

PONTIFICIA UNIVERSIDAD CATOLICA DE VALPARAÍSO • FACULTAD DE CIENCIAS AGRONÓMICAS Y DE LOS ALIMENTOS • ESCUELA DE AGRONOMÍA • QUILLOTA • CHILE

PONTIFICIA UNIVERSIDAD CATOLICA DE CHILE • FACULTAD DE CIENCIAS BIOLÓGICAS • DEPARTAMENTO DE ECOLOGÍA • SANTIAGO • CHILE

UNIVERSIDAD DE TALCA • INSTITUTO DE BIOLOGÍA • TALCA • CHILE

CALL FOR A POSTDOC POSITION

The research team of the Anillo project “**Ecological intensification: Integrating knowledge of ecosystem services to promote sustainable agriculture in Chile**” (ACT192027) seeks for an exceptional and highly motivated candidates for a full-time three year postdoctoral position.

The Ecological intensification project bring together Chilean researchers from the School of Agriculture of the Pontificia Universidad Católica de Valparaíso (PUCV), the Institute of Biology of Universidad de Talca, the Department of Ecology -Faculty of Biological Sciences-, and School of Agriculture and Forestry - from Pontificia Universidad Católica de Chile (PUC), and the Center for Genomics, Ecology & Environment at Universidad Mayor, in collaboration with an international core of leader researchers in the field.

The overall goal of the project is to understand the contribution of biodiversity to the delivery of agriculturally relevant multiply ecosystem services (i.e., biological pest control, pollination, and soil carbon sequestration), quantify its contribution to crop yield in Mediterranean central Chile, and its relationship with different agricultural practices.

We are looking for highly qualified candidates with substantial experience in soil and functional ecology, and biogeochemistry. We are also interested in those candidates capable of working in diverse teams that include undergraduate and graduate students as well as people working in Chilean fruit farming systems.

Project description:

Intensification of agriculture reduces forests cover, causes declines in biodiversity, degrades soils, squanders water, and releases one-quarter of global greenhouse-gas emission, therefore, becoming a mayor socio-environmental driver of global change (e.g. the case of current fires in Amazonia). As a consequence, new strategies for food production must be identified and explored to cope with the current scenarios of climate and global change. A key challenge of our time, in this context, is how to sustain biodiversity and ecosystem functionality, while simultaneously meeting the increasing demand for food from an ever-growing human population. Ecological intensification (hereinafter EI) has emerged as a new paradigm to enhance sustainability and harness ecosystem services for food security. It has also been proposed as an emerging solution for mitigating climate change. EI promotes conservation policies at scale of both landscape and farms to contribute to sustain and recovering local biodiversity; in return

this approach assures farmers the delivery of ecosystem services such as animal pollination, pest control, nutrient cycling and reduction of nutrient loss, and enhanced carbon sequestration, while at the same time promoting cultural values derived from local knowledge. By managing farms, native forests-shrublands, forestry plantations, and rangelands, in an integrated manner through the “working land conservation”, we could develop landscapes that work for both nature and people, in response to the new Anthropocene challenges created by biodiversity loss, accelerated climate change, and unsustainable land use.

Results from this project will provide know-how for advisors, policy makers, and farmers, as well as methods that will promote landscape-wide management of ecosystem services, allowing biodiversity protection whilst supporting a productive and more sustainable economy that could help in other Mediterranean areas.

In particular we want candidates to consider that their work would be framed within the following objectives of the general proposal:

- A) Quantification of the contribution of natural areas using a focal farm multi scale approach to understand the delivery of agriculturally relevant biodiversity-based ecosystem services related to soil nutrient cycling and carbon sequestration driven by microorganisms.
- B) Co-design, experimentally assess and evaluate the effects of an EI innovation in relation to reduced agro-chemical inputs organic based soil amendments to enhance relevant biodiversity-based ecosystem services such as carbon sequestration and promote soil conservation.

