

Curriculum vitae

Florencia PALOTTINI

INBA-CONICET,
Faculty of Agronomy, University of Buenos Aires.
Av. San Martín 4453 (1417) Buenos Aires. TE-FAX: (+54 11) 5287-0381
E-mail: fpalottini@agro.uba.ar; fpalottini@gmail.com

Personal Information

Place and date of birth: Buenos Aires, August 4, 1981
Nationality: Argentine
ID number: 28,996,891
Marital status: Married
Children: Two

Recent Positions

June 2024 – present
Head of Practical Works (Jefe de Trabajos Prácticos), Chair of Zoology, Faculty of Agronomy, University of Buenos Aires.

November 2023 – present
Associate Researcher in the Scientific and Technological Researcher Career (CIC), at FAUBA–UBA. INBA–CONICET.

November 2018 – October 2023
Assistant Researcher in the Scientific and Technological Researcher Career (CIC), at the Social Insects Laboratory, Faculty of Exact and Natural Sciences, University of Buenos Aires. IFIBYNE–CONICET.

University Education

*Postgraduate Degree: Ph.D. in Biological Sciences, University of Buenos Aires.
Period: March 2009 – June 2014
Awarding Institution: Faculty of Exact and Natural Sciences, University of Buenos Aires. Thesis Title: Alarm pheromone of *Triatoma infestans* (Heteroptera: Reduviidae): Chemical and behavioral aspects. Final Grade: 10 (Outstanding)

*Undergraduate Degree: Licentiate in Biological Sciences, University of Buenos Aires.
Period: March 2002 – December 2008
Awarding Institution: Faculty of Exact and Natural Sciences, University of Buenos Aires. Thesis Title: Functional response of *Gonatocerus* sp. “clade 1” (Hymenoptera: Mymaridae) aff. *tuberculifemur* (Ogloblin), a candidate for the biological control of *Homalodisca vitripennis* (Germar) (Hemiptera: Cicadellidae) in the U.S.A.
Final Grade: 10. Grade Point Average (GPA): 8.34

Teaching Experience

Participation in Undergraduate and Postgraduate Courses

2024 – Head of Practical Works, Chair of Agricultural Zoology, Faculty of Agronomy, University of Buenos Aires.

2023 – Chemical Ecology: The Chemistry of Biological Interactions.
Theoretical–practical postgraduate course, Faculty of Exact and Natural Sciences, University of Buenos Aires. Doctoral credit: 3 points.
Organized by Drs. Andrés González Ritzel, Walter Farina, Florencia Palottini, and Adriana Kolender. Organizing Instructor; February–March 2023.

2022 – Topics in Insect Physiology and Behavior.
Undergraduate/Postgraduate course, Faculty of Exact and Natural Sciences, University of Buenos Aires. Invited researcher collaborating in practical sessions.

2019 – Chemical Ecology: The Chemistry of Biological Interactions.
Theoretical postgraduate course, Faculty of Exact and Natural Sciences, University of Buenos Aires. Doctoral credit: 1 point.
Organized by Drs. Andrés González Ritzel, Walter Farina, and Florencia Palottini. Organizing Instructor; March 2019.

March 2010 – March 2011 – Teaching Assistant (part-time, paid position) in Human Histology for Pharmacy and Biochemistry, undergraduate level, John F. Kennedy University (Argentina).

Scientific background

a) Peer-Reviewed Articles in Indexed Journals

2025 – Palottini, F., Lucia, A., Martinez, E., & Balbuena, M. S. (2025). Volatile Organic Compounds Release Under Threat in Bumblebees: Chemical Identification and Antennal Detection. *Journal of Chemical Ecology*, 51, 74.
<https://doi.org/10.1007/s10886-025-01627-w>

2025 – Verellen, F., Palottini, F., Estravis-Barcala, M. C., & Farina, W. M. (2025). Sugar conditioning combined with nectar nonsugar compounds enhances honey bee pollen foraging in a nectarless dioecious crop. *Scientific Reports*, 15(1), 1756.
<https://doi.org/10.1038/s41598-025-85494-1>

