

Dr Ania Antonella Manjon

Academic Formation

PhD (April 2021-current): Cellular Interaction in Reproduction and Cancer Laboratory, Instituto de Biología y Medicina Experimental (IBYME). Director: Dr. Mónica Vazquez-Levin

Degree:

March 2016-February 2021: MSc in Genetics, Universidad de Morón. Final grade: 9,41/10

Grants:

2016-2020: Fundación Universidad de Morón study scholarship

2021-2026: PhD Fellowship from CONICET

2023: Boehringer Ingelheim Fonds travel grant

Professional skills

Laboratory techniques:

- Medium and solution preparation
- Molecular biology techniques: nucleic acids extraction, retrotranscription, PCR, sample preparation for protein extraction (tissue, cells, fluids), Western Immunoblotting, Immunocytochemistry
- Cell culture
- Gametes handling: semen routine analysis, sperm selection, TUNEL, gamete interaction techniques (mouse cumulus penetration assay, hemizona assay, sperm penetration assay with hamster oocytes, *in vitro* fertilization with mice gametes)
- Experimental animal handling (mouse and hamster)
- Microscope handling

Informatic skills:

- Statistical analysis with GraphPad
- Research in databases: PubMed, Ensembl, STIRNG, Treefam, Human Protein Atlas, Gene Cards, UniProt, InterPro, SwissModel, Proteomic DB, TADKB, gnomAD, Franklin, Protein Database, Gene Expression Omnibus
- Data analysis: Transcript data analysis (from public databases or RNAseq), exome variant analysis and interpretation (from VCF format).
- Protein modelling: HHPred, AlphaFold2, AlphaFold3. Visualization and analysis with USCF ChimeraX
- Sequence alignment: online tools such as EBI's and UniProt's. Alignment curation with Jaview
- Predictors of protein characteristics or gene variant effect: PredGPI, Protein Molecular Weight, DiPro, GraphBepi, IUPRED2A, REVEL, PANTHER PSEP, AlphaMissense
- ImageJ for microscopy images processing
- R studio handling
- Photoshop handling



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 Buenos Aires, Argentina

 29-09-1997

IDIOMAS

- English (B2)
- French (B1)
- Italian (basic understanding)

Publications

Evaluation of Myo-inositol Effects upon Frozen-Thawed Bovine Sperm Quality

Verón GL, Paladea R, Bello R, **Manjon AA**, Monti JI, Vazquez-Levin MH

International Journal of Animal Breeding and Genetics. Junio 2021, Vol. 10 (6), pp. 001-015
<https://doi.org/10.46882/IJABG/1170>

Impact of heat waves on semen quality: A retrospective study in Argentina between 2005 and 2023

Verón GL, **Manjon AA**, Arévalo L, Santiago J, Vazquez-Levin MH

The Science of the total environment, 943, 173813. Junio 2024, <https://doi.org/10.1016/j.scitotenv.2024.173813>

A 2-Step Remote TUNEL approach for Sperm DNA Fragmentation Assessment. Analysis in donors and patients

Verón GL, **Manjon AA**, Bello R, Catalano D, Arévalo L, Santiago J, Vazquez-Levin MH

European journal of obstetrics, gynecology, and reproductive biology, 299, 231–239. Junio 2024,
<https://doi.org/10.1016/j.ejogrb.2024.06.018>

Critical analysis of the publication “Impact of heat waves on semen quality