

MILLENNIUM INSTITUTE CENTER FOR GENOME REGULATION, **MI-CGR**

Impact Area: Genetics, conservation and sustainable food production
Speciality: Genomics, biotechnology, molecular biology and systems biology

The MI-CGR aims to uncover fundamental mechanisms organisms use to adapt and evolve in response to environmental factors and biological interactions. These adaptations are reflected in genome structure and can be revealed by examining metabolic and regulatory pathways, comparative genomics, functional analysis, searching for co-occurrence patterns, or, more ambitiously, by exploring quantitative relationships between biological signals and abiotic parameters. Further, these findings can significantly impact pressing issues of importance at the local and planetary levels, including climate change and loss of biodiversity.

Our proposal is sustained by 10 years of extensive field research and genomic surveys of organisms adapted to environments with unique life challenges. Now, we will focus on exploring the rich datasets we have obtained to find specific mechanisms that explain the appearance of adaptive traits, both at the organismal level and when viewed from the perspective of communities and ecosystems. Given that the stated research problem is intrinsically interdisciplinary, the expertise recruited to the MI-CGR ranges from ecology to molecular biology, with essential contributions from systems biology and mathematics.

Research lines:

- Functional genomics of adaptation and convergent evolution.
- Interaction networks that govern genome structure y communities of organisms.
- Genomics for biotechnology, sustainable food production, and conservation.

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>> SCIENTIFIC PRODUCTIVITY:

ISI: 48
Scielo/SCOPUS: 4
Other publications: 2

*Data updated by Millennium
Institute to June 2023





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>> CONTACT INFORMATION:

Director:
Miguel L. Allende

Deputy Director:
Juliana de Abreu Vianna

Contact emails:
mallende@uchile.cl
jvianna@uc.cl
secretaria@genomacrg.cl

genomacrg.cl



>> RESEARCHERS:

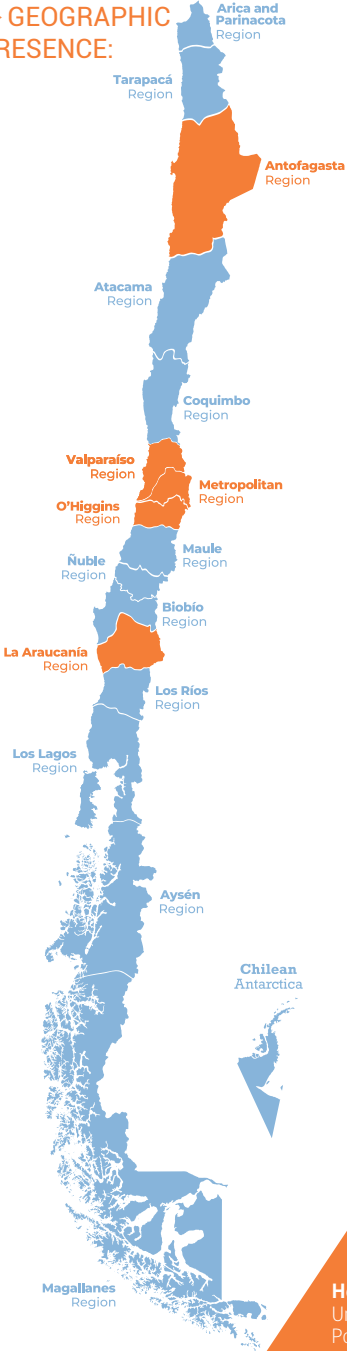
Main Researchers:
Miguel L. Allende, Juliana de Abreu Vianna.

Associate Researchers:
Beatriz Diez, Romina Pedreschi, Verónica Cambiazo, Mauricio González, Ariel Orellana, Rodrigo Gutiérrez, Alejandro Maass.

Assistant Researchers:
Alexandra Galetovic, Alvaro Glavic, Claudio Meneses, Liane Bassini, Mauricio Latorre, Angélica Reyes, Valentina Durán, Claudio Latorre, Jacqueline Acuña, Martín Montecino, Aurora Gaxiola.

Senior Researchers:
Gloria Coruzzi, Rasmus Nielsen, Colomán de Vargas.

>> GEOGRAPHIC PRESENCE:



>> MAIN ACHIEVEMENTS:

- Creating formal collaborative networks among the center's researchers to conduct interdisciplinary research projects.
- We have, thus far, recruited 34 students between undergraduate, master's, and doctoral programs.
- In our 9 months of operation, we have published more than 50 research articles between associate, adjunct, and senior researchers.
- Our Interactomics Seminars open to the community have allowed international speakers to strengthen their collaboration ties in Chile.



>> OUTREACH ACTIVITIES:

- Recently awarded Millennium Institute, no outreach activities have been reported.