Mariana Paola Mazzei

31 years old

Nationalities: Argentine and Italian

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Studies

PHD BIOLOGICAL SCIENCE   **From 2018 to 2024**

Faculty of Exact, Physical, and Natural Sciences, National University of Córdoba. Argentina.

Topic: Native and exotic bees in horticultural systems within a sustainability gradient

Supervisors: Leonardo Galetto, Jose Luis Vesprini.

BACHELOR´S DEGREE IN NATURAL RESOURCES   **From 2010 to 2016**

Faculty of Agricultural Sciences, National University of Rosario. Argentina

Awards: the highest academic average of the promotion 2016

GPA: 9.24 out of 10.0.

Scholarships for academic merit were granted by the "Fundación Nuevo Banco Santa Fe", in 2014 and 2015

INTERMEDIATE DEGREE IN NATURAL RESOURCES   **From 2010 to 2013**

Faculty of Agricultural Sciences, National University of Rosario. Argentina

Work experience

Post doctoral research
Deptartment of Agricultural and Food Sciences. Alma Mater Studiorum University of Bologna, Italy.
Topic: Assessing the effectiveness of mitigation measures on pollinator decline

Doctoral fellow of the National Scientific and Technical Research Council (Argentina) to conduct the PhD
2018-2023
Institute of Agricultural Sciences Research of Rosario. Argentina
https://www.conicet.gov.ar/new_scp/detalle.php?id=53969&datos_academicos=yes
Duties: developing Territorialized Environmental Sustainability Indices (TES) at both local and regional scales, as well as exploring the relationship between these indices, the biodiversity of native and exotic pollinators, and fruit metrics. The TES indices were created using indicators of sustainable farming practices, gathered through semi-structured interviews at the local level, and landscape characteristics, considered at both local and regional scales, and associated with biodiversity of pollinators. Fieldwork includes pollinator sampling, farmer interviews, and data collection on crops production. Laboratory work involves pollen grain deposition and counting. Additionally, I have participated in postgraduate courses, conferences, and meetings.

Professor assistant
https://fcagr.unr.edu.ar/docentes-ingenieria-agronomica/

Department: Ecology
Faculty of Agricultural Sciences, National University of Rosario. Argentina
2015 – present
Duties: in the subjects of Ecology and Biology of Populations and Evolution, my responsibilities include class preparation assistance, exam and assignment corrections, supervision of a group of students (20 students) during practical work, and active participation in university management committees.
In addition, I supervise the department assistants and have been involved in the selection process for them. Also, I have contributed to various research projects (see details below)

Member of the Department of Agroecology
Faculty of Agricultural Sciences, National University of Rosario. Argentina
2019 – 2022
Duties: organization of courses, workshops, and congresses focusing on agroecology

Technological research assistant. In vitro culture of different plant tissues
Bioheuris SA. Argentina
https://www.bioheuris.com/en/home/
2016 – 2017
Duties: preparation and maintenance of in vitro cultivation of oilseed species of agronomic importance, acclimatization of specimens

Field research assistant of The Molecular Markers Laboratory
Santa Rosa Breeding Ltd. Argentina
https://www.santarosasemillas.com.ar/
2016 -2017
Duties: working in a molecular biology laboratory, herbicide resistance testing, maintenance of plants in breeding chambers and greenhouses, controlling pests and disease pressure,

Internships

Department of Agriculture, Reading University, Reading, England
Fellow granted by the Department of Zoology at the University of Cambridge
Supervisor: Tom Breeze.
February 2023- March 2023
Duties: Adapting a pollinator model to predict bee abundance in different landscapes. This involves using satellite imagery, R software, planning interviews with scientists, and collecting data on the biological characteristics of bee species

Natural Resources Directorate. Ministry of Water, Public Services, and Environment of the Government of Santa Fe, Argentina
2015-2016
Duties: quarantine and release of specimens of wild animals obtained through seizures. Management of permits for legal possession and breeding of wildlife. Water sampling for subsequent biological analysis to assess the degree of contamination, and censuses of ichthyofauna

Leader in research projects

Supervisor of the degree thesis: Behaviour of *Peponapis fervens* on *Cucurbita maxima* flowers
Faculty of Agricultural Sciences, National University of Rosario
2023 - present