2024 – Palottini, F., Fernández, C., & Balbuena, M. S. (2024). Antennal sensilla pattern distribution and odor detection in *Bombus pauloensis* foragers (Hymenoptera: Apidae). *Apidologie*, 55, 83. <https://doi.org/10.1007/s13592-024-01123-2>

2024 – Nery, D., Palottini, F., & Farina, W. M. (2024). The South American Black Bumblebee (*Bombus pauloensis*) as a Potential Pollinator of Alfalfa (*Medicago sativa*). *Agriculture*, 14(12), 2192. <https://doi.org/10.3390/agriculture14122192>

2024 – Estravis-Barcala, M. C., Palottini, F., Verellen, F., González, A., & Farina, W. M. (2024). Sugar-conditioned honey bees can be biased towards a nectarless dioecious crop. *Scientific Reports*, 14, 18263. <https://doi.org/10.1038/s41598-024-67917-7>

2023 – Farina, W. M., Arenas, A., Estravis-Barcala, M. C., & Palottini, F. (2023). Targeted crop pollination by training honey bees: advances and perspectives. *Frontiers in Bee Science*, 1:1253157. <https://doi.org/10.3389/frbee.2023.1253157>

2023 – Farina, W. M., Palottini, F., Estravis-Barcala, M. C., Arenas, A., Balbuena, M. S., & González, A. (2023). Conditioning honeybees to a specific mimic odor increases foraging activity on a self-compatible almond variety. *Apidologie*, 54, 40. <https://doi.org/10.1007/s13592-023-01019-7>. (The first three authors contributed equally to this work.)

2021 – Estravis-Barcala, M. C., Palottini, F., & Farina, W. M. (2021). Learning of a mimic odor combined with nectar nonsugar compounds enhances honeybee pollination of a commercial crop. *Scientific Reports*, 11(1), 1–8. <https://doi.org/10.1038/s41598-021-03305-9>. (The first two authors contributed equally to this work.)

2021 – Estravis-Barcala, M. C., Palottini, F., Macri, I., Nery, D., & Farina, W. M. (2021). Managed honeybees and South American bumblebees exhibit complementary foraging patterns in highbush blueberry. *Scientific Reports*, 11, 8187. <https://doi.org/10.1038/s41598-021-87729-3>

2021 – Marchi, I. L., Palottini, F., & Farina, W. M. (2021). Combined secondary compounds naturally found in nectars enhance honeybee cognition and survival. *Journal of Experimental Biology*, 224(6), jeb239616. <https://doi.org/10.1242/jeb.239616>

2020 – Nery, D., Palottini, F., & Farina, W. M. (2020). Classical olfactory conditioning promotes long-term memory and improves odor-cued flight orientation in the South American native bumblebee *Bombus pauloensis*. *Current Zoology*, zaaa073. <https://doi.org/10.1093/cz/zaaa073>

2019 – Estravis-Barcala, M. C., Palottini, F., & Farina, W. M. (2019). Honey bee and native solitary bee foraging behaviour in a crop with dimorphic parental lines. *PLOS ONE*. <https://doi.org/10.1371/journal.pone.0223865>. (The first two authors contributed equally to this work.)

2019 – Varone, L., Aguirre, M. B., Lobos, E., Ruiz, D., Hight, S. D., Palottini, F., Guala, M., & Logarzo, G. A. (2019). Mortality causes at different stages of *Cactoblastis cactorum* in the native range. *BioControl*. <https://doi.org/10.1007/s10526-019-09938-0>

2019 – Virla, E. G., Van Nieuwenhove, G. A., Palottini, F., Triapitsyn, S. V., & Logarzo, G. A. (2019). Spatial and seasonal distribution of egg parasitoids of the sharpshooter *Tapajosa rubromarginata* (Hemiptera: Cicadellidae: Proconiini) on feral Johnson grass and commercial citrus host in Argentina. *Biological Control*, 132, 81–88. <https://doi.org/10.1016/j.biocontrol.2019.02.004>

2019 – Gatica Hernández, I., Palottini, F., Macri, I., Galmarini, C. R., & Farina, W. M. (2019). Appetitive behavior of the honey bee *Apis mellifera* L. in response to phenolic compounds naturally found in nectars. *Journal of Experimental Biology*, 222, jeb189910. <https://doi.org/10.1242/jeb.189910>. (The first two authors contributed equally to this work.)

