

Karina Balestrasse

Personal Information

Date of Birth: October 29th, 1971

Nationality: Argentine

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Academic Background

- **Biochemist.** Orientation: Plant and Soil Biochemistry. Graduated from the School of Pharmacy and Biochemistry, University of Buenos Aires, 1999.
- **PhD, University of Buenos Aires**, Biological Chemistry Area, 2003.
Thesis: *"Effects of cadmium on the Rhizobium–Legume symbiosis"*.
Grade: Outstanding — 10 (ten).
Supervisor: Dr. María Luján Tomaro.

Teaching

Adjunct Professor, part-time. Biochemistry Department. School of Agronomy, University of Buenos Aires.

June 2012 – present. Competitive selection April 2015.

Associate Professor (Regular), part-time. Competitive selection November 2024.

Biochemistry Department. School of Agronomy. UBA.

Publications

Total publications: **51**

h-index: 23

Book chapters: **4**

National and international conference presentations: **92**

Articles in International Peer-Reviewed Journals (from 2020 to present)

1. Sebastián Vicente, Pablo Grijalba, Karina Balestrasse, Stella M. Alzamora & Ana Pacin.
A preliminary study of aflatoxin contamination in a traditional Argentine food (fainá) manufactured with chickpeas (Cicer arietinum L.) naturally and artificially contaminated.
Food Additives & Contaminants: Part A. Published online: Sep 08, 2025. Q2 Scimago.
2. Matías G. Ferreyra, Brenda Santamaría, María M. Caffaro, Carla Zilli, Alejandra Hernández, Brenda L. Fina, **Karina B. Balestrasse*** and **Leandro Prevosto***.
Large-Scale Plasma-Activated Water Reactor: The Differential Impact on the Growth of Tomato and Bell Pepper Plants in Nutrient-Rich and Nitrogen-Free Substrates.
Agronomy, 15, 829. 2025. * **Equal contribution.** Q1 Scimago.
3. Matías G. Ferreyra, María M. Caffaro, Brenda Santamaría, Carla Zilli, Alejandra Hernández, Brenda L. Fina, Ada S. Vélez, **Karina B. Balestrasse*** and **Leandro Prevosto***.
Plasma-Activated Water Produced by a Moderately High Energy-Efficient 1-Liter Reactor: Effects on Germination and Growth of Tomato and Bell Pepper Plants.
14.722. 2025. * **Equal contribution.** Q1 Scimago.
4. Ricardo Molina, Carmen López-Santos, **Karina Balestrasse**, Ana Gómez-Ramírez and Jordi Sauló.
Enhancing Essential Oil Extraction from Lavandin Grosso Flowers via Plasma Treatment.
International Journal of Molecular Sciences. 2024, 25, 2383. Q1 Scimago.
5. Carla Zilli, Nicolás Pedrini, Eduardo Prieto, Juan Roberto Girotti, Pablo Vallecorsa, Matías Ferreyra, Juan Camilo Chamorro, Ezequiel Cejas, Brenda Fina, Leandro Prevosto, **Karina Balestrasse**.
Non-thermal plasma as emerging technology for Tribolium castaneum pest-management in stored grains and flours.
99, 2022, 102031. **Corresponding author.** Q1 Scimago.
6. Pérez-Pizá María Cecilia, Clausen Liliana, Cejas Ezequiel, Ferreyra Matías, Chamorro-Garcés Juan Camilo, Fina Brenda, Zilli Carla, Vallecorsa Pablo, Prevosto Leandro and **Balestrasse Karina**.
Non-thermal plasma application improves Megathyrus maximus germination, early establishment, and productivity.
Crop & Pasture Science. 2022. **Corresponding author.** Q1 Scimago.
7. M. C. Pérez-Pizá, V. N. Ibañez, A. Varela, E. Cejas, M. Ferreyra, J. C. Chamorro-Garcés, C. Zilli, P. Vallecorsa, B. Fina, L. Prevosto, C. F. Marfil and **K. B. Balestrasse**.
Non-Thermal Plasmas Affect Plant Growth and DNA Methylation Patterns in Glycine.
Journal of Plant Growth Regulation. August 2021. **Corresponding author.** Q1 Scimago.
8. Federico Spagnoletti, **Karina Balestrasse**, Viviana Chiocchio, Romina Giacometti, Raúl S. Lavado.
The arbuscular mycorrhizal fungus Rhizophagus intraradices reduces the root rot

caused by Fusarium pseudograminearum in wheat.

