Engineer Thesis, "Impact of UV-B radiation on antioxidant metabolism and gene expression of the felipropanoid pathway in high blueberry (*Vaccinium corymbosum* L.)", School of Agronomy, Faculty of Natural Resources, Universidad Católica de Temuco, Temuco, Chile. Grade Exam 29/08/2014.

### **Outreach activities**

2008: Collaboration in activity "Casa Abierta" of the EXPLORA-CONICYT Program. Universidad de La Frontera, Temuco, Chile.

2012 to date: Participation in "Jornadas de Extensión Agrícola" of Department of Agricultural Science and Aquaculture, Natural Resources Faculty, Universidad Católica de Temuco, Temuco, Chile.

2012 to date: Participation in "Jornadas de Investigación" of Department of Agricultural Science and Aquaculture, Natural Resources Faculty, Universidad Católica de Temuco, Temuco, Chile.

### **Awards and Distinctions**

2009-2011: Doctoral CONICYT fellowship, Gobierno de Chile, Comisión Nacional de Investigación Científica y Tecnológica.

2010: MECESUP-FRO0601 Fellowship for intership in Dr. Janet Slovin, Genetic Improvement of Fruits and Vegetables Laboratory of United States Department of Agriculture Agricultural Research Service Henry A. Wallace Beltsville Plant Sciences Institute. Baltimore, Maryland, USA.