CURRICULUM VITAE 2023

Personal data

Family Name: Chan
Personal names: Raquel Lía
Date and place of birth: Buenos Aires, Argentina 31/12/59
Professional address: Instituto de Agrobiotecnología del Litoral- UNL-CONICET-Colectora Ruta Nacional 168 km 0 – 3000 - Santa Fe (54-342-4511595 ext. 5018)
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Education

- B. Sc. In Chemistry (extensive) and Biochemistry, Hebrew University of Jerusalem, Israel, 1982
- Ph.D. in Biochemistry- National University of Rosario, Argentina, 1988. Ph.D. Thesis: Structural and functional characterization on ferredoxin-NADP reductase and its binding protein to thylakoid membranes. Advisor: Dr. Ruben H. Vallejos. Jury: Drs. C.S. Andreo, R. Wolosiuk, J.J Dellacha. Qualification: Excellent (10/10)
- Postdoctoral position in the Institut de Biologie Moléculaire des Plantes-CNRS. Strasbourg-France (from 12/88 until 05/92). Advisor: Prof. J-H Weil

Current Positions:

- Senior Researcher of CONICET (National Research Council).
- Senior Lecturer at the Molecular and Cellular Biology Department (Faculty of Biochemistry and Biological Sciences- Universidad Nacional del Litoral, since February 1999)
- Director of the Agrobiotechnology Institute of Litoral (IAL, Instituto de Agrobiotecnología del Litoral), since December 2008 (www.ial.conicet.gov.ar)

Articles published in SCI indexed Journals
Total: 101
List of articles (since 2017)
Scopus H index: 34

Google Scholar H index: 41
ORCID ID: 0000-0002-3264-0008

- Cabello JV, Giacomelli JI, Gómez MC, Chan RL* (2017) The sunflower transcription factor HaHB11 confers tolerance to water deficit and salinity to transgenic Arabidopsis and alfalfa plants. **Journal of Biotechnology** 257, 35-46.
- Perotti MF, Ribone PA, Chan RL* (2017) Plant transcription factors from the Homeodomain-Leucine Zipper family I. Role in development and stress responses. **IUBMB Life** 69, 280-289.
- Moreno Piovano GS, Moreno JE, Cabello JV, Arce AL, Otegui ME, Chan RL* (2017) A role for LAX2 in regulating xylem development and lateral-vein symmetry in the leaf is uncovered by studying transgenic plants expressing HaHB4, a sunflower transcription factor. **Annals of Botany** 120, 577-590.
- Ribone PA, Capella M, Arce AL, Chan RL* (2017) A uORF represses the transcription factor AtHB1 in aerial tissues to avoid a deleterious phenotype. **Plant Physiology** 175, 1238-1253.
- Alves PM, Becker AB, Blöcker HC, Chan RL, Chen GG-Q, Fussenegger MF, Kondo AG, Kourist RH, Schwab HI, Seo JH, Sensen CW, Sensen M, Scrienc FM (2017) Editorial Special Issue on the Occasion of Prof. Dr. Alf Pühler's 75th birthday. **Journal of Biotechnology** 257, 1.
- Motlagh SE, Ribone PA, Thirumalaikumar VP, Allu AD, Chan RL, Mueller-Roeber B and Balazadeh S (2017) JUNGBRUNNEN1 Confers Drought Tolerance Downstream of the HD-Zip I Transcription Factor AtHB13. **Frontiers in Plant Science** 8:2118. doi: 10.3389/fpls.2017.02118
- Moreno JE, Romani FA, Chan RL* (2018) Arabidopsis thaliana homeodomain-leucine zipper type I transcription factors contribute to control leaf venation patterning. **Plant Signaling and Behavior** 13, 577-590.
- Moreno JE, Moreno-Piovano GS, Chan RL* (2018) The antagonistic basic helix-loop-helix partners BEE and IBH1 contribute to control plant tolerance to abiotic stress. **Plant Science** 271, 143-150.
- Gonzalez FG, Capella M, Ribichich KF, Curin F, Giacomelli JI, Ayala F, Watson G, Otegui ME, Chan RL* (2019) Field-grown transgenic wheat expressing the sunflower gene HaHB4 significantly outyields the wild type. **Journal of Experimental Botany** 70, 1669-1681.
- Cabello JV, Chan RL* (2019) Arabidopsis and Sunflower plants with increased xylem area show enhanced seed yield. **The Plant Journal** 99(4), 717-732.
- Raineri J, Campi M, Chan RL*, Otegui ME (2019) Maize expressing the sunflower transcription factor HaHB11 has improved productivity in controlled and field conditions. **Plant Science** 287, 110185
- Perotti MF, Ribone PA, Cabello JV, Ariel FD, Chan RL* (2019) AtHB23 participates in the gene regulatory network controlling root branching and reveals differences between secondary and tertiary roots. **The Plant Journal** 100 (6), 1224-1236.