2018 – Palottini, F., Estravis-Barcala, M. C., & Farina, W. M. (2018). Odor learning and its experience-dependent modulation in the South American native bumblebee *Bombus atratus* (Hymenoptera: Apidae). *Frontiers in Psychology*, 9, 603. <https://doi.org/10.3389/fpsyg.2018.00603>. (The first two authors contributed equally to this work.)

2016 – Palottini, F., & Manrique, G. (2016). Compounds released by disturbed adults of the haematophagous bug *Triatoma infestans* (Hemiptera: Reduviidae): behavioural effects of single compounds and binary mixtures. *Physiological Entomology*, 41, 12147. <https://doi.org/10.1111/phen.12147>

2014 – Palottini, F., González Ritzel, A., & Manrique, G. (2014). Filling dynamics of the Brindley's glands in the blood-sucking bug *Triatoma infestans* (Hemiptera: Reduviidae). *Journal of Insect Physiology*, 71, 122–127.

2013 – Minoli, S., Palottini, F., & Manrique, G. (2013). The main component of an alarm pheromone of kissing bugs plays multiple roles in the cognitive modulation of the escape response. *Frontiers in Behavioral Neuroscience*, 7(77), 1–10. (The first two authors contributed equally to this work.)

2013 – Minoli, S., Palottini, F., Crespo, J. G., & Manrique, G. (2013). Dislodgement effect of natural semiochemicals released by disturbed triatomines: a possible alternative monitoring tool. *Journal of Vector Ecology*, 38(2).

b) Internships, Scholarships, and Awards

1-Volunteering in National Parks:

*El Palmar (Entre Ríos), July 17 – August 5, 1999.

*Lago Puelo (Chubut), February 3 – March 3, 2000.

*Glaciares (Santa Cruz), February 2 – March 2, 2001.

In all cases, fieldwork was conducted alongside park rangers, including guided tours for visitors and exploration of remote park areas.

2-Paid Internship at the South American Laboratory of Biological Control (SABCL, currently FuEdEI). Director: Dr. Guillermo Logarzo. May 2005 – December 2008.

3-Doctoral Fellowship awarded by the National Agency for Scientific and Technological Promotion (Agencia Nacional de Promoción Científica y Tecnológica). Research topic: “Function of volatiles released upon disturbance by Brindley's and meta-sternal glands in Chagas disease vectors.” January 2009 – January 2012.

4-Economic Assistance Fellowship awarded by the Foundation of Exact and Natural Sciences (Fundación de Ciencias Exactas y Naturales) to continue the doctoral project for 3 months, bridging the end of the Type I postgraduate fellowship (Agencia) and the start of the Type II postgraduate fellowship (CONICET). January 2012 – April 2012.

5-Type II Postgraduate Fellowship awarded by CONICET.

Research topic: “Function of volatiles released upon disturbance by Brindley's and meta-sternal glands in Chagas disease vectors.” April 2012 – March 2014.

6- “Pupa” Fellowship awarded by the Organizing Committee of the VIII Argentine Congress of Entomology (VIII CAE) to attend the congress in Bariloche, Argentina. April 17–20, 2012.

7-3rd Prize – Poster Competition, VIII CAE, Bariloche, Argentina.

Manrique, G., Minoli, S., & Palottini, F. (2012). “Escape response of *Triatoma infestans* larvae (Hemiptera: Reduviidae) to volatiles released by disturbed adults: identification of active alarm pheromone compounds.” April 17–20, 2012.

8-Fellowship for Students from Developing Countries awarded by the Max Planck Institute for Chemical Ecology to attend ISCE 2012 (28th Annual Meeting of the International Society of Chemical Ecology), Vilnius, Lithuania. July 27–30, 2012.

9-Internal Postdoctoral Fellowship (PDTS – Project for Technological and Social Development) awarded by CONICET.

Project: “Precision beekeeping: valorization of innovative synthetic formulations to promote targeted pollination by honeybees on specific crops.” June 2015 – June 2017.

