

Chile

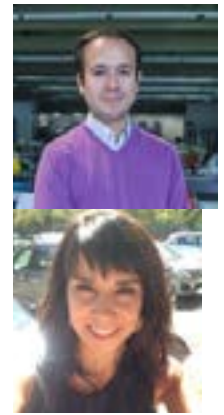
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Please provide a paragraph describing the general impact of the COVID19 pandemic on the scientific community in your country

The COVID19 pandemic has had a great impact on Chilean research and researchers. The first quarantine led to the interruption of several ongoing projects and delayed the start of new ones. In addition, it impacts the trade system, so reagents and other materials needed for research were scarce and new orders take a significant amount of time to be delivered. Since this quarantine comprised near a 4-month period, it also has an impact in the preparation of reports for projects on its final year of operation and the generation of data for new proposals to be submitted in future calls. Actually, the National Agency for Investigation and Development (ANID) offered an extension for projects in its final year, in order to help researchers to overcome the difficulties to perform research activities. Nowadays, Chilean scientific community is back to the laboratories and trying to retake the research activities as fast as its possible.

Planned events for 2021 and 2022

From April 2021 to January 2022 Plant Biology Colloquiums: A series of virtual meetings hosted by the Chilean Society of Plant Biologists. It included several symposiums for instance Natural Variation & Plant Breeding, Plant Cell and Molecular Biology, Plant Physiology and Hormones, Cell Wall of Trees, Fruit and Vegetables, Physiological and Molecular Biology of Grains, Biosensors and Fruit Response to Abiotic Stress.

Organizer: Chilean Society of Plant Biologists (<https://www.biologiavegetal.cl/>)

Guests :Claudia Muñoz (Universidad Andres Bello, Chile), Adrian Moreno (Universidad Andres Bello, Chile), Carlos Figueroa (Universidad de Talca, Chile)Raúl Herrera (Universidad de Talca, Chile) Lee Meisel (INTA, Universidad de Chile, Chile)Anita Arenas (Universidad Austral de Chile, Chile), Jose Ugalde (University of Bonn, Germany), Paula Pimentel (CEAF, Chile)

Selected Publications

- Saez-Aguayo S, Parra-Rojas JP, Sepúlveda-Orellana P, Celiz-Balboa J, Arenas-Morales V, Sallé C, Salinas-Grenet H, Largo-Gosens A, North HM, Ralet MC, Orellana A. (2021) Transport of UDP-rhamnose by URGT2, URGT4, and URGT6 modulates rhamnogalacturonan-I length. *Plant Physiol.* Apr 2;185(3):914-933. doi: 10.1093/plphys/kiaa070.(<https://academic.oup.com/plphys/article-abstract/185/3/914/6054815?redirectedFrom=fulltext>)

The absence of UDP-Rhamnose transporters has an impact on cell wall polysaccharide synthesis affecting rhamnogalacturonan-I and xylan, reinforcing the role of nucleotide sugar transporters on cell wall biosynthesis.

- Zhu S, Estévez JM, Liao H, Zhu Y, Yang T, Li C, Wang Y, Li L, Liu X, Pacheco JM, Guo H, Yu F. (2020) The RALF1-FERONIA Complex Phosphorylates eIF4E1 to Promote Protein Synthesis and Polar Root Hair Growth. *Mol Plant*. May 4;13(5):698-716. doi: 10.1016/j.molp.2019.12.014. (<https://www.sciencedirect.com/science/article/pii/S1674205219304319>)

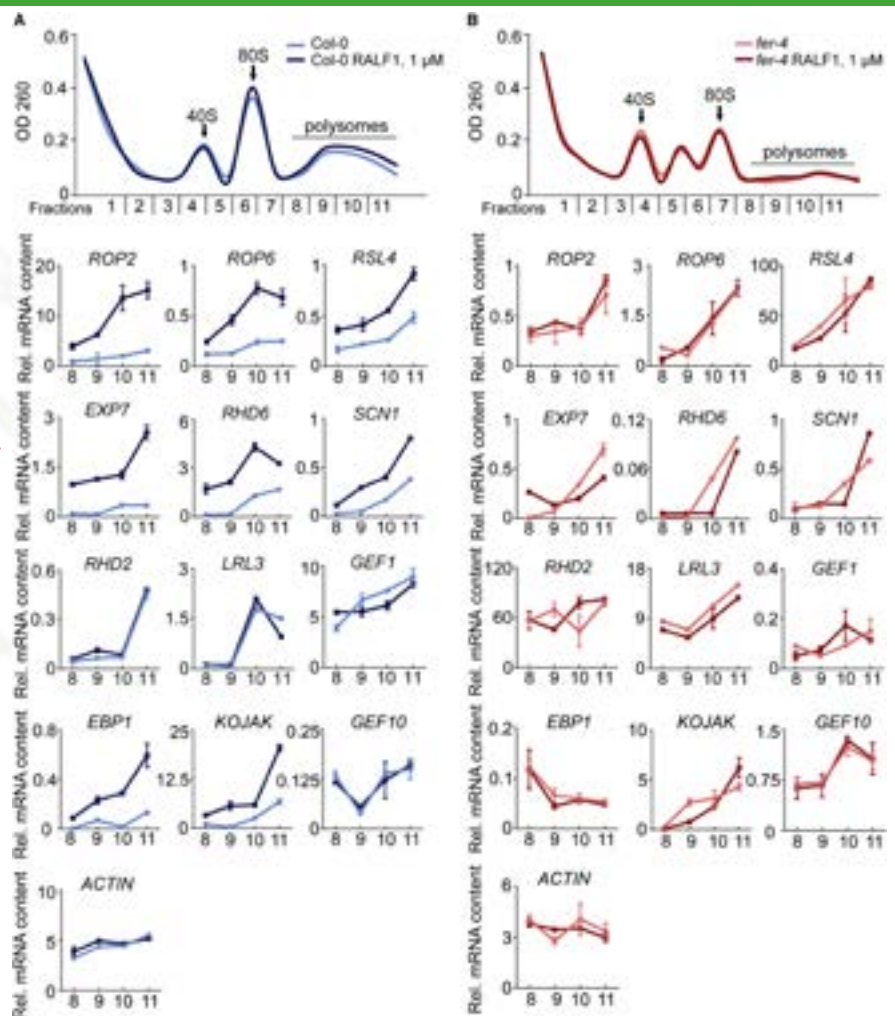
The link between RALF1-FERONIA signaling, and protein synthesis constitutes a novel component regulating cell expansion in these growing polar cells

- Silva-Sanzana C, Estevez JM, Blanco-Herrera F. (2020) Influence of cell wall polymers and their modifying enzymes during plant-aphid interactions. *J Exp Bot*. Jun 26;71(13):3854-3864. doi: 10.1093/jxb/erz550. (<https://academic.oup.com/jxb/article/71/13/3854/5673625>)

This review highlights the different hypotheses, perspectives, and evidence supporting cell wall polymers and modifying enzymes as relevant plant traits for aphid resistance/susceptibility.

Major Funding Sources

- ANID (Agencia Nacional de Investigación y Desarrollo (<https://www.anid.cl/>))
- Iniciativa Científica Milenio (<http://www.iniciativamilenio.cl/>)
- CORFO - Corporación de Fomento de la Producción (<https://www.corfo.cl/>)



RALF1 Affects the Translation of RH Tip Growth-Related Gene Transcripts. (A and B) Top: ribosome profiles. Fractions (8–11) containing mRNAs associated with polysomes are indicated with a black line. Bottom: RT-qPCR results for polysome-associated mRNAs. At least three biological replicates of (A)–(B) were performed with similar results.