

Curriculum Vitae – Dr. Mariela Echeverria

Personal Information

Name: Echeverria Mariela

Nationality: Argentine

Institutional Affiliation: Instituto de Investigaciones en Biociencias Agrícolas y Ambientales (INBA – CONICET/FAUBA)

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Current Positions

- Scientific Researcher, Instituto de Investigaciones en Biociencias Agrícolas y Ambientales (INBA – CONICET/FAUBA)
- Member of the Executive Board, INBA (CONICET-FAUBA)
- Teaching Assistant, Department of Biodiversity and Experimental Biology, College of Exact and Natural Sciences (FCEN), University of Buenos Aires (UBA)

Academic Background

- Ph.D. in Biological Sciences, University of Buenos Aires (FCEN – UBA), 2010
- B.Sc. in Biological Sciences, University of Buenos Aires (FCEN – UBA), 2004

Scientific Publications

Peer-reviewed journal articles

2024 - Mariela Echeverria, Yanina Soledad Izzi, M Victoria Criado, Carla Caputo. Identification and characterization of phosphorus-solubilizing endophytic root fungi isolated from barley (*Hordeum vulgare* L.) roots and their potential use as bio-inputs. *The Microbe* **3**: 100058. DOI: 10.1016/j.microb.2024.100058.

2019 - María Florencia Galotta, Paulina Pugliese, Flavio H. Gutiérrez-Boem, Cintia G. Veliz, María Victoria Criado, Carla Caputo, Mariela Echeverria, Irma N. Roberts. Subtilase activity and gene expression during germination and seedling growth in barley. *Plant Physiology and Biochemistry* **139**: 197–206. DOI: 10.1016/j.plaphy.2019.03.021.

2018 - Mariela Echeverria, Maria Virginia Moreno, Carla Caputo. Occurrence of *Fusarium* species in asymptomatic barley plants grown in field conditions under

differential nutritional regime. *Current Science* **115(5)**: 939–944. DOI: 10.18520/cs/v115/i5/939-944.

2018 - Francisco Gonzalez Antivilo, Rosalía Cristina Paz, Mariela Echeverria, Markus Keller, Jorge Tognetti, Roberto Borgo, Fidel Roig Juñent. Thermal history parameters drive changes in physiology and cold hardiness of young grapevine plants during winter. *Agricultural and Forest Meteorology* **262**: 227–236.

2017 - Maria V. Criado, Irma N. Roberts, Cintia G. Veliz, Mariela Echeverria, Flavio H. Gutierrez Boem, Carla Caputo. Phloem transport of assimilates in relation to flowering time and senescence in barley grown with different availabilities of nitrogen and phosphorus. *Archives of Agronomy and Soil Science* **64(4)**: 492–504. DOI:10.1080/03650340.2017.1367093

2016 - Maria Florencia Babuin, Mariela Echeverria, Ana Bernardina Menéndez, Santiago Javier Maiale. Arbuscular Mycorrhizal Pecan Seedlings Alleviate Effect of Restricted Water Supply. *HORTSCIENCE* **51(3)**: 212–215.

2016 - Cintia G. Veliz, Irma N. Roberts, María Victoria Criado, Mariela Echeverria, Carla Caputo. Relevancia de la disponibilidad de azufre y removilización de asimilados sobre la calidad de la cebada cervecera. *Química Viva* **1**: 11-15.

2014 - Cintia G. Veliz, María Victoria Criado, Irma N. Roberts, Mariela Echeverria, Pablo Prystupa, Paula Prieto, Flavio H. Gutierrez Boem, Carla Caputo. Phloem sugars and amino acids as potential regulators of hordein expression in field grown malting barley (*Hordeum vulgare* L.). *Journal of Cereal Science* **60**: 433-439.

2013 - Mariela Echeverria, Analía I. Sannazzaro, Oscar A. Ruiz, Ana B. Menéndez. Modulatory effects of *Mesorhizobium tianshanense* and *Glomus intraradices* on plant proline and polyamine levels during early plant response of *Lotus tenuis* to salinity. *Plant & Soil* **364(1-2)**: 69-79.

2010 - Agustina A. Scambato, Mariela Echeverria, Pedro Sansberro, Oscar A. Ruiz, Ana Bernardina Menéndez. *Glomus intraradices* improved salt tolerance in *Prosopis alba* seedlings by improving water use efficiency and shoot water content. *Brazilian Journal of Plant Physiology* **22(4)**: 285-289.