10-Entry into the Career of Scientific and Technological Researcher (CONICET), Assistant Researcher Category. Selection year: 2017.

11-Registration Fee Waiver for the Bombuss 3.0 Congress, San Cristóbal de las Casas, Chiapas, Mexico, granted by the organizing committee. November 2023.

12-Financial Assistance for Travel to Mexico (Bombuss 3.0), provided by the Buenos Aires Office of the International Organization for Migration (IOM). November 2023.

c) Conference Participation

2025 – Nery, D.; Estravis-Barcala, M.C.; Balbuena, M.S.; Palottini, F. “*Interaction between native Río de La Plata trees and the Argentinian Flag butterfly*”. XL Argentine Botany Conference, September 23–27, Mar del Plata, Argentina.

2023 – Palottini, F.; Manzur, M. Organizer of the Symposium: “*Insect-plant interactions in Agroecosystems*”. VII Congress of the Latin American Association of Chemical Ecology (ALAEQ), December 4–7, Buenos Aires, Argentina.

2023 – Palottini, F.; Lucia, A.; Balbuena, M.S. Talk: “*Chemical ecology of *Bombus pauloensis*: first evidence of an alarm pheromone?*” Bombuss 3.0, November 13–19, San Cristóbal de las Casas, Chiapas, Mexico.

2023 – Palottini, F.; Lucia, A.; Balbuena, M.S. Talk: “*Chemical ecology of *Bombus pauloensis*: evidence for a possible alarm pheromone*”. Symposium: “*Importance of chemical bases in ecological interactions*”, XI Argentine Meeting of Ecology, October 17–20, San Carlos de Bariloche, Argentina.

2023 – Fernández, C.; Balbuena, M.S.; Palottini, F. “*Olfactory lateralization in *Bombus pauloensis* (Hymenoptera: Apidae): antennal sensilla distribution and*

electroantennographic recordings". IV Meeting of Behavioral Biology of the Southern Cone, August 7–9, Buenos Aires, Argentina.

2022 – Palottini, F.; Kolender, A.A.; Lucia, A.; Balbuena, M.S. Talk: "*Is there an alarm pheromone in the native bumblebee *Bombus pauloensis* (Hymenoptera: Apidae)?*" Symposium: "*Chemical ecology: the chemistry behind insect interactions*", XI Argentine and XII Latin American Congress of Entomology, October 24–28, La Plata, Argentina.

2022 – Nery, D.; Palottini, F.; Estravis-Barcala, M.C.; Verellen, F.; Farina, W.M. "*Precision pollination by *Bombus pauloensis* (Hymenoptera: Apidae) in highbush blueberry (*Vaccinium corymbosum*, Ericales: Ericaceae)*". XI Argentine and XII Latin American Congress of Entomology, October 24–28, La Plata, Argentina.

2022 – Verellen, F.; Palottini, F.; Estravis-Barcala, M.C.; Farina, W.M. "*Effects of floral compounds on foraging by *Apis mellifera* (Hymenoptera: Apidae) in kiwi, *Actinidia deliciosa* (Ericales: Actinidiaceae)*". XI Argentine and XII Latin American Congress of Entomology, October 24–28, La Plata, Argentina.

2021 – Nery, D.; Palottini, F.; Farina, W.M. "*Classical olfactory conditioning promotes long-term memory and improves odor-cued flight orientation in the South American native bumblebee *Bombus pauloensis**". VI ALAEQ, November 20–21, Buenos Aires, Argentina.

2019 – Nery, D.; Palottini, F.; Estravis-Barcala, M.C.; Farina, W.M. "*New tools to stimulate directed pollination mediated by *Bombus pauloensis* in highbush blueberry (*Vaccinium corymbosum*)*". II Meeting of Behavioral Biology of the Southern Cone, November 6–8, Montevideo, Uruguay.

2019 – Marchi, I.; Palottini, F.; Farina, W.M. "*Combined nectar compounds affect honeybee cognitive abilities*". II Meeting of Behavioral Biology of the Southern Cone, November 6–8, Montevideo, Uruguay.

