



FACULTAD DE
INGENIERÍA

DIRECCIÓN
VINCULACIÓN
CON EL MEDIO

→ **2026 - 2027** **GLOBAL** **ENGINEERS** **PROGRAM**

Research Internships for undergraduate and graduate students.



FING, USACH





→ “**GLOBAL ENGINEERS**” PROGRAM

Research Internships for
undergraduate and graduate students.

For more than 100 years, we have believed that the role of engineering and technology-based sciences must respond to the needs of the national productive sector. For this reason, the Faculty of Engineering of the Universidad de Santiago de Chile (USACH) is a pioneer in contributing to the country's industrial development.

With 14 engineering specialization areas in undergraduate and graduate programs, research centers, and high-tech laboratories, our faculty is committed to creating a positive impact on Chilean society and the region, through technological innovation, applied research, entrepreneurship, and technology transfer.

At USACH we understand that a globalized world requires a multidisciplinary approach to address modern-day problems.

In that sense, we know that connecting foreign students with national institutions and local laboratories will prepare them to acquire good operating practices in the Latin-American engineering field, as well as our faculty will obtain new knowledge and perspective of international human capital.



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Sanitary Laboratory 3 & 4

Fields of study

Materials Recovery.

Main task

To develop research in valorization of waste and/or engineering materials (cement/concrete).

Student profile

This internship is aimed at undergraduate, and master's students from civil engineering, and environmental engineering. Knowledge of engineering materials and/or solid waste treatment is required.

Languages

Spanish, and English are accepted.



Period

16 hours per week.
1 semester.

Applications open for

Second Semester 2026, First Semester 2027.

Benefits

Possibility to participate in the elaboration of a scientific research paper.
Flexible schedule.

Supervisor



Dr. Christian Seal Mery

Faculty Member of the Civil
Engineering Department

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Simulation Laboratory in Seismic Engineering

Fields of study

Civil and Industrial Engineering.

Main task

Research, either experimental or numerical modelling.

Student profile

This internship is aimed at master's, and Ph.D. students preferably in civil and structural engineering, who are in the research phase of their postgraduate studies.

Languages

Spanish and English are accepted.



Period

Ideally full-time, but the schedule is open to discussion with the student.
90 days are recommended, but it is open to discussion with the student.

Applications open for

Second Semester 2026, First Semester 2027.

Benefits

Possibility to participate in the elaboration of a scientific research paper.
Flexible schedule.

Supervisor



Ph.D. Erick Saavedra Flores

Faculty Member of the Civil
Engineering Department

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Fermentation Engineering Laboratory / Food Biotechnology Laboratory

Fields of study

Food Engineering, Biotechnology Engineering, Chemical Engineering.

Main task

Research Activities to be Agreed Upon.

Student profile

The internship is aimed at undergraduate, master's, and Ph.D. students of chemical engineering, biotechnology engineering, and biochemical engineering. **Knowledge is required about:**

- ✓ **Laboratory handling and work:** handling of volumetric glassware, knowledge of Good Laboratory Practices (GLP), and proper use of basic equipment (analytical balance, pH meter, spectrophotometer (600 MHz OD measurement, growth curves), autoclave, incubators, and water baths).
- ✓ **Applied microbiology:** preparation of culture media, asepsis and sterile culture techniques, inoculation and growth of microorganisms (bacteria, yeasts, and fungi).
- ✓ **Techniques of streak plating,** colony counting (CFU), microbial growth curve generation, and strain preservation.
- ✓ **Fermentation and bioprocesses.**
- ✓ **Basic principles of fermentation kinetics:** growth phases, yields, and productivity.
- ✓ **Basic bioreactor management:** aeration, pH, agitation, and temperature.
- ✓ **Inoculum preparation and scale-up**

- ✓ **Understanding of concepts such as submerged fermentation (SmF), solid- state fermentation (SSF)**
- ✓ **Biochemistry and food analysis.**
- ✓ **Quantification of biomolecules:** proteins, sugars, lipids.
- ✓ **Knowledge of basic biosafety standards.**
- ✓ **Cross-cutting skills:** critical thinking and the ability to solve experimental problems; organization, responsibility, and collaborative work; clear communication of results and methodology; ability to follow protocols and to adjust them as needed.

Languages

Spanish and English are accepted.



Period

Monday to Friday, hours to be arranged.
3 to 6 months.

