

Curriculum vitae

Patricia Inés Araujo

Personal information

Place and date of birth: Ciudad de Buenos Aires, August 24st 1978

Nationality: Argentine

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Career Level/ Institutional Affiliation

Associate Research Scientist, National Council for Scientific and Technological Research (CONICET) / Agricultural Experimental Station Pergamino, National Institute of Agricultural Technology (INTA).

Academic Background

PhD in Agronomy, University of Buenos Aires, Argentina, 2006-2012

Dissertation title: "Controls on carbon cycles in natural and afforested ecosystems along a precipitation gradient in Patagonia, Argentina". Supervisor: Dr. Amy T. Austin. Academic advisor: Dr. Laura Yahdjian and Dr. Martin Oesterheld

B.Sc. Biology, University of Buenos Aires, Argentina, 2006.

Honor thesis: "The role of soil organisms controlling aboveground litter decomposition in the semiarid Patagonian steppe, Argentina". Supervisor: Dr. Amy T. Austin. Co-supervisor: Dr. Laura Yahdjian

Fellowships

Fulbright Research Fellowship (Fulbright-CFI). Short-term research fellowships at Iowa State University (Dr. Michael Castellano, Department of Agronomy). Project: *Greening agroecosystems with cover crops: controls on litter carbon turnover and storage in summer crops of the Argentine Pampas*.

CONICET, Posdoctoral Fellowship . Estación Experimental Agropecuaria Pergamino, INTA. 2012-2014
Supervisor: Dr. Esteban Jobbágy

CONICET, Doctoral Fellowship – Type II, 2010 – 2012. Supervisor: Dr. Amy T. Austin

University of Buenos Aires, Doctoral Fellowship, 2006-2010. Supervisor: Dr. Amy T. Austin

University of Buenos Aires, Undergraduate Research Fellowship, 2005-2006 Supervisor: Dr. Amy T. Austin

Professional interests

Ecosystem Ecology / Biogeochemistry Cycles / Biotic and abiotic control of litter decomposition / Greenhouse Gases / Natural resources research / Global Change.

Peer Reviewed Publications (last 5 years)

1. Piñeiro-Guerra, J. M., Lewczuk, N. A., Della Chiesa, T., **Araujo, P. I.**, Acreche, M., Alvarez, C., Alvarez, C. R., Chalco Vera, J., Cosentino, A., De Tellería, T., Petrasek, M., Piccinetti, C., Picone, L., Portela, S. I., Posse, G., Martin, S., Videla, C., Yahdjian, L., & Piñeiro, G. **2025**. Spatial variability of nitrous oxide emissions from cropland and unmanaged natural ecosystems across a large environmental gradient. *Journal of Environmental Quality*, 1–16. <https://doi.org/10.1002/jeq2.20663>
2. Hodges C., **Araujo P.I.**, Hess L.J.T., Vivanco L., Kaye J., Austin A.T. **2023** Inclusion of metal cations improves a model of soil organic carbon across a precipitation by vegetation gradient in the Patagonian Andes. *Geoderma*, 440, 116718, (doi.org/10.1016/j.geoderma.2023.116718)
3. Portela, S. I., **Araujo, P. I.**, Restovich, S. B., Della Chiesa, T., Ponsa, J. M., & Ballesteros, A. P. **2023** Reutilizar purines de tambo como oportunidad para reciclar nitrógeno y reducir su impacto ambiental. *Ecología Austral*, 411-426
4. Della Chiesa T., Del Grosso S.J., Parton W.J., **Araujo P.I.**, Piñeiro G. and Yahdjian L. **2022** Higher than expected N₂O emissions from soybean crops in Argentina: estimates from DayCent simulations and field measurements. *Science of the Total Environment* 835 155408.
5. **Araujo P.I.**, Grasso A.A., González-Arzac A., Méndez M.S. and Austin A.T. **2022** Sunlight and soil biota accelerate decomposition of crop residues in Argentine Pampas. *Agriculture, Ecosystems and Environment*, 330, 107908.
6. Berenstecher, P., **Araujo, P. I.**, Austin, A. T. **2021** Worlds apart: location above-or belowground determines plant litter decomposition in a semiarid Patagonian steppe. *Journal of Ecology*, 109(8), 2885-2896.
7. Vera-Candioti, J., **Araujo, P. I.**, Huerga, I. R., Rojas, D. E., Cristos, D. S., Malmantile, A. D. **2021**. Pesticides detected in surface and groundwater from agroecosystems in the Pampas region of Argentina: occurrence and ecological risk assessment. *Environmental Monitoring and Assessment*, 193(10), 120.
8. **Araujo, P.I.**, Piñeiro-Guerra, J.M., Yahdjian, L., Acreche, M.M., Alvarez, C., Alvarez, C.R., Costantini, A., Chalco Vera, J., De Tellería, J., Della Chiesa, T., Lewczuk, N.A., Petrasek, M., Piccinetti, C., Picone, L., Portela, S.I., Posse, G., Seijo, M., Videla, C., Piñeiro, G., **2020**. Drivers of N₂O Emissions from Natural Forests and Grasslands Differ in Space and Time. *Ecosystems*, 24(2), 335-350.
9. **Araujo P. I.** and Austin, A. T. **2020**. Exotic pine forestation shifts carbon accumulation to litter detritus and wood along a broad precipitation gradient in Patagonia, Argentina. *Forest Ecology and Management*, 460, 117902.