- Miguel VN, Manavella PA, Chan RL, Capella M (2020) The AtHB1 Transcription Factor Controls the miR164-CUC2 Regulatory Node to Modulate Leaf Development. **Plant and Cell Physiology** 61(3): 659–670.
- Ribichich KF, Chiozza M, Ávalos-Britez S, Cabello JV, Arce AL, Watson G, Arias C, Portapila M, Trucco F, Otegui ME, Chan RL* (2020) Successful field performance in dry-warm environments of soybean expressing the sunflower transcription factor HaHB4. **Journal of Experimental Botany,** 71, 3142–3156.
- González FG, Rigalli N, Miranda PV, Romagnoli M, Ribichich KF, Trucco F, Portapila M, Otegui ME*, Chan RL*. (2020) An interdisciplinary approach to study the performance of second-generation genetically modified crops in field trials: a case study with soybean and wheat carrying the sunflower HaHB4 transcription factor. **Frontiers in Plant Science**, 11, 178
- Perotti MF, Ariel FD, Chan RL* (2020) Lateral root development differs between main and secondary roots and depends on the ecotype. **Plant Signaling and Behavior,** 15(6), e1755504
- Miguel VN, Ribichich KF, Giacomelli JI, Chan RL* (2020) Key role of the motor protein Kinesin 13B in the activity of homeodomain-leucine zipper I transcription factors. **Journal of Experimental Botany**, 20, 6282–6296.
- Chan RL*, Trucco F, Otegui ME* (2020) Why the second-generation transgenic crops are not yet available in the market? **Journal of Experimental Botany**, 71, 6876–6880.
- Perotti MF, Arce AL, Chan RL* (2021) The underground life of homeodomain-leucine zipper transcription factors. **Journal of Experimental Botany**, 72 (11), 4005–4021.
- Spies FP, Raineri J, Miguel VN, Cho Y, Hong J-C, Chan RL* (2022) The Arabidopsis transcription factors AtPHL1 and AtHB23 act together promoting carbohydrate transport from pedicel-silique nodes to seeds. **Plant Science**, 315:111133
- 94. Raineri J, Caraballo L, Rigalli N, Portapila M, Otegui ME, Chan RL*. (2022) Expressing the Sunflower Transcription Factor HaHB11 in Maize Improves Waterlogging and Defoliation Tolerance. **Plant Physiology,** 189, 230–247.
- Perotti MF, Arce AL, Ariel FD, Figueroa CM, Chan RL* (2022) The transcription factor AtHB23 modulates starch turnover for root development and plant survival under salinity. **Environmental and Experimental Botany,** 201, 104994.
- Mora CC, Perotti MF, González-Grandío E, Ribone PA, Cubas P, Chan RL* (2022) AtHB40 modulates primary root length and gravitropism involving CYCLINB and auxin transporters. **Plant Science**, 111421, DOI: 10.1016/j.plantsci.2022.111421
- Montero Bulacio E, Romagnoli M, Otegui ME, Chan RL, Portapila M (2023) OSTRICH-CROPGRO multi-objective optimization methodology for calibration of the growing dynamics of a second-generation transgenic soybean tolerant to high temperatures and dry growing conditions. **Agricultural Systems** 205,103583. DOI: 10.1016/j.agsy.2022.103583