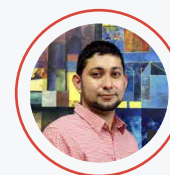
Applications open for

Second Semester 2026, First Semester 2027.

Benefits

Possibility to participate in the elaboration of a scientific research paper.
Possibility to participate in academic events.
Flexible schedule.

Supervisor



PhD. Julián Quintero Suárez

Faculty Member of the Chemical
and Bioprocess Engineering
Department

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ELÉCTRICA**



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Green Hydrogen Laboratory

Fields of study

Green Hydrogen.

Main task

Modeling, experiments with H2V, preparation of reports/paper manuscripts.

Student profile

This internship is aimed at undergraduate, master's, and Ph.D. students from engineering fields with knowledge in green hydrogen. Knowledge of hydrogen economics, the green hydrogen value chain, and related topics is required.

Languages

Spanish, English, Portuguese, and Italian are accepted.



Period

20 hours per week.
2 to 6 months.

Applications open for

Second Semester 2026, First Semester 2027.

Benefits

Possibility to participate in the elaboration of a scientific research paper.
Possibility to participate in academic events. Flexible schedule. A small stipend could be given according to the intern's job performance.

Supervisor



PhD. Patricio Valdivia Lefort

Deputy Director of Research and
Head of the H2V Laboratory of the
Department of Electrical
Engineering

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EN MINAS**

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Rock Mechanics Laboratory

Fields of study

Earth sciences, mining.

The Laboratory of Rock Mechanics is equipped to develop rock sample analysis for the mining industry and other laboratories in Chile. All rock tests are based on ASTM and ISRM standards.

Main task

Preparation and carrying out of destructive and non-destructive testing.

Student profile

This internship is aimed at undergraduate students from geology, mining engineering, Earth sciences, geology, or similar disciplines. Knowledge about material resistance and rock properties are required.

Languages

Spanish, English, Japanese, Portuguese, and Latvian are accepted.



Period

30 hours per week.
The length of time will be between 45 and 60 days.

Applications open for

Second Semester 2026, First Semester 2027.

Benefits

Flexible schedule. A small stipend could be given according to the intern's job performance.

Supervisor



Ing. Mg. Miguel Vera

Faculty Member of the Mining Engineering Department

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DIMIN's Drilling and Blasting Laboratory

Fields of study

Optimization of Drilling and Blasting Processes.

Main task

Processing data obtained from drilling and blasting processes in mining operations to create predictive models of rock properties and evaluate excavation results using Artificial Intelligence techniques.

Student profile

This internship is aimed at PhD. students of PhD programs related to geosciences and mining. A strong academic and technical foundation in geosciences and applied engineering is required, specifically focused on optimizing the mining value chain. **Key requirements include:**

- ✓ **Advanced Training in Geology and Engineering:** In-depth knowledge of Geology and Mining Engineering, with an emphasis on deposit characterization.
- ✓ **Mining Process Optimization:** Experience integrating drilling and blasting operations with mineral processing needs (Mine-to-Mill approach).
- ✓ **Sustainability and Resource Efficiency:** Technical capacity to design strategies that reduce energy consumption and waste generation in resource extraction.

✓ **Rock Mass Characterization:** Advanced skills in analyzing the mechanical and structural properties of rock and their impact on fragmentation.

✓ **Research and Fieldwork:** Proven experience in collecting geological data in operational mining environments and using state-of-the-art monitoring technologies.

✓ **International and Innovation Perspective:** Ability to adapt to high-level research environments and apply international standards of responsible mining.

Languages

Spanish, and English are accepted.



Period

20 hours per week.
90 days as a minimum.

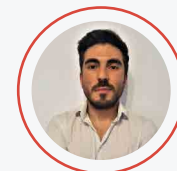
Applications open for

Second Semester 2026.

Benefits

Possibility to participate in the elaboration of a scientific research paper.
Possibility to participate in academic events. Flexible schedule. Possibility to work on awarded research projects.

Supervisor



PhD. Alberto Fernández

Académico del Departamento de
Ingeniería en Minas

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MECÁNICA**

Vibrations and fluid-structure interaction

Fields of study

Fluid mechanics, energy generation, swell, modeling, and lab.

Main task

Development of numerical or physical models, measurements taking, and results analysis.

Student profile

This internship is aimed at undergraduate, and Ph.D. students of mechanical engineering, physical engineering, and energy engineering. The competencies of the intern should include numerical modeling, software learning, or lab instruments.