Rhizosphere 19, 2021. Q1 Scimago.

9. Ivana Sabljic, Jesica A. Barneto, **Karina B. Balestrasse**, Jorge A. Zavala, Eduardo A. Pagano.

Role of reactive oxygen species and isoflavonoids in soybean resistance to the attack of the southern green stink bug.

PeerJ. Open access 8, e9956. 2020. Q1 Scimago.

10. Pérez-Pizá, M. C., Grijalba, P. E., Cejas, E., Chamorro-Garcés, J. C., Ferreyra, M., Zilli, C., Vallecorsa, P., Santa-Cruz, D., Yannarelli, G., Prevosto, L. and **Balestrasse, K.**

Effects of non-thermal plasma technology on Diaporthe longicolla cultures and mechanisms involved.

Pest Management Science, 2020. **Corresponding author.** Q1 Scimago.

11. María Cecilia Pérez-Pizá, Ezequiel Cejas, Carla Zilli, Leandro Prevosto, Beatriz Mancinelli, Diego Santa-Cruz, Gustavo Yannarelli and **Karina Balestrasse.**

Enhancement of soybean nodulation by seed treatment with non-thermal plasmas.

Scientific Reports. 10:4917. 2020. **Corresponding author.** Q1 Scimago.

12. María Marta Caffaro, **Karina Beatriz Balestrasse**, and Gerardo Rubio.

Adsorption to soils and biochemical characterization of commercial phytases.

SOIL, 6, 153–162, 2020. Q1 Scimago.

Participation in Research Projects Funded by FONCYT or Other Agencies (2018–2025)

1. *Study of the application of non-thermal plasmas in direct and indirect forms to improve agri-food production.*

11220200100459CO. PIP 2021-2025 GI. **Principal Investigator.**

2. *Innovative method for integrated pest management of stored grains and flours.*

University of Buenos Aires, School of Agronomy.

UBA 20020190100043BA. 2020-2025. **Director.**

3. *Innovative method for integrated pest management of stored grains and flours.*

Funding entity: FONCYT. PICT 2018-2024 N°702. **Responsible Researcher.**

4. *Adding Value 2017 – “DEVELOPMENT OF CLIMATIC MODULES.”*

Funding entity: Ministry of Education of the Nation. **Director.**

5. *Non-thermal plasmas: an innovative technology for fungal infection control in soybean seeds.*

2017-2019. UBA 20020160100031BA. **Director.**

Human Resources Training

- Supervision of **3** CONICET research career positions
- Doctoral theses supervised/co-supervised: **5 completed**
- Master's theses supervised/co-supervised: **3 completed**
- Undergraduate theses supervised: **6 completed**

Collaboration Agreements

1. INBA/CONICET – BASF. Implementation of non-thermal plasmas for seed quality improvement. 2021.
2. INBA/CONICET – Don Mario. Implementation of non-thermal plasmas for seed quality improvement. 2022.
3. INBA/FAUBA-CONICET – TOPS FRAY S.A. Application of non-thermal plasma on wool for moth control.
CONVE-2024-00007552-UBA-DCT_FAGRO.
4. INBA/CONICET – YPF AGRO. Implementation of non-thermal plasmas for seed quality improvement. 2024-2026.
5. FAUBA/CONICET – INTA (Concepción del Uruguay). Responsible: **Karina Balestrasse**. Dec. 2022–2024.
6. Technical assistance to Syngenta 2024. Evaluation of non-thermal plasma treatments on corn and sunflower seeds.
7. Technical assistance to Syngenta 2025. Evaluation of non-thermal plasma treatments on sunflower seeds.

Awards Received

1. **UBATEC Award for Innovation and Applied Research**, Nov 2015.
University of Buenos Aires. *Implementation of an innovative technology for pathogen control and inoculant quality improvement in soybean seeds.*
2. **Special Mention**, ALLTEC+100K Technological Projects Competition.
San Martín National University Campus, Sept 22, 2016.
3. **INNOVAR 2017 National Innovations Contest – Food Category Award**.
Non-thermal plasma: innovative technology for pathogen control in seeds.
Ministry of Science, Technology and Productive Innovation. Oct 2017.
4. **Technological Development Award – InnovaT 25 Years**. Special Mention. 2019.
Technological innovation in pest management for grains and flours.
5. **GridX Biotech Accelerator**, June 2020.
Selected the *GreenPlasma* project led by **Karina Balestrasse** to invest USD 200,000 for the creation of a CONICET-based technology company.