Supervisor of the degree thesis: Ecosystem service in soybean
Faculty of Agricultural Sciences, National University of Rosario
2022 -2023

Supervisor of a project: Study of the frequency of diurnal floral visitors in two sunflower lines that differ in the number of structures similar to glandular trichomes in their anthers
Faculty of Agricultural Sciences, National University of Rosario
2020 - 2022

Participant in management committees

Follow-up commission for undergraduate thesis plans
Faculty of Agricultural Sciences, National University of Rosario. Argentina
Since 2024-Present

Management Commission of the Research Institute in Agricultural Science
Institute of Research in Agricultural Sciences. Argentina
Since 2022-Present

Commission for the Study of Environmental Problems
 Faculty of Agricultural Sciences, National University of Rosario. Argentina
2020 - 2021

Commission of the Study Plan of the Degree in Natural Resources
 Faculty of Agricultural Sciences, National University of Rosario. Argentina
2017 – 2018

Participant in research projects

SURPASS: Grant for an international partnership between Argentina, Brazil, Chile and the UK, working on pollinators and pollination services in South America
Faculty of Exact, Physical, and Natural Sciences, National University of Córdoba. Argentina
2019 - 2023

Ecosystem services provided by interactions with insects in agricultural production systems
Faculty of Agricultural Sciences, National University of Rosario. Argentina
2018 - 2023

Structure and dynamics of Chaco Pampas communities
Faculty of Agricultural Sciences, National University of Rosario. Argentina
2020

Between Streams and Rivers
Faculty of Agricultural Sciences, National University of Rosario. Argentina
2018 -2019

Production and conservation in agroecosystems, two sides of the same coin: diversity of pollinators and agricultural production
National Scientific and Technical Research Council. Argentina
2014 -2017

Determination of the molecular bases of apomixis in Paspalum notatum and development of a transformation platform for the functional study of candidate genes
Faculty of Agricultural Sciences, National University of Rosario. Argentina
2014 -2015

Volunteer

January and Jun 2016-2017

Center for Biodiversity and Environment Research. Argentina
Duties: Population sampling of *Callonetta leucophrys*, increase in the number of nests in various sites within the wetland

February 2016

Argentine Museum of Natural Sciences 'Bernardino Rivadavia' and Institute of Natural Sciences Research. Argentina
Duties: Fieldwork, systematics and ecology of predatory ants in the subtropical forest, behavior of *Dinoponera australis*

January 2014

Senda Verde Animal Refuge & Eco Lodge. Bolivia
Duties: <u>Care of threatened animals</u> from illegal wildlife trafficking, and participation in the <u>tropical forest</u> reforestation project.

January 2013

Karumbé. Urguay
Duties: Research and <u>conservation</u> of threatened <u>sea turtles</u> in the Cerro Verde Marine Protected Area. <u>Outreach</u> to tourists and the local population

Thesis and publications

Degree thesis. Title: The role of entomophilous pollination service on productive parameters of *Brassica napus* in Santa Fe

PhD thesis. Title: Native and exotic bees in horticultural systems within an ecological intensification gradient.

Plant Reproductive Success Mediated by Nectar Offered to Pollinators and Defensive Ants in Terrestrial Bromeliaceae. 2024. Torres, C., <u>Mazzei, M.P.,</u> Vesprini, J., L.D., Galetto. Plants 13 (4), 493.

Tomato production under greenhouse conditions: Bumblebees or hormones?. 2024. Corti, C. ,Meroi Arcerito, F. M., Gregorio Fernandez de Landa, G., <u>Mazzei M.P.</u>, Fernandez de Landa, M., Maggi M., Galetto, L.
https://doi.org/10.1016/j.scienta.2023.112747

Sobre la importancia de la publicación de nuevos registros para la flora del departamento Caseros, Santa Fe, Argentina. 2023. Barberis, I. M., Alvarez Arnesi, E., Asmus, J. P., Craviotto, M. R., Klekailo, G. N., <u>Mazzei, M. P.</u>, Tessore, Ángeles, Tuesca, D., & Vesprini, J. L. Sobre la importancia de la publicación de nuevos registros para la flora del departamento Caseros, Santa Fe, Argentina. Cienc. Agron. 42, e035. https://doi.org/10.35305/agro42.e035