- Raminger L, Miguel VN, Zapata C, Chan RL*, Cabello JV. (2023) Source to sink partitioning is altered by changes in the expression of the transcription factor AtHB5 in Arabidopsis. **Journal of Experimental Botany**, 74(6), 1873-1889.
- Spies FP, Perotti MF, Cho Y, Chang J, Jong HC, Chan RL* (2023) A complex tissue-specific interplay between the Arabidopsis transcription factors AtMYB68, AtHB23, and AtPHL1 modulates primary and lateral root development and adaptation to salinity. **The Plant Journal**, doi: 10.1111/tpj.16273
- Raineri J, Caraballo L, Gómez M, Chan RL* (2023) The transcription factor HaHB11 boosts grain setting and yield in rice plants, conveying them closer to their ideal phenotype. **Biomolecules**, 13(5), 826; DOI: 10.3390/biom13050826

**** corresponding author***

Book chapters (since 2015)

7. Capella M, Ribone PA, Arce AL, Chan RL* (2015) Homeodomain–Leucine Zipper Transcription Factors: Structural Features of These Proteins, Unique to Plants. In "Plant Transcription Factors: Evolutionary, Structural and Functional Aspects". Chapter 7. Edited by Daniel González, Academic Press/Elsevier.
8. Ribone PA, Capella M, Arce AL, Chan RL* (2015) What do we know about Homeodomain-Leucine Zipper I transcription factors? Functional and biotechnological considerations. In "Plant Transcription Factors: Evolutionary, Structural and Functional Aspects". Chapter 22. Edited by Daniel González, Academic Press/Elsevier.
9. Ribichich KF, Chan RL* (2017) Ingeniería genética aplicada al incremento de la tolerancia a la salinidad. En: Ambientes salinos y alcalinos de la Argentina. Editores: Edith Taleisnik y Raúl Lavado, Editorial Universidad Católica de Córdoba, ISBN: 978-987-1922-23-9. Parte 3, páginas 341-372.
10. Chan RL (2023) Prefacio: La Biotecnología en nuestra vida cotidiana. En: Introducción a la Biotecnología. Sus aplicaciones y alcances (Ediciones UNL, editado por María Florencia Rossetti y Ángela Guillermina Forno).

International Patents (nine international applications, all granted and transferred to Biotechnology Companies)

1. Chan RL, Gonzalez DH, Dezar CA, Gago GM- CONICET-Universidad Nacional del Litoral "Transcription factor gene induced by water deficit conditions and abscisic acid from *Helianthus annuus*, promoter and transgenic plants" US 20070180584 (2007), *granted in 2009*
2. Chan RL, Gonzalez DH, Curi GC, Cabello JV - CONICET-Universidad Nacional del Litoral - Bioceres S.A. "Isolated DNA molecule for enhancing gene expression

of a coding sequence, fragment, genetic variant, cassette, vector, cell, plant and seed containing said molecule" US 0192895 A1 (2007), *granted in 2009*

3. Chan RL, Gonzalez DH; Dezar CA, Rueda EC- CONICET-Universidad Nacional del Litoral "DNA constructs that contain *Helianthus annuus* Hahb-10 gene coding sequence, method for generating plants with a shortened life cycle and a high tolerance to herbicidal compounds and transgenic plants with that sequence" US 20070234439 (2007), *granted in 2009*
4. Cabello JV, Arce AL, Chan RL. CONICET-Universidad Nacional del Litoral "Methods and Compositions for stress tolerance in plants" (2009) application performed on May 29 by Plant Biosystems Licencing (PBL) in agreement with CONICET and UNL. U.S. Patent Application 13/375,430. Bibliographic data: WO2010139993 (A1) — 2010-12-09, *granted in 2013*
5. Cabello JV, Giacomelli JI, Chan RL. CONICET-Universidad Nacional del Litoral "HaHB11 provides improved plant yield and tolerance to abiotic stress". Aug 8, 2013 CA_2865677_A1
6. Chan RL, González DH. CONICET-Universidad Nacional del Litoral "Modified *Helianthus annuus* transcription factor improves yield". US 2013/0263327 A1; *Publication October 3, 2013*
7. Cabello JV, Chan RL. CONICET-Universidad Nacional del Litoral. Stress Tolerance in Plants. UK Patent Application Nº1204304.8. Presentación provisional hecha el 12.03.2012 por Plant Biosystems Licencing (PBL) in agreement with CONICET and UNL. Bibliographic data: WO2013136058 (A1) — 2013-09-19
8. Raineri J, Giacomelli JI, Chan RL. CONICET-Universidad Nacional del Litoral. Transcription factor genes and proteins from *Helianthus annuus*, and transgenic plants including the same. 2015. PC927513WO.
9. Cabello JV, Chan RL. CONICET-Universidad Nacional del Litoral. "Un proceso mecánico aplicado a plantas". Instituto Nacional de la Propiedad Industrial es 20190101010, 01.04.2019