Languages

English and French are accepted.



Period

22 hours per week as a minimum.
A full semester is desirable, but a minimum of 3 months is accepted.

Applications open for

Second semester 2026, First Semester 2027.

Benefits

Possibility to participate in the elaboration of a scientific research paper.
Possibility to participate in academic events. Flextime.

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Supervisor



Dra. Marcela Cruchaga

Faculty Member of the Mechanical
Engineering Department

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Laboratory of Biomechanics and Biomaterials

Fields of study

Biomechanics and Biomaterials.

Main task

Assistance in biomaterials experimentation.

Student profile

The internship is aimed at Ph.D. students from mechanical engineering, materials engineering, biomedical engineering, and related fields. Technical knowledge in the use of laboratory equipment and computer skills is required.

Languages

Spanish and English are accepted.



Period

10 hours per week.
90 days.

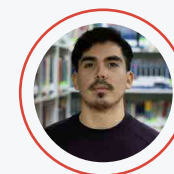
Applications open for

Second Semester 2026, First Semester 2027.

Benefits

Possibility to participate in the elaboration of a scientific research paper.
Possibility to participate in academic events. Flexible schedule.

Supervisor



Dr. Aldo Abarca Ortega

Faculty Member of the Mechanical Engineering Department

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Centro de
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Innovation Center - Faculty of Engineering

Fields of study

Innovation, prototyping, design and development of applied technologies, technology-based entrepreneurship and applied engineering.

Main task

To support the development of science and technology-based projects through the design and validation of prototypes, applied research, and technical documentation. Furthermore, to collaborate on Innovation Center activities aimed at connecting with the entrepreneurial ecosystem and scientific and business trends, contributing an interdisciplinary perspective to solving real-world challenges.

Student profile

This internship is aimed at undergraduate, master's, and doctoral students in engineering, innovation, and design-related fields, such as civil engineering (in its various specializations), industrial engineering, computer engineering, materials engineering, industrial design, manufacturing engineering, or mechatronics. Programs related to innovation management, technological entrepreneurship, and sustainability are also relevant.

Applicants should have an interest in innovation, teamwork skills, and creative thinking. Knowledge of prototyping, 3D modeling (such as Fusion 360 or similar), manufacturing (3D printing), innovation methodologies (Learn Startup), and basic proficiency in digital tools for project management and communication are valued.

Languages

Spanish and English are accepted.



Period

15 hours a week.
3 months.

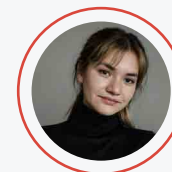
Applications open for

Second Semester 2026, First Semester 2027.

Benefits

Flexible schedule. Opportunity for project development and connection with the industry.

Supervisor



Lorena Victoria Durán

Assistant Director of the
Innovation Center of the Faculty of
Engineering.



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INFORMÁTICA**

Computer Engineering Department

Fields of study

Computational neuroscience and artificial intelligence.

Main task

Simulate cognitive tasks with a computational model of the basal ganglia and compare the model's behavior with behavioral data or reinforcement learning algorithms.

Student profile

This internship is aimed at masters's, and PhD students from psychology, neuroscience, and computer engineering. Knowledge of Python programming and basic concepts of neuroscience or cognitive science is required.

Languages

Spanish, and English are accepted.



Period

6 hours per week.
4 months

Applications open for

Second Semester 2026, First Semester 2027.

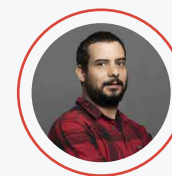
Benefits

Possibility to participate in the elaboration of a scientific research paper. Flexible schedule.

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Supervisor



Dr. Javier Baladrón

Faculty Member of the Computer
Engineering Department

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DIINF Bioinformatics Laboratory

Fields of study

Information Technology and Computing.

Main task

Algorithm development and computational testing.

Student profile

This internship is aimed at undergraduate, masters's, and PhD students from biotechnology, informatics, computing and biomedicine. Knowledge of programming, data structures, combinatorial optimization, construction and use of preference metaheuristics, as well as bioinformatics and sequence analysis is required.

Languages

Spanish, English, and Portuguese are accepted.



Period

30 hours per week.

1 semester (may be 90 days depending on the applicant's level of knowledge).

Applications open for

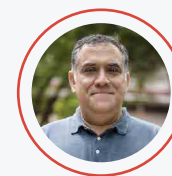
Second Semester 2026, First Semester 2027.