Soybean dependence on biotic pollination decreases with latitude. 2023. Cunha, N.L. da, Chacoff, N.P., Sáez, A., Schmucki, R., Galetto, L., Devoto, M., Carrasco, J., <u>Mazzei, M.P.</u>, Castillo, S.E., Palacios, T.P., Vesprini, J.L., Agostini, K., Saraiva, A.M., Woodcock, B.A., Ollerton, J., Aizen, M.A. Agric. Ecosyst. Environ. 347, 108376.
https://doi.org/10.1016/j.agee.2023.108376

Are floral traits and their phenotypic variability related to plants with generalized or specialized pollination systems? A community perspective. 2023. Galetto, L., Morales, M.S., <u>Mazzei, M.P.,</u> Torres, C. Flora 298, 152204.
https://doi.org/10.1016/j.flora.2022.152204

Pollination service and soybean yields. 2022. Santone, A., <u>Mazzei, M.P.,</u> Vesprini, J., Torres, C., Amarilla, L.D., Galetto, L. Acta Oecologica 116, 103846. https://doi.org/10.1016/j.actao.2022.103846

Seminatural habitats and their proximity to the crop enhance canola (*Brassica napus*) pollination and reproductive parameters in Argentina. 2021. <u>Mazzei, M.P.</u>, Vesprini, J.L., Galetto, L. Crop Sci. 61, 2713–2721.
https://doi.org/10.1002/csc2.20450

Non-pollinating floral visitors of the *Cucurbita* genus plants and their relationship with the presence of pollinating bees. 2020. <u>Mazzei, M.P.</u>, Vesprini, J.L., Galetto, L. Acta Agronómica 69, 256–265.
https://doi.org/10.15446/acag.v69n4.87639

Science News: The buzz about pollinators in canola fields https://www.crops.org/news/science-news/buzz-about-pollinators-canola-fields/

Congresses and scientific meetings

Reviewer

2023

VIII Science and Technology Conference II Argentina-Chile Meeting on Agricultural Sciences. Argentina

2019

Congress and Meeting of the Rosario Society of Biology. Argentina

2018

Congress and Meeting of the Rosario Society of Biology. Argentina

2017

XVIII Technical and Scientific Dissemination Conference, Faculty of Veterinary Sciences. Argentina

Speaker

2023

XXV Congress and XLIII Annual Meeting of the Rosario Biology Society
Comprendiendo la influencia de los tricomas glandulares capitados en los visitantes florales del girasol
Compuestos volátiles emitidos por los tricomas glandulares de las anteras durante el desarrollo reproductivo del girasol

Student Conference on Conservation Science, Department of Zoology. Cambridge, UK
Ecological intensification shaping orchard bees

2022

VII Science and Technology Conference. Argentina

Statistical analysis of the abundance of diurnal floral visitors in sunflower genotypes that differ in the number of glandular

trichomes on anthers https://doi.org/10.35305/agro39.e022

2021

XXIX Argentine Ecology Meeting. Argentina

Lack of records: are there specialist bees foraging in local gardens?

Wild pollinators contribute to the deposit of tomato pollen in orchards

https://drive.google.com/file/d/1tVBrhZqM4fCa17PB_9K83tLSsFur4CqG/view

2020

IV Joint Meeting of Biology Societies of the Argentine Republic. Argentina
Effect of the presence of glandular trichomes in cultivated sunflower anthers on the frequency and richness of floral visitors https://ri.conicet.gov.ar/bitstream/handle/11336/189873/CONICET_Digital_Nro.2966ef03-678c-439c-92e9-3f1d0976b378_A.pdf.pdf?sequence=5&isAllowed=y

2019

First Meeting of the Network of Researchers in Pollination Biology of Argentina. Argentina
The impact of improving the ecosystem service of pollination within an ecological intensification gradient in *Cucurbita maxima* in the south of Santa Fe https://polar2019.files.wordpress.com/2019/10/libro-de-resc3bamenes-polar-2019-v7.0-1.pdf