Congress and Symposia attendance and presentations

75 presentations in International Symposia and 180 in National Congresses. Special invited as lecturer in 25 International Congresses

Ph.D. Thesis' Advisor

Finished (seventeen Ph. D. Theses, six awarded by non-profit Institutions):

- Claudia Palena. Faculty of Biochemical Sciences- National University of Rosario. Subject: Structural characterization of proteins involved in plant development. November 2000. Qualification: Excellent 10/10
- Gabriela Gago. Faculty of Biochemical Sciences- National University of Rosario. Subject: Isolation and characterization of genes encoding homeodomains in sunflower. October 2002. Qualification: Excellent 10/10
- Mariana Tioni. Faculty of Biochemical Sciences- National University of Litoral. Subject: Structural and functional characterization of knotted genes from sunflower. March 2004. Qualification: Excellent 10/10
- Carlos Dezar. Faculty of Biochemical Sciences- National University of Litoral. Subject: Functional characterization of genes encoding proteins from the HD-Zip family in sunflower. The case of Hahb-4, a member of this family involved in drought response. March 2006. Qualification: Excellent 10/10
- Pablo Manavella. Faculty of Biochemical Sciences- National University of Litoral. Subject: Functional characterization of HAHB4. Cross-talk between hormones transduction pathways mediated by this transcription factor. March 2008. Qualification: Excellent 10/10
- Eva Rueda. Faculty of Biochemical Sciences- National University of Litoral. Subject: Functional characterization of sunflower HD-Zip transcription factors. December 2008.Qualification: Distinguished 9/10
- Federico Ariel. Faculty of Biochemical Sciences- National University of Litoral- Subject: Functional characterization Medicago truncatula HD-Zip transcription factors. December 2010. Qualification: Excellent 10/10
- Julieta Cabello. Faculty of Biochemical Sciences- National University of Litoral.Subject: Functional characterization of the sunflower HD-Zip transcription factor HaHB1. March 2011.Qualification: Excellent 10/10
- Agustin Arce. Faculty of Biochemical Sciences- National University of Litoral. Subject: Functional conservation and divergente between members of the HD-Zip family of transcription factors**.** March 2012. Qualification: Excellent 10/10
- Jorge Giacomelli. Faculty of Biochemical Sciences- National University of Litoral. Subject: Functional characterization of sunflower WRKY encoding genes. April 2012. Qualification: Excellent 10/10
- Delfina Ré. Faculty of Biochemical Sciences- National University of Litoral. Subject: Functional characterization of the HD-Zip transcripcion factors AtHB7 and AtHB12. 2014. Qualification: Excellent 10/10
- Matías Capella. Faculty of Biochemical Sciences- National University of Litoral. Subject: Plant transcription factors from the HD-Zip family: understanding differential functions through molecular analyses. April 2015. Qualification: Excellent 10/10
- Jesica Raineri. Faculty of Biochemical Sciences- National University of Litoral. Subject. Sunflower WRKY transcription factors: functional characterization and involvement in plant responses to biotic and abiotic stresses. May 2015. Qualification: Excellent 10/10
- Pamela Ribone. Faculty of Biochemical Sciences- National University of Litoral. Subject: Arabidopsis HD-Zip I transcription factors: the influence of expression

patterns, conservation, and divergence on their biological function. March 2017. Qualification: Excellent 10/10