2019 – Palottini, F.; Gatica Hernández, I.; Macri, I.; Galmarini, C.R.; Farina, W.M. "*Onion pollination: antagonistic effects of nectar phenolic compounds on honeybee appetitive behavior*". First Meeting of the Argentine Network of Pollination Biology Researchers, October, Buenos Aires, Argentina.

2019 – Estravis-Barcala, M.C.; Palottini, F.; Farina, W.M. "*Introduced social bees and native solitary bees in a dimorphic crop: foraging behavior and potential contribution to pollination*". First Meeting of the Argentine Network of Pollination Biology Researchers, October, Buenos Aires, Argentina.

2018 – Estravis-Barcala, M.C.; Palottini, F.; Farina, W.M. "**Apis mellifera* and native solitary bees in a dimorphic crop: foraging behavior and potential pollination contribution*". XXVIII Argentine Meeting of Ecology, November, Mar del Plata, Argentina.

2018 – Palottini, F.; Gatica Hernández, I.; Macri, I.; Galmarini, C.R.; Farina, W.M. "*Onion pollination: antagonistic effects of nectar phenolic compounds on honeybee*

appetitive behavior". XXVIII Argentine Meeting of Ecology, November, Mar del Plata, Argentina.

2018 – Estravis-Barcala, M.C.; Palottini, F.; Macri, I.; Farina, W.M. "*Comparing foraging behavior of Apis mellifera and the South American native bumblebee Bombus atratus in highbush blueberry (Vaccinium corymbosum) crops*". XI International Symposium on Pollination, April, Berlin, Germany.

2018 – Estravis-Barcala, M.C.; Palottini, F.; Macri, I.; Farina, W.M. "*Comparing the foraging activity of Apis mellifera and Bombus atratus in highbush blueberry (Vaccinium corymbosum)*". X Argentine Congress of Entomology, May, Luján de Cuyo, Mendoza, Argentina.

2017 – Estravis-Barcala, C.; Palottini, F.; Farina, W.M. "*Foraging behavior of the domestic honeybee Apis mellifera (Hymenoptera: Apidae) and other floral visitors in sunflower crops (Helianthus annuus)*". I Meeting of Behavioral Biology of the Southern Cone, August, Buenos Aires, Argentina.

2017 – Palottini, F.; Estravis-Barcala, C.; Farina, W.M. "*Classical olfactory conditioning in the South American native bumblebee Bombus atratus (Hymenoptera: Apidae)*". I Meeting of Behavioral Biology of the Southern Cone, August, Buenos Aires, Argentina. (oral)

2016 – Estravis-Barcala, C.; Palottini, F.; Farina, W.M. "*Sustainable chemical tools to improve honeybee foraging efficiency in a pollinator-dependent crop*". 1st Joint Meeting ISCE/ALAEQ, Brazil.

2015 – Palottini, F.; González, A.; Manrique, G. "*Filling dynamics of Brindley's glands and active compounds of the alarm pheromone in the kissing bug Triatoma infestans (Heteroptera: Reduviidae)*". IX Argentine Congress of Entomology, Posadas, Argentina.

2013 – Palottini, F.; Minoli, S.; Manrique, G. "*Learning how to escape from an alarm pheromone in Triatoma infestans*". XXXI Annual Meeting of Ethology, IV Latin American Symposium on Ethology, Sao Paulo, Brazil.

2013 – Minoli, S.; Palottini, F.; Manrique, G. "*Multiple roles of a single compound in cognitive modulation of the escape response in insects*". Satellite Meeting on Behavioral Neurobiology: "*Neuroethology and Memory Neurobiology in the Southern Cone*", XXVII Argentine Society for Neuroscience Congress.

2013 – Minoli, S.; Palottini, F.; Manrique, G. "*Learning to escape from the alarm pheromone in Triatoma infestans*". 1st Argentine Congress of Behavioral Biology, Mar del Plata, Buenos Aires, Argentina.