2010 - Valeria P. Conforte, Mariela Echeverria, Cintia Sánchez, Rodolfo A. Ugalde, Ana B. Menéndez, Viviana C. Lepek. Engineered ACC deaminase-expressing free-living cells of *Mesorhizobium loti* show increased nodulation efficiency and competitiveness on *Lotus* spp. *Journal of General and Applied Microbiology* **56**:331-338.

2008 - Mariela Echeverria, Agustina A. Scambato, Analía I. Sannazzaro, Santiago Maiale, Oscar A. Ruiz, Ana B. Menéndez. Phenotypic plasticity with respect to salt stress response by *Lotus glaber*: the role of AM fungal and rhizobial symbionts. *Mycorrhiza* **18**: 317–329.

2007 - M. Victoria Criado, Irma N. Roberts, Mariela Echeverria and Atilio J. Barneix. Plant growth regulators and induction of leaf senescence in nitrogen-deprived wheat plants. *Journal of Plant Growth Regulation* **26(4)**: 301–307.

2007 - Sannazzaro A., Echeverria M., Albertó E., Ruiz O., Menéndez A. Modulation of polyamine balance in *Lotus glaber* by salinity and arbuscular mycorrhiza. *Plant Physiology and Biochemistry* **45**(1): 39–46.

Book Chapters

2014 - Echeverria Mariela, Flavio H. Gutierrez Boem, Carla Caputo. Inoculación con diferentes endofitos dematiáceos y su impacto sobre el desarrollo de plantas de cebada cultivadas bajo deficiencia de nitrógeno y fósforo. In: Hongos y otros organismos que mejoran la producción agraria. C.A.B.A., Editorial Facultad de Agronomía. pp: 59-65. ISBN: 978-987-3738-00-5

2013 - Echeverria Mariela, Menéndez Ana Bernardina. Efectos de la inoculación con rizobios y/o micorrizas sobre el crecimiento de *Lotus tenuis* cultivado bajo diferentes condiciones de salinidad”. In: Aportes de la microbiología a la producción de cultivos. C.A.B.A., FAUBA. pp:137-146. ISBN: 978-987-29338-2-1

2012 - Echeverria Mariela, Salvarezza Sebastián, Criado Maria Victoria, Caputo Carla. Análisis comparativo de diferentes endofitos radicals, Hifomicetes Dematiáceos, sobre su capacidad promotora del crecimiento en plantas de cebada”. In: CEREALES DE INVIERNO. La investigación científico-técnica en cereales de invierno. Azul-UNCPBA. Editorial de la UNCPBA. pp:206-214.

Conferences and Scientific Meetings (last 10 years)

2019 - Izzi Y.S., Caputo C., Echeverria M. “Caracterización de hongos endófitos septados oscuros asociados al cultivo de cebada”. Poster. XII Reunión Nacional Científico-Técnica de Biología de Suelos (REBIOS). Buenos Aires, Nov 2019. (National).

Academic Positions and Teaching

- Associate Professor, Dental Materials, Dental Prosthesis Technician Program, Faculty of Health Sciences, Maimónides University (since March 2025).

- Senior Teaching Assistant (by competition), Department of Biodiversity and Experimental Biology, Faculty of Exact and Natural Sciences, University of Buenos Aires (since April 2011).

- Teaching appointments (historical): 2nd semester 2009 - Interim First Assistant.

2008-2009 - First Assistant (honorary, simple dedication) in Analytical and Instrumental Chemistry and Microbiology, Universidad Nacional de San Martín

2004-2005 - Second Assistant (by regular competition) at DBBE-FCEN-UBA.

Undergraduate and Postgraduate Courses

- Since 2017: Instructor in 'Mineral Nutrition of Crops', master's degree in Crop Production, Graduate School 'Alberto Soriano', College of Agronomy, UBA (second semester).
- Oct–Nov 2014: Invited instructor - First Assistant in the intensive/optional course 'Efficient nitrogen use by cereals. Biological tools to improve grain quality without synthetic fertilizers', taught in the Agricultural Microbiology Chair, College of Agronomy, UBA.

Thesis supervision

- External supervisor (director) for Agronomy Engineering thesis of Agustín Prieto. Faculty of Agronomy (UBA). 'Evaluation of the effect of dematiaceous root endophytic fungi on the development, assimilate remobilization and yield of barley (*Hordeum vulgare* L.) plants grown under nitrogen and phosphorus deficiency.' Defence: 05/2023.
- External supervisor (director) for Agronomy Engineering thesis of Yanina Soledad Izzi. Faculty of Agronomy (UBA). 'Characterization of dark septate endophytic fungi associated with barley crops.' Defence: 12/2019.