- María Florencia Perotti. Faculty of Biochemical Sciences- National University of Litoral. Subject: Molecular, physiological and developmental responses of plants to environmental changes mediated by HD-Zip I family transcription factors. December 2021. Qualification: Excellent 10/10
- Virginia Natalí Miguel. Faculty of Biochemical Sciences- National University of Litoral. Subject: Identification of signalling pathways regulated by plant HD-Zip transcription factors that result in tolerance to abiotic stresses and increased productivity. November 2021. Qualification: Excellent 10/10
- Fiorella Paola Spies: Participation of HD-Zip I and MYB transcription factors in plant development and adaptation to environmental and nutritional changes. May 2023. Qualification: Excellent 10/10

In course (6):

- Catia Celeste Mora (writing stage)
- Luciano Caraballo (experimental stage)
- Gustavo Vannay (co-director, experimental stage)
- Jenifer Castro (co-director, experimental stage)
- José Murguía (experimental stage)
- Paula Rossi (co-director, experimental stage)

Degree Theses (five awarded by non-profit Institutions)

Gabriela Gago, 1996; Sebastián Guelman, 1997; Mariana Tioni, 1999; Ivana Viola, 2001; Natalia Ceaglio, 2002; Griselda Fedrigo, 2005, Julieta Cabello, 2006; Federico Ariel, 2006, Agustín Arce, 2007; Matías Capella, 2010, Virginia Miguel, 2016 (codirector); Fiorella Spies, 2018 (codirector); Catia Mora, 2018 (codirector).

Awards and distinctions

- Distinction of the National Senate, 2012
- Distinction of the Santa Fe Parliament, 2012
- Konex Foundation Award in Biotechnology, 2013
- Distinction of the Argentine President as the best Biotechnology Researcher in 2013
- Selected as one of the 10 women leading Science in Latin America by London BBC and IANAS (International Association of Science Academies) http://www.bbc.co.uk/mundo/noticias/2013/10/130930_ciencia_mujeres_cientificas_mr.shtml
- Distinction of the Santa Fe Province' Senate in the Women International Day (2015).
- Distinction of the Farmers Association for Direct Sowing (AAPRESID) for the contribution to Agriculture. (2015).

- Distinction of the Argentinean President, Dra. Cristina Fernández de Kirchner. (2015) for the first Argentinean GM approved.
- Award from the Newspaper "Clarin" (Testimonios Clarín Rural Desarrollo en Investigación en Agricultura. 2016. http://www.clarin.com/rural/Testimonios-Clarin-Rural-galardonados_0_1622237923.html)
- Honour Diploma for the Outstanding Trajectory of the Chamber of Deputies of the Province of Santa Fe. Chamber of Deputies of the Province, September 2016. http://www.diputadossantafe.gov.ar/2016/comisiones/comision14-cultura/
- Democracy Award from the journal "Caras y Caretas" 2016, 8th edition in Science and Technology. http://premiosdemocracia.org.ar/personalidades/raquel-chan/
- Female Food Hero, proposed by Crop Life International. https://croplife.org/industry-profile/female-foodheroes-raquel-lia-chan/
- City of Rosario Award in Life Sciences. First edition. Rosario-Argentina, May 2019 https://web.rosario-conicet.gov.ar/ciencia-productivo/servicios-para-el-sector-socio-productivo/item/1170-raquel-chan-ganadora-del-premio-ciencias-de-la-vida-ciudad-de-rosario-2019
- Declared Illustrious Visitor of the National University of Tucumán, due to his outstanding scientific and professional career in the field of biotechnological research. Resolution 0921/2019 of the rector of UNT.
- RedBio International medal (Ibero-american network of Biotechnology), international distinction, November 2019
- Incorporated to the Academy of Medicine of Santa Fe (2020)
- Incorporated to the National Academy of Science (Argentina) 23/04/2021 (link: https://www.youtube.com/watch?v=lsgVQvQrfZ8)
- Incorporated to the Latino-American Academy of Sciences, 2021
- IICA Chair (International Institute for Agriculture) January, 2022. San José de Costa Rica – Costa Rica. https://iica.int/es/iica_chairs
- Rotary Club Buenos Aires, silver laurel. June 28, 2022
- Ada Byron award to women in technology. Edition 2022. National Technological University, Catholic University of Cordoba, University of Deusto (Basque Country). https://universidadeshoy.com.ar/nota/73670/raquel-chan-ganadora-del-premio-ada-byron-2022/
- Konex Foundation Award in Biotechnology, 2023