Candidates must have:

- i) A PhD in agriculture/biology/ecology or related disciplines
- ii) Demonstrate a strong record of high-quality scientific publications
- iii) Excellent communication skills in English and desirable Spanish (if Spanish is not the native language)
- iv) Available to start working at the latest in May 2020
- v) Have a driving license, and driving experience in the countryside is desirable
- vi) Chilean citizenship or foreigners with Chilean residence (overseas candidates will need to apply for a work permit if a job offer is made).
- vii) Be willing to collaborate and move across all the associated laboratories in Chile and overseas.

The selected candidate will have a monthly salary equivalent to that granted by the FONDECYT-postdoc program of 2019 (ea. 2.200 USD),. **Applications will be received until March 15th** and the starting date can range between April-May 2020. **Note for foreign applicants:** Due to the provisions of the Chilean tax office - Article 60 of the Income Tax Law - contained in Article 1 of Decree Law No. 824/74, of the Ministry of Finance, foreigners must pay 20% of the income received during the first 6 months.

The employing institution will be P. Universidad Católica de Valparaíso, at least during the first year of contract. Position is granted for three years (until December 2022) with an

annual renewal process subject to a prior approval from the project’s Director and PIs or subject to modification in accordance with the project PIs and the funding agency.

The postdoc location will be based at **Department of Ecology at Pontificia Universidad Católica de Chile located in Alameda 340, Santiago** associated to **Dr. Aurora Gaxiola’s** group, nonetheless, the applicant should be willing to spend short stays across the institutions associated with this project, either Santiago, Quillota, Valparaíso, and Talca cities or the international partners in France and the UK, and promote collaborations across laboratories. Finally, the applicant must be capable to carry out extensive fieldwork in rural areas between the Valparaíso, O’Higgins, and Maule regions.

Evaluation criteria:

Applicants will be evaluated and selected by the Project PI’s following the criteria below:

1. Thematic affinity with the project goals and requirements: 25%
2. Number and quality of scientific publications in the last five years (since 2015): 35%
3. Letters of interest and recommendation: 20%
4. Personal interview: 20%

An evaluation rubric including a Likert scale from 1 to 5 will be used for each criterion

Content	Classification	Score
The applicant fulfills all the requirements in an outstanding way	Excellent	5
The applicant complies very well although minimal improvements are required	Very good	4
The applicant meet a good standard but some improvements are required	Good	3
The applicant generally meets the requirements, but there are significant deficiencies	Regular	2
The applicant does not adequately fulfills the requirements	Deficient	1

Postdoctoral responsibilities:

- i) Fulltime dedication to the project
- ii) Coordination of undergraduate and graduate students
- iii) Design, establish, and manage field/lab experiments and fieldwork within rural Chile
- iv) Data analysis and manuscript preparation.
- v) Publish scientific publications with the project’s PIs always acknowledging “Proyecto Anillo ACT192027”
- vi) Strict confidentiality of the results form the project
- vii) Participate in national and international scientific meetings

- viii) Participate in outreach activities
- ix) Present an annual report of activities
- x) Collaborate with project administration

Important dates:

1. Application deadline is 15/03/2020, 18:00 h (Chilean time)
2. Notification of interview for suitable candidates: from 17/03/2020
3. Personal interviews: 18 – 20/03/2020
4. Results will be notified after the approval and ratification of the funding agency (PIA-ANID) (approximately in mid April)

To apply please send an email to **agaxiola@bio.puc.cl** including:

- 1) A letter of interest
- 2) Two recommendation letters, one of the letters should be from the Ph.D. supervisor.
- 3) Curriculum Vitae and a short description of maximum five papers, explaining how these are relevant to the development of this project
- 4) Copy of the PhD diploma or certificate
- 5) Copy of the passport or DNI.

Please use the subject "anillo-2020-application" in your email to avoid being directed to the spam. Applications must be in English. For more information and for any questions, do not hesitate to contact us at agaxiola@bio.puc.cl