Professional Development Courses

- 2024 - 'How to write scientific papers in English and get them accepted without language criticisms' (online, Scientific English). Total hours: 45. Instructor: Maria Victoria Gonzalez Eusevi.
- 2024 - 'Teaching large classes' (virtual), Centre for Innovation in Technology and Pedagogy. Instructor: Alicia W. de Camilloni.
- 2017 - 'Fundamentals of R in Biology', Department of Ecology, Genetics and Evolution, FCEN-UBA. Postgraduate theoretical-practical course with final evaluation: passed.
- 2012 - 'Introduction to the use of Nucleic Acids in Fungi', Faculty of Agronomy, National University of the Centre of the Province of Buenos Aires (FA-UNCPBA). Duration: 25 hours. Instructors: Rogers, W.; Stenglein, S.; Moreno, V. Postgraduate course with final evaluation: passed.

Outreach Activities and Public Communication of Science

- Since 2014: Participant in organizing the INBA Seminar Series (INBA – CONICET/FAUBA), aimed at scientific dissemination for both academic audiences and producers/industry.
- 2022: XXVIII Argentine Congress of Soil Science. Organized by the Argentine Association of Soil Science (AACS) and FAUBA. Role: Member of the Scientific-Technical Committee and Treasurer.

- Thematic Day of INBA: BARLEY, MALT AND BEER. Activity to promote interaction between academic-scientific sectors, barley/malt/beer sectors and the public. College of Agronomy, UBA. 26/10/2018. Role: Organizing Committee.

Evaluation Activities

- External reviewer for Colombian Journal of Biotechnology. ISSN: 0123-3475; e-ISSN: 1909-8758. Year: 2024.
- External reviewer for African Journal of Biotechnology. ISSN: 1684-5315. Year: 2013.
- (2017-2019) Consultant partner in the evaluation of PICT projects (FONCyT/ANPCyT)

Research and Extension Projects

Participation in research projects (last 10 years)

Group leader / Responsible: PICT 2017-1045. Role of cytokinins in the source–sink relationship and nitrogen partitioning under chemical and biological fertilization in barley. Funding: ARS 488,250. Director: C.P. Caputo Suárez.

Group leader / Responsible: PICT-Joven 2013-1443. Evaluation of the growth-promoting capacity of root endophytes on barley (*Hordeum vulgare* L.) under nutritional deficiency as a tool to improve production and commercial quality. Funding: ARS 80,000.

Collaborator: EU Collaborative Project 101082089 (2022). 'Raising the bio-based industrial feedstock capacity of Marginal Lands.' Coordinated by LEIBNIZ-INSTITUT FÜR AGRARTECHNIK UND BIOÖKONOMIE EV, Germany. (€7,829,617.50). DOI: 10.3030/101082089.

Collaborator: PICT-2021-GRFTI-00165. Biochemical, molecular and agronomic analysis of the *Azospirillum*–barley interaction under different inoculation practices. Funding: ARS 2,164,800. Role: Collaborator. Director: M. Victoria Criado.

Collaborator: PICT-2020 SERIE A-03800. Effect of sulphur deficiency on the development and germination of barley grains and its relationship with malt quality. Funding: ARS 3,351,420.

Collaborator: IDeA-ODS 2018 (45-13) 'Vineyard sustainability: late frosts in the context of climate change.' Funding: ARS 400,000.

Thesis Examination (Jury) Activities

Jury member for the bachelor's degree in Biological Sciences of Irina Gabriela Gaiano. Thesis: Controlled release assays of urea and their impact on early growth stages of *Zea mays*. Faculty of Engineering and Exact and Natural Sciences, Universidad Favaloro. Defence: 05/09/2024.

Jury member for Agric. Eng. Agustín Prieto (also supervised by the author). Thesis defence: 04/05/2023.

Jury member for Agric. Eng. Yanina Soledad Izzi (also supervised by the author). Thesis defence: 11/12/2019.

Jury member for B.Sc. in Agrobiotechnology Rosario Anahí Lastra. Thesis: Siderophore-producing bacteria as potential biocontrol agents of phytopathogenic fungi of agronomic importance. Defence: 04/07/2019.

Jury member for B.Sc. in Agrobiotechnology María Josefina Doffo. Thesis: Characterization of phosphate-solubilizing bacterial strains associated with soybean rhizosphere. Defence: 28/12/2016.