Benefits

Possibility to participate in the elaboration of a scientific research paper.

Possibility to participate in academic events. Flexible schedule.

Supervisor



PhD. Mario Inostroza-Ponta
Faculty Member of the Computer
Engineering Department

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Data Analysis and Operations Research Laboratory

Fields of study

Industrial Engineering.

Main task

Research.

Student profile

This internship is aimed at masters's, and PHd students with experience in programs related to statistics, operations research, machine learning, and/or finance is required. Knowledge of programming, mathematical/statistical modeling, and simulation is also required. Knowledge of Python programming and basic concepts of neuroscience or cognitive science is required.

Languages

Spanish, English, Portuguese, French, Italian are accepted.



Period

25 hours per week.
90 days.

Applications open for

First Semester 2027.

Benefits

Possibility to participate in the elaboration of a scientific research paper.
Possibility to participate in academic events. Flexible schedule.

Supervisor



Mg. Luis Rojo González

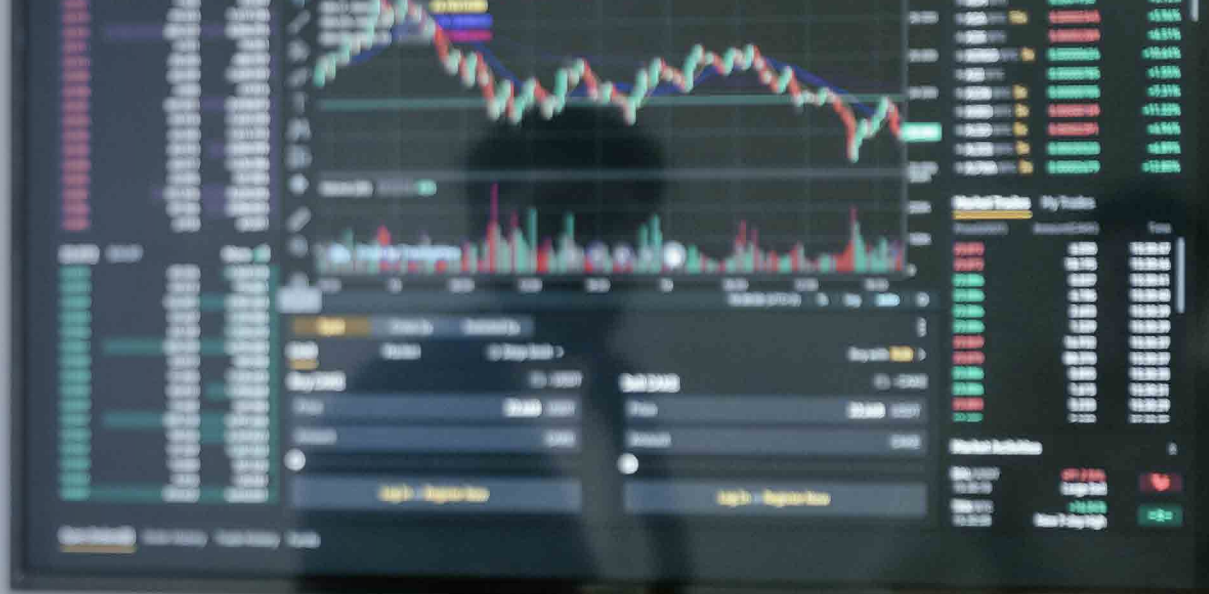
Faculty Member of the Industrial
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Data Analytics and Operations Research Laboratory (LADIO)

Fields of study

Operations Research and Applied Optimization;
Mathematical Modeling and Optimization; Operations
Research, Optimization, and Systems Analysis.

Main task

Develop mathematical optimization models and their
computational implementation to support decision-making
in real-world problems, including problem formulation,
data analysis, model solving, and scenario evaluation
applied to environmental and productive systems.

Student profile

This internship is aimed at undergraduate, master's, and
doctoral students in Industrial Engineering, Systems
Engineering, Mathematical Engineering, Civil Engineering
(specializing in optimization, transportation, natural
resources, or related fields), Computer Engineering,
Mathematics/Applied Mathematics, Statistics/Data
Science, Agricultural Engineering or Agronomy
(especially for the precision agriculture internship), and
graduate programs in Operations Research,
Optimization, Systems Analysis, or Data Science, and
other related fields. **Requirements include:**

- ✓ Basic to intermediate knowledge of mathematical
modeling and optimization (linear, integer, and/or
nonlinear programming).
- ✓ Proficiency in computational tools for analysis and
modeling (Python, Julia, C++, or other equivalent
languages).