Editorial and reviewer' work

- Chief Editor of Plant Science, Elsevier, January 2023-continued
- Associate Editor of the Journal of Biotechnology, Elsevier, April 2012-March 2018
- Associate Editor of Plant Science, Elsevier, June 2021- current
- Reviewer for the following journals (last 5 years): Journal of Experimental Botany, Plant Cell Reports, Plant Signaling and Behavior, Plant Biotechnology Journal, Plant Cell and Environment, Planta, Plant Growth Regulation, Plos One, Plant Physiology, Plant Journal, Plant Science, New Phytologist, Plant Physiology ad

Biochemistry, Acta Biophysica Bichimica Sinica, Environmental Toxicology and Chemistry, Genes, Frontiers in Plant Science, DNA Sequence, Environmental and Experimental Botany, Nature Biotechnology, Journal of Experimental Botany

Science publications in popular journals (last three years)

- Raquel Chan* (2019) "Why the word transgenic should not be a bad word" https://www.pagina12.com.ar/autores/166924-raquel-chan
- Raquel Chan* (2019) There are genes in my lunch. In: La cultura y el Genoma. Editorial Vera Cartonera, ediciones-UNL. Editor: Federico Ariel; foreword by Adrián Paenza.
- Raquel Chan, Néstor Carrillo (2021) Desarrollos argentinos en Biotecnología. La Capital Newspaper, 12/05/2021. https://www.lacapital.com.ar/desarrollos-argentinos-biotecnologia-n2660383.html

Awarded Fellowships

- Fellow of the Research Council of the National University of Rosario (from 01.12.82 to 01.04.83).
- Initiation grant from the CONICET (National Council for Scientific and Technical Research). Subject: Structure and function of enzymes involved in photosynthetic electron transport. Director: Dr. Rubén H. Vallejos (from 01.04.83 to 31.08.85).
- Fellow of the CONICET (National Council of Scientific and Technical Research). Subject: Structure and function of enzymes involved in photosynthetic electron transport. Director: Dr. Rubén H. Vallejos (from 01.04.85 to 31.08.87).
- Advanced Training Fellow of CONICET (National Council for Scientific and Technical Research). Subject: Structure and function of enzymes involved in photosynthetic electron transport. Director: Dr. Rubén H. Vallejos (from 01.09.87 to 15.12.88).
- External Fellow of CONICET (National Council for Scientific and Technical Research). Subject: Structure and regulation of the expression of the RubisCO small subunit gene in *Euglena gracilis*. Director: Prof. Jacques-Henry Weil (from 15.12.88 to 15.12.90).
- CONICET Fellowship (fellowship awarded until the decision on admission to the research career (from 01.05.92 to 31.07.93).

Previous positions

- *Ad Honorem* 1st Assistant Professor. Chairs of Biological Chemistry I and II. Faculty of Biochemical and Pharmaceutical Sciences, National University of Rosario (from 01.04.83 to 31.05.85).
- First Assistant Professor (by public competition) to the Chairs of Biological Chemistry I and II. Faculty of Biochemical and Pharmaceutical Sciences, National University of Rosario (from 15.09.85 to 01.04.86).
- Teaching assistant in the course "Molecular Biology of Photosynthesis" (ICRO-UNESCO) Rosario, 1987.