2013 – Palottini, F.; Manrique, G. "*Searching for active compounds of the alarm pheromone of Triatoma infestans*". 1st Argentine Congress of Behavioral Biology, Mar del Plata, Buenos Aires, Argentina. (oral)

- 2013 – Logarzo, G.A.; Palottini, F.; Luft Albarracín, E.B.; Triapitsyn, S.; Virla, E. “Survey of oophilous parasitoid species associated with proconiine sharpshooters (Hemiptera: Cicadellidae: Proconiini) in Argentina”. V Argentine Meeting of Parasitoidologists, San Miguel de Tucumán, Argentina.
- 2012 – Palottini, F.; Manrique, G. “*Triatoma infestans* larvae responses to volatiles released by disturbed adults: searching for active compounds of the alarm pheromone”. 2nd Latin American Meeting of Chemical Ecology, Huerta Grande, Córdoba, Argentina.
- 2012 – Palottini, F.; González, A.; Manrique, G. “Escape response of *Triatoma infestans* larvae to volatiles released by disturbed adults: identification of active alarm pheromone compounds”. 28th Annual Meeting of the International Society of Chemical Ecology, Vilnius, Lithuania.
- 2012 – Minoli, S.; Palottini, F.; Manrique, G. “Learning how to escape from an alarm pheromone in insects”. ISCE 2012, Vilnius, Lithuania.
- 2012 – Manrique, G.; Minoli, S.; Palottini, F. “Escape response of *Triatoma infestans* larvae to volatiles released by disturbed adults: identification of active alarm pheromone compounds”. VIII Argentine Congress of Entomology, Bariloche, Argentina.
- 2012 – Palottini, F.; González, A.; Manrique, G. “Filling dynamics of Brindley’s glands in *Triatoma infestans* and associated behavioral responses”. VIII Argentine Congress of Entomology, Bariloche, Argentina. Awarded work.
- 2011 – Palottini, F.; González, A.; Manrique, G. “Filling dynamics of Brindley’s glands in the Blood-Sucking Bug *Triatoma infestans* (Hemiptera: Reduviidae)”. 27th Annual Meeting of the International Society of Chemical Ecology, Burnaby, Canada.
- 2010 – Palottini, F.; Manrique, G. “Behavioral response of *Triatoma infestans* larvae to volatiles released by disturbed adults”. 1st Latin American Meeting of Chemical Ecology, Colonia del Sacramento, Uruguay.
- 2009 – Palottini, F.; Manrique, G. “Reload capacity of Brindley’s glands and its relationship with fasting in *Triatoma infestans*”. VI Brazilian Meeting of Chemical Ecology, Viçosa, Brazil.
- 2009 – Palottini, F.; Bruzzone, O.; Logarzo, G.A. “Importance of daily egg load in estimating attack rates of an egg parasitoid and its relation to functional response”. III Argentine Meeting of Parasitoidologists, Buenos Aires, Argentina.
- 2008 – Logarzo, G.A.; Varone, L.; Briano, J.A.; Lobos, E.; Ruiz, D.G.; Guala, M.F.; Palottini, F.; Hight, S. “Life tables of *Cactoblastis cactorum* (Berg) (Lepidoptera: Pyralidae) in prickly pear crops in Argentina”. VII Argentine Congress of Entomology, Huerta Grande, Córdoba, Argentina.

2008 – Palottini, F.; Guala, M.E.; Varone, L.; Logarzo, G.A. “*Survey of parasitoids of Cactoblastis cactorum (Berg) (Lepidoptera: Pyralidae) in Argentina*”. VII Argentine Congress of Entomology, Huerta Grande, Córdoba, Argentina.

d) Participation in Research Projects, Scientific and Technological Funding

“Physiology and behavior of Chagas disease vectors: Function of exocrine glands and keys involved in sexual behavior”. January 2009 – March 2011. Project Director: Dr. Gabriel Manrique. (Project: PICT-01191, funded by the National Agency for Scientific and Technological Promotion, Argentina).

“Behavior of Chagas disease vectors: Olfactory cues involved”. July 2010 – June 2012. Project Director: Dr. Gabriel Manrique. (Project: 20020090100257).

“Factors involved in the behavior of Chagas disease vectors”. March 2010 – July 2014. Project Director: Dr. Gabriel Manrique. (Project: 1046/10).

*“Physiological bases of learning and memory in blood-sucking insects: What can kissing bugs learn from their hosts?”. April 2010 – December 2014. Project Director: Dr. Sebastián Minoli. (Project: PICT-2009-0029, funded by the National Agency for Scientific and Technological Promotion, Argentina).