- ✓ Quantitative analysis skills and the ability to formulate
real-world problems using mathematical models.
- ✓ General knowledge of operations research and analytical
methods.
- ✓ Methods; and basic skills in data analysis and results
visualization.
- ✓ Ability to conduct literature reviews and work with
scientific literature in English.
- ✓ Critical thinking, independent work, and problem-solving
skills.
- ✓ Strong written communication skills for preparing
technical and/or academic reports.

Languages

Spanish, English, and French are accepted.



Period

35 hours per week.
180 days.

Applications open for

Second Semester 2026, First Semester 2027.

Benefits

Possibility to participate in the elaboration of a
scientific research paper.
Possibility to participate in academic events. Flexible
schedule.

Supervisor



Dr. Franco Quezada Valenzuela

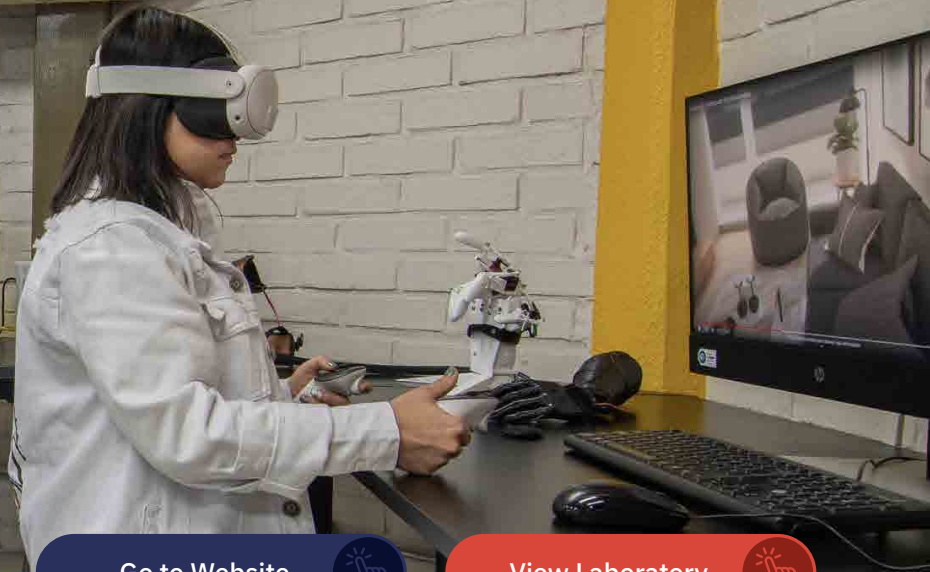
Faculty Member of the Industrial
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LEIND Entrepreneurship and Innovation Laboratory

Fields of study

Industrial Engineering.

Main task

Participate in robotics development projects with social impact.

Student profile

This internship is aimed at PhD students from Industrial engineering, mechatronics, and computer engineering degrees are required. Knowledge of innovation management, programming, AI, and robotics is also required.

Languages

Spanish, English, and French are accepted.



Period

15 hours per week.
90 days.

Applications open for

Second Semester 2026, First Semester 2027.

Benefits

Possibility to participate in the elaboration of a scientific research paper.
Possibility to participate in academic events. Flexible schedule.

Supervisor



Dra. Lorena Delgado Cadena

Director of the LEIND Laboratory
of the Department of Industrial
Engineering

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Data Analytics and Operations Research Laboratory (LADIO)

Fields of study

Operations Research.

Main task

To formulate mathematical models and solution algorithms applied to scheduling problems in the context of resilient supply chains and distributed production systems or facility location. Write articles based on any resulting findings.

Student profile

This internship is aimed at undergraduate, masters's, and PhD students from industrial engineering, mathematics, and computer science. Knowledge of operations research, optimization, and programming is required.

Languages

Spanish, English, and French are accepted.



Period

Full but flexible dedication.
3 to 6 months.

Applications open for

Second Semester 2026, First Semester 2027.

Benefits

Possibility to participate in the elaboration of a scientific research paper. Possibility to participate in academic events. Flexible schedule. A small stipend could be given according to the intern's job performance.

