



Posición postdoctoral
en

***“Studying the Continuous Flow of Carbon in Plants using Stable Isotopes:
from the atmosphere to the soil – rhizosphere system”***

Introduction

The [Pontificia Universidad Católica de Chile \(UC|Chile\)](#) is a renowned research institution with a history spanning over a century. It is home to more than 30,000 students and employs over 3,400 academics. The university is dedicated to promoting excellence in teaching and research, embracing diversity, and positively impacting society. The Faculty of Agronomy and Natural Systems, established 120 years ago, has significantly influenced the country's development and exportation of produce.

Presentation

[Professor Marlene Ayala](#) is seeking a Postdoctoral researcher to join his research group in the Department of Fruit Production and Enology at the [Faculty of Agronomy and Natural Systems, UC|Chile](#).

Project Description

The atmospheric carbon fixation by plants and its transfer to the roots for subsequent utilization by soil microorganisms has been scarcely studied under productive Chilean conditions. This innovative interdisciplinary project aims to characterize and quantify rhizodeposition and explore its potential in promoting populations of beneficial microorganisms for agronomically important fruit trees.

The research hypotheses will consider different treatments for two model plants (woody versus herbaceous), specifically tomato and cherry. Advanced techniques will be employed for the stable isotopic enrichment of photoassimilates and the characterization of soil microorganism populations. The primary objective is to develop a conceptual model of carbon flow within the plant-soil-rhizosphere system and to describe the influence of rhizodeposition on soil microbiota.

Evaluations will include the analysis of plants and soil (both rhizospheric and non-rhizospheric) after isotopic enrichment, and the identification of microbial communities influenced by the model species and imposed treatments. The main goal is to develop a conceptual model of carbon flow within the plant-soil-rhizosphere system and to describe the influence of rhizodeposition on soil microbiota.

The postdoctoral position is primarily focused on interdisciplinary research related to tree physiology, stable isotopes, carbon and nutrient flows in the atmosphere-plant-soil system, and beneficial soil microorganisms.



Job Information

Expected start date: October, 202

Contract duration: 1 year, renewable for a second year

Work location: UC|Chile, Faculty of Agronomy and Natural Systems (FASN), Santiago de Chile

Requirements

Applicants must meet all the criteria outlined in the [Postdoctoral UC 2024 call](#), which are part of this announcement:

1. Doctorate obtained within the last three years (from September 02, 2021 to September 02, 2024). For female applicants who have had children in the last three years, an additional year can be counted for each child (i.e., four or more years since obtaining the doctorate).¹
2. Curriculum, including links to relevant publications for the PostDoc.
 - It is advantageous in the case of **knowledge of tree physiology, stable isotope techniques, and experimental design in the field.**
 - It is also desirable for the applicant to demonstrate **soft skills and the ability to work in multidisciplinary teams** due to the nature of the offered postdoc position
3. Cover letter indicating your knowledge, experiences, and interest in the position.
4. Support letters from at least two academic references.
5. Other background, children's birth certificate,

What does this position offer you

We offer you the opportunity to join a leading national and Latin American university with multiple research units, cultural activities, sports, and more. Additionally, you'll enjoy a pleasant work environment on a spacious campus with a dynamic academic atmosphere. Here are the details:

1. Academic Appointment as a Postdoctoral Fellow
2. Honorarium Contract
3. Available Budget
 - Salary: CLP 26,000,000 annually (equivalent to USD 27,500/year).
 - Installation Expenses: CLP 2,500,000 (first year only, equivalent to USD 2,640).
 - Equipment/Investment: CLP 4,500,000 (at the beginning of the project, comparable to USD 4,760).
 - Operational costs for PostDoc research will be funded by research grants already granted.

¹ To access this, it will be mandatory to attach the child's birth certificate to the application. Additionally, male and female applicants who have been legally granted custody or personal care during the same period as a protective measure, or in accordance with Articles 19 or 24 of Law No. 19,620 on the adoption of minors, may also access this extension. To qualify for this extension, it will be necessary to attach a copy of the court resolution granting custody or personal care, demonstrating that it is final and enforceable.



Application Process

Applications will be accepted through the following form: [Postdoc UC 2024 – FASN](#).

Applicants must fill out all mandatory fields. Please attach your research proposal (maximum ten pages), previously agreed with the Sponsor Researcher, which should include the following information:

- Theoretical-conceptual foundations
- State of the art
- Research question or hypothesis, objectives
- Methodology
- Work plan or Gantt chart
- Scientific or technological novelty in the proposal

Important Dates

- Application starting date: July 15, 2024
- Application deadline: ~~August 18, 2024~~ ([Form PostDoc UC 2024 – FASN](#))
- Selected candidates' interviews: August 28 to 30, 2024
- Published results: September 12, 2024
- Estimated starting date: October, 2024

New deadline: August 27, 2024

For additional information about this position, please get in touch with Ximena Alvarez (xaalvare@uc.cl) or the Research and Innovation Office (dipagronomia@uc.cl)