- Head of Practical Work, Biological Chemistry I and II Chairs. Faculty of Biochemical and Pharmaceutical Sciences, National University of Rosario (from 01.04.86 to 01.12.88, and until 01.12.90 with unpaid leave).
- Proffesseur Invité of the Louis Pasteur University of Strasbourg-France (from 16.12.90 to 30.04.92). Lecturer in the subject Biological Chemistry for the Biotechnology Degree at the International School of Biotechnology (Strasbourg-Fribourg-Basel).
- Adjunct Professor *Ad honorem* (for examining boards), and Head of Practical Work (full-time) in the subjects "Molecular Biology of Eukaryotes", "Higher Chemistry of Nucleic Acids" "Animal Molecular Biology", "Plant Molecular Biology", and "Higher Chemistry of Proteins" Area of Molecular Biology- Department of Biological Sciences, Faculty of Biochemical and Pharmaceutical Sciences, National University of Rosario (from 01.12.92 to 31.01.99).
- Head of Practical Work full-time at the Department of Molecular Biology, Faculty of Biochemical and Pharmaceutical Sciences, National University of Rosario (from 01.12.92 to 31.01.99).
- Assistant Researcher (with Advisor) at the National Council for Scientific and Technological Research (from 26.07.93 to 31.07.94). Resolution 953/93.
- Assistant Researcher (independent) of the National Council for Scientific and Technological Research (from 01.08.94 to 31.08.99). Resolution Nº 053/25-7-94.
- Independent Researcher of the National Council for Scientific and Technological Research (from 01.09.99 to 31.12.04).
- Visiting Professor of the Universidad Nacional del Litoral from 16.09.98 to 31/01/99. Resolution of the Directive Council of 16.09.98, file Nº62.733-I/98.
- Adjunct Professor *Ad Honorem* in Molecular Biology, Faculty of Biochemical and Pharmaceutical Sciences, National University of Rosario, from 01.02.99 to 30.09.2001.
- Assistant Professor with full dedication in the Department of Cellular and Molecular Biology, Faculty of Biochemistry and Biological Sciences, National University of Litoral, from 01.02.99 to 07.10. 04, in charge of General Biology, Cellular and Molecular Biology, Plant Biology, and Genetic Engineering courses (all belonging to the Biochemistry and Biotechnology degree courses) and the Protein-DNA Interaction course (elective of the Biotechnology degree course).
- Assistant Professor in the Chair of Cellular and Molecular Biology, Faculty of Biochemistry and Biological Sciences, Universidad Nacional del Litoral, from 08/10/04 to 01/04/06, in charge of the courses General Biology, Cellular, and Molecular Biology, Plant Biology and Genetic Engineering (all belonging to the *curriculum* of the Biochemistry and Biotechnology degree courses) and the Protein-DNA Interaction course (elective of the Biotechnology degree course).
- Associate Professor (with exclusive dedication in the Chair of Cellular and Molecular Biology, Faculty of Biochemistry and Biological Sciences, Universidad Nacional del Litoral, from 07.10.2004 until 31.12. 2009) in charge of teaching General Biology, Cellular and Molecular Biology, Plant Biology and Genetic Engineering courses (all belonging to the *curriculum* of the Biochemistry and

Biotechnology degree courses) and the Protein-DNA Interaction course (elective of the Biotechnology degree course).

- Principal Investigator of the National Council for Scientific and Technological Research (CONICET), resolution N° 1334 of the Board of Directors of 01.01.05.
- Director of the Litoral Agrobiotechnology Institute. Institute of mixed dependence CONICET-UNLL, interim appointment from 02.12.2008 until 01.09.14.
- Full Professor in the Chair of Cellular and Molecular Biology of the Faculty of Biochemistry and Biological Sciences of the Universidad Nacional del Litoral, (from 01.01.2010 until 31.07. 2014) in charge of the General Biology, Cellular and Molecular Biology, Plant Biology and Genetic Engineering courses (all belonging to the *curriculum* of the Biochemistry and Biotechnology degree courses) and the Protein-DNA Interaction course (elective of the Biotechnology degree course).
- Director of the Scientific and Technological Centre at Santa Fe, from 01.09.2012, renewed on 01.09.2014 until 31.08.2016.
- President of the Argentinean Plant Physiology Society (ASFV, 2019-2022)