Supervisor



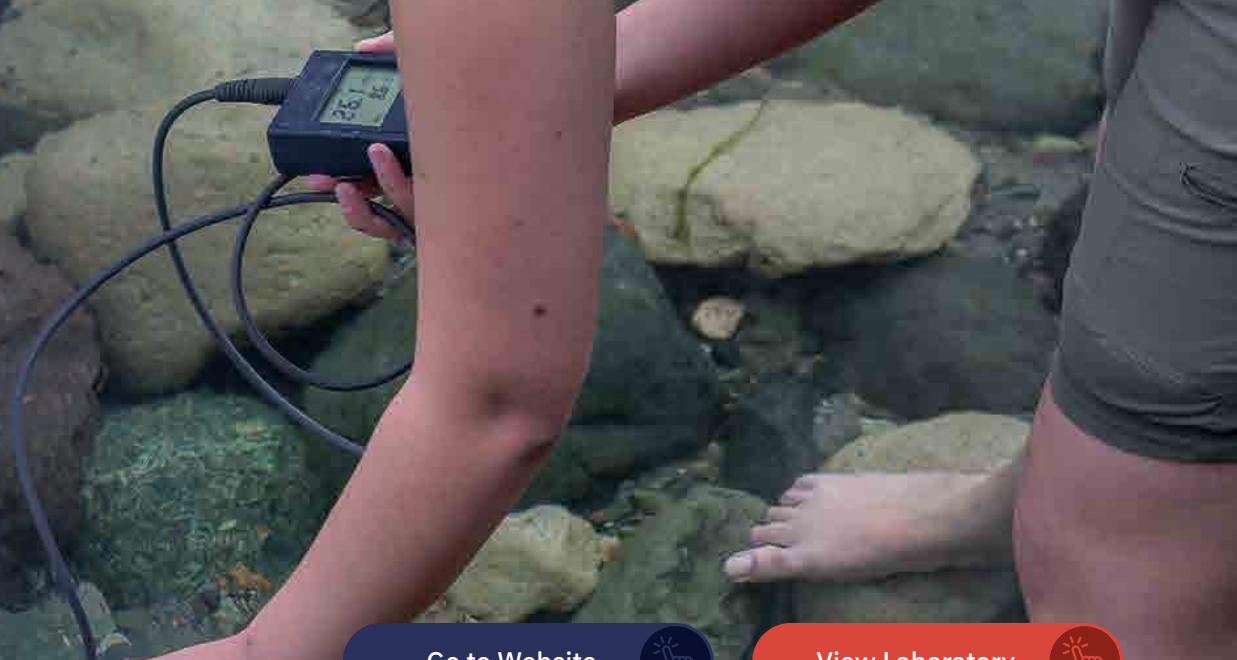
Dr. Cristian Durán Mateluna
Faculty Member of the Industrial
Engineering Department

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Y AMBIENTAL**



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Environmental and Territorial Modeling Laboratory

Fields of study

Territory and Environment.

Main task

Spatiotemporal analysis of climate variability.

Student profile

This internship is aimed at undergraduate, and masters's students from environmental engineering, environmental engineering, land management engineering, environmental programs, land management, or earth sciences. Knowledge of GIS, modeling, risk analysis, and climate change is required.

Languages

Spanish, and English are accepted.



Period

40 hours per week.
30 days.

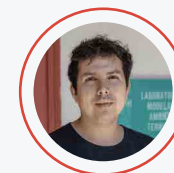
Applications open for

Second Semester 2026, First Semester 2027.

Benefits

Possibility to participate in the elaboration of a scientific research paper.
Flexible schedule.

Supervisor



Dr. Juan José Garcés Gálvez

Head of the Environmental and Territorial Modeling Laboratory of the Department of Geospatial and Environmental Engineering.

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→ **APPLICATION PROCESS**

The documents required are the following:

- ✓ Curriculum Vitae (for Ph.D. level applicants, the CV must contain a personal statement, research objective, and academic experience).
- ✓ Cover letter.
- ✓ Academic transcript for undergraduate and master's level applicants.
- ✓ Passport or ID scanned.

Documents must be sent to
fing.international@usach.cl with the subject
“Global Engineers - Internship application”.

→ **GENERAL CONDITIONS**

Once you are selected, students will have access to the following:

- ✓ Acceptance Letter from the University.
- ✓ Orientation for arrangements and arrival planning by the Coordinator of Mobility and Internationalization at Home of the Faculty of Engineering.
- ✓ Internship Completion Certificate.