*“Cognitive ecology of the honeybee *Apis mellifera*: Basic and applied studies on a pollinator insect”. November 2014 – November 2017. Project Director: Dr. Walter Farina. (Project: PICT-2013-1060, funded by FONCyT, National Agency for Scientific and Technological Promotion, Argentina).

*“Ecology and cognition of the honeybee *Apis mellifera*: Basic and applied studies”. 2015–2017. Project Director: Dr. Walter Farina. (CONICET, PIP 112-201501-00633). Start: May 1, 2016.

*“Ecology and cognition of the honeybee *Apis mellifera*: An integrative approach to a pollinator insect”. 2018–2021. Project Director: Dr. Walter Farina. (ANPCyT, PICT 2016-2084).

*“Cognitive ecology of native and introduced social bees: An integrative approach on pollinator insects of agronomic importance”. 2019–2022. Project Director: Dr. Walter Farina. (ANPCyT, PICT 2019-2438).

*“Chemical ecology of native pollinator bees of economic and ecological interest: odors mediating intra- and interspecific interactions of social and solitary species”. 2020 (PICT – group in formation). Principal Researcher: Dr. María Sol Balbuena. (ANPCyT, PICT 020-SERIEA-02055).

*“Chemical cues mediating intra- and interspecific interactions of native bees, social and solitary”. 2023–2025 (PIP – Research Group). Principal Researcher: Dr. María Sol Balbuena.

*“Study of olfactory lateralization in the native bumblebee *Bombus pauloensis* (Hymenoptera: Apidae)”. 2022 (PICT initial). Principal Researcher: Dr. Florencia Palottini. (ANPCyT, PICT 01-PICT 2022-2022-02-00818).

e) Human Resources Training / Mentorship

*Co-Advisor of PhD Thesis of Lic. Denise Nery, at the Social Insects Laboratory, FCEyN-UBA-IFYBINE-Conicet. Defended in September 2024. Grade: 10/10.

*Co-Advisor of PhD Thesis of Lic. María Cecilia Estravis Barcala, at the Social Insects Laboratory, FCEyN-UBA-IFYBINE-Conicet. Defended in March 2022. Grade: 10/10.

*Co-Advisor of Bachelor's Thesis of Facundo Verellen, at the Social Insects Laboratory, FCEyN-UBA-IFYBINE-Conicet. Defended in April 2022. Grade: 10/10.

*Co-Advisor of Bachelor's Thesis of Ignacio Marchi, at the Social Insects Laboratory, FCEyN-UBA-IFYBINE-Conicet. Defended in June 2020. Grade: 10/10.

Technological Linkage / Innovation Background

a) Granted Patents

- -Formulation for promoting targeted pollination of almond tree crops in honey bees. Inventors: Farina WM / Estravis C / Palottini F. Patent granted No. US 11,457,650 B2 (USA National Phases). Grant date: 07/06/2022. Expiration date: 09/21/2039.
- -Formulation promoting targeted pollination of honey bees toward almond crops. Inventors: Farina WM / Estravis C / Palottini F. Patent AR109159B1. Publication date at the National Institute of Industrial Property: 08/31/2022. Expiration date: 07/26/2037.
- -Formulation promoting targeted pollination of honey bees toward almond crops. Inventors: Farina WM / Estravis C / Palottini F. Patent granted No. 202000193 (Chile National Phases). Grant date: 06/17/2022. Expiration date: 07/25/2038.
- -Formulation for promoting targeted pollination of almond tree crops in honey bees. Inventors: Farina WM / Estravis C / Palottini F. Patent application (Australia National Phases) No. 2018306139. Grant date: 09/14/2023. Expiration date: 07/25/2038.

b) Patent Applications

- -Formulation and composition for promoting targeted pollination of bees toward kiwi crops, and related methods. Inventors: Farina WM / Estravis C / Palottini F. Patent application in the United States No. US 17/903,871. PCT filing date: 09/06/2022.
- -Formulation and composition for promoting targeted pollination of bees toward blueberry crops, and related methods. Inventors: Farina WM / Estravis C / Palottini F. Patent application at INPI according to file 20220102387. Filing date: 09/02/2022.