2018

XXV Conference of Young Researchers Association of Montevideo Group Universities Research without borders for scientific and cultural integration. Paraguay
The role of entomophilous pollination service on productive parameters of *Brassica napus* in Santa Fe
http://grupomontevideo.org/sitio/wp-content/uploads/2017/10/Libro-Resumen-AUGM.pdf

2017

II Transdisciplinary Meeting on Agricultural Sciences. Argentina
Effect of the entomophilous pollination service on the productivity of soybean crops (*Glycine max* (L.)
https://rephip.unr.edu.ar/bitstreams/a308e1b9-6988-4cde-98fe-d35684b8e630/download

2016

I Transdisciplinary Meeting on Agricultural Sciences, XVII Conference on Technical-Scientific Dissemination, IV Latin American Conference II Conference on Science and Technology. Argentina
Effect of the ecosystem service of pollination on chia and rapeseed
https://rephip.unr.edu.ar/bitstreams/89d26d40-b4b4-4915-82c4-025703a93d4b/download

Courses

2023

Introduction to social science for conservationists

Fellow granted by the Department of Zoology at the University of Cambridge

Universidad de Cambridge, Cambridge England. 30hs

2022

Introduction to Bayesian statistical methods in Ecology

National University of Buenos Aires. Argentina. 30hs. Score: 10

Workshop What did we learn to teach? Towards a New Pedagogical Model
National University of Rosario. Argentina. 5hs

Micro-story workshop to communicate science
National University of Rosario. Argentina. 6hs

2021

Statistics
National University of Córdoba. Argentina. 60hs. Score: 9

Epistemology
National University of Córdoba. Argentina.: 60hs. Score: 10

Experimental design
National University of Córdoba. Argentina. 60hs. Score: 10

2020

Descriptive multivariate analysis in biological and social research
National University of Buenos Aires. Argentina. 96 hs. Score: 8

Means and techniques for the publication of scientific production
National University of Patagonia Austral. Argentina. 40 hs. Score: 10

2019

Pedagogical workshop: Do we teach for the future?
National University of Rosario. Argentina. 4 hs

Pollinator ecology
INIBIOMA Universidad Nacional del Comahue-CONICET. Argentina. 66 hs. Score: 10

Advanced statistical models using the R language
National University of Córdoba. Argentina. 40hs. Score: 10

Apoid Pollinator Workshop
Centro de Investigación en Abejas Sociales National University of Mar del Plata. Argentina. 24hs

Advanced Statistical Methods in Ecology and Evolution
Facultad de Ciencias de la Universidad de la República de Uruguay. Uruguay. 60hs. Score:10

Agroecological practices for family farming Contributions to systems redesign
National University of Córdoba. Argentina .40hs. Score: 9

Programming in the university classroom
National University of Rosario. Argentina. Duration: 30hs

2018

Environmental Management of Rural Landscapes
National University of Mar del Plata. Argentina. Duration: 60hs. Score: 9

Introduction to elementary R
National University of Rosario. Argentina. Duration: 20hs

Digital image processing and its application to the study of biological systems
National University of Rosario. Argentina. 40hs. Score: 8

Integrative Didactic Strategies in the Degree in Natural Resources
National University of Rosario. Argentina. 30hs

Evolutionary biology: fundamentals and discoveries
National University of Río Cuarto. Argentina. 40hs. Score: 10

Languages

Spanish, mother tongue

English, Academic IELTS Exam, score 6.5 (B2)
2023

Software

Micrososft office
Google Suite
R project
R studio
ArcGis
QGIS
ENVI
Inkscape

Driver's license

Driver's license available since 2010. Automobiles, trucks, private use vans, and motorized motorhomes up to 3500 kg in weight with a trailer of up to 750 kg or motorhome. I have a valid NC driver's license (international) and experience safely driving to and working in remote field sites and adverse conditions.

Hobbies

Engaging in physical activities such as aerial dance and running, and taking photos of wildlife

Contact references

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Dr. José Luis Vesprini, Full Professor, Faculty of Agricultural Sciences - National University of Rosario, Argentina. Email: jvesprin@unr.edu.ar. Phone: +54 9341 3480434

Dr. Ignacio Barberis, Independent Researcher of the National Scientific and Technical Research Council. Full Professor, Faculty of Agricultural Sciences - National University of Rosario, Argentina.
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