Submitted Publications

1. Cabrera, F., **Araujo P.I.**, Vivanco, L. Photodegradation and microbial decomposition of soybean and maize crop residues before and after harvest (Agriculture, Ecosystem and Environment, AGEE51406R1)
2. **Araujo P.I.**, Simón J., Portela S.I., Restovich S., Austin A.T. Cover crops improve soil fertility and have contrasting effect on leaf and root maize litter decomposition in the Pampas, Argentina (ACTA OECOLOGICA, ACTOEC- D 25-00083)

Research project participation (last 5 years)

2024 Fundación Williams: “Microbiomes of crop residues exposed to sunlight in agricultural systems of the Argentine Pampas.” Complementary Funds for Research in the Argentine Territory. Collaborator.

2024-2026 Multi-year Research Project (PIP). Resolution 2024-436-APN-DIR#CONICET. Greening agroecosystems with cover crops: novel controls on crop residue decomposition and nutrient turnover. Principal Investigator.

2024-2025 Santa Fe Agency for Science, Technology and Innovation (ASaCTeI), under the Ministry of Science, Technology and Productive Innovation of Santa Fe Province (Minutes No. 52/2023; Resolution MPCyT No. 202/2023). “Validation of a pilot-scale plasma reactor for the degradation of agrochemicals in water under near-real conditions.” Collaborator

2019- 2022 PICT 2018 N° 3975. National Agency for Scientific and Technological Promotion (ANPCyT), Argentina. Decomposition of crop residues controlled by solar radiation in Pampas agroecosystems. Collaborator

2022-2024 Scientific and technological research project (Exp 2494/2022) “Use of dairy manure as fertilizers: environmental and economic evaluation” Universidad Nacional del Nordeste de Buenos Aires (UNNOBA). *Collaborator*.

2019-2022 Scientific and technological research project (Exp 0482/2019) “Uptake of effluents nutrients with plant biomass” Universidad Nacional del Nordeste de Buenos Aires (UNNOBA). *Collaborator*

Journal Referee

Ecología Austral, Journal of Ecology, Forest Ecology and Management , Functional Ecology , Catena, Frontiers in Forest and Global Change, Plant and Soil, Geoderma, Acta Oecologica, Applied Soil Ecology, Ecological Applications

Invited Seminars

In the shade, in the sun? Biotic and abiotic controls of stubble decomposition in Pampas agroecosystems. INTA Oliveros -

Web seminar, July 21, 2021

Scientific meetings (last 5 years)

2025 **Araujo P.I.**, Della Chiesa T., Villarino, S., Castellano, M.J. Calidad de broza y dinámica del carbono bajo diferentes niveles de fertilización nitrogenada en suelos agrícolas. I Reunión Argentina Trinacional de Ecología. Mendoza, Argentina.

2024 **Araujo P.I.**, Della Chiesa T., Castellano, M.J. Nitrogen fertilizer increases carbon mineralization via shifts in plant litter quality. 2024 ASA, CSSA, SSSA International Annual Meeting. Texas, EEUU

2024 Piñeiro-Guerra J.M., Lewczuk N., Della Chiesa T., **Araujo P.I.**, Acreche M., Chalco Vera J., et al. Factor influencing spatial variability of N₂O emissions across diverse land use types in Argentina: A structural equation modeling approach Global Symposium on Soil Information and Data 2024. Nanjing, China

2023 **Araujo, P.I.**, Cabrera, F., Vivanco, L. La fauna del suelo altera la descomposición de residuos agrícolas fotodegradados. XXX Reunión Argentina de Ecología, San Carlos de Bariloche, Río Negro.

2023 Cabrera, F., **Araujo, P.I.**, Simoes, F., Vivanco L. Descomposición de residuos de cosecha: el aporte de la luz solar, los microorganismos y el manejo. XXX Reunión Argentina de Ecología, San Carlos de Bariloche, Río Negro, Argentina.

2022 Hodges, C, Vivanco, L., **Araujo, P.I.**, Hess L.J., Kaye J., and Austin A.T. Investigating mineral weathering and soil carbon storage across a Patagonian climate by vegetation pedogenic matrix. 2022 Goldschmidt Conference, Honolulu, Hawaii, Estados Unidos.

2021 Simón, J., **Araujo, P.I.** ¿A la sombra? Efectos de los cultivos de cobertura sobre la descomposición de broza. XXIX. Reunión Argentina de Ecología, Tucumán, Argentina.

2021 Portela S., Araujo P.I., Restovich S., Della Chiesa T., et al. Salidas gaseosas de nitrógeno en un cultivo de maíz fertilizado con purín de tambo. XXIX Reunión Argentina de Ecología, Tucumán, Argentina.

Mentorship Experience

Undergraduate Thesis

Valentina Storani (School of Agricultural, Natural and Environmental Sciences. National University of the Northwest of the Province of Buenos Aires, UNNOBA). 2025-

Catalina Marchetto (School of Agricultural, Natural and Environmental Sciences. National University of the Northwest of the Province of Buenos Aires, UNNOBA). 2025-

Eugenio Perfumo, (School of Agricultural, Natural and Environmental Sciences. National University of the Northwest of the Province of Buenos Aires, UNNOBA) 2020- 2023

Joaquín Simon (School of Agricultural, Natural and Environmental Sciences. National University of the Northwest of the Province of Buenos Aires, UNNOBA) 2017-2020

Teaching Experience

Teaching Graduate Assistant, *ad honorem*, School of Agronomy, University of Buenos Aires, Argentina, 2006-2012

Teaching Undergraduate Assistant, *ad honorem*, School of Agronomy, University of Buenos Aires, Argentina, 2005.

Languages

Spanish: Native

English : Fluent, First Certificate in English