- -Formulation and composition for promoting targeted pollination of bees toward blueberry crops, and related methods. Inventors: Farina WM / Estravis C / Palottini F. Patent application in the United States No. US 17/903,909. PCT filing date: 09/06/2022.
- -Formulation for promoting targeted pollination of almond tree crops in honey bees. Inventors: Farina WM / Estravis C / Palottini F. PCT patent filing date: 02/03/2020. China National Phases CP1191035P/CB. China National Intellectual Property Administration No. 2018800504739.
- -Formulation for promoting targeted pollination of almond tree crops in honey bees. Inventors: Farina WM / Estravis C / Palottini F. Patent application No. EP 18758970.0 (Europe National Phases). Filing date: 02/07/2020.

c) Technological Development Grants

- **-2013-2016 ToBEE, Precision Beekeeping:** Venture aimed at rapid access to global markets with unique products capable of naturally stimulating specific crop pollination. (FONARSEC, EMPRETECNO 6, EBT 130). Project Director: Walter Farina. Start: 03/18/2014.
- **-2013-2015 Precision Beekeeping:** Valorization of innovative synthetic formulations that promote targeted pollination of honey bees toward specific crops. November 2013 – October 2015. Project Director: Dr. Walter Farina. (UBACYT, PDTs, PX01; National PCTI Bank Code 99).

d) Participation in Innovation and Development Events

- **-2016 ALLTEC + 100K:** Technology project competition organized by the Argentine Chamber of Biotechnology, FUNINTEC, and the Institute of Biotechnological Research of UNSAM. 09/22/2016. ToBEE – Precision Beekeeping for Crop Pollination. Farina WM / Palottini F / Estravis C. Selected as Finalist. Category: Agrotechnology.

Professional Background – Technical Assistance / STAN

- **Technical Report 2020.** ToBee/Beeflow S.A./Brometán. “*Collection and identification of floral volatile compounds of alfalfa (Medicago sativa L.) at INIA, Colonia de Sacramento, Uruguay*”. January–March 2020.
- **Technical Report 2020.** ToBee/Beeflow S.A. “*Collection and identification of floral volatile compounds of cherry (Prunus avium L.) in Chimpay, Río Negro Province, Argentina*”. October 2019–March 2020.
- **Technical Report 2019.** ToBee/Beeflow S.A. “*Collection and identification of floral volatile compounds of onion (Allium cepa L.) in Chilecito, Mendoza Province, Argentina*”. December 2019–January 2020.
- **Technical Report 2019.** ToBee/Beeflow S.A. “*Effect of Ruminal S.A. capsules as a potential packaging form for synthetic formulations promoting targeted bee pollination in crops*”. October–December 2019.

- **Technical Report 2019.** ToBee/Beeflow S.A. “*Collection and identification of floral volatile compounds of cherry (Prunus avium L.) in Chimpay, Río Negro Province, Argentina*”. October–December 2019.
- **Technical Report 2019.** “*Stimulation with Blueberry Formulation at La Gloriosa S.A., Blueberry Crops – La Fe (Gdor. Virasoro, Corrientes Province)*”. July 2019.
- **Technical Report 2019.** Biobest/Brometán S.A.: “*Stimulation with Kiwi Formulation on nests of the native bumblebee Bombus pauloensis. Kiwi Crops, Mar del Plata, Buenos Aires Province, Argentina*”. November 2019.
- **Technical Report 2017.** La Gloriosa S.A., Blueberry Crops (Gdor. Virasoro, Corrientes Province): “*Foraging behavior of Apis mellifera and Bombus atratus in blueberry crops*”. July 2017.
- **Technical Report 2016.** AGD S.A., Almond Crops (Lavalle, Mendoza Province): “*Effect of stimulation with specific formulation on hives and crop*”. August–September 2015.
- **Technical Report 2016.** Pinto y Girones S.R.L., Sunflower Crops for hybrid seed production (Cnel. Pringles, Buenos Aires Province): “*Effect of stimulation with specific formulation on hives and crop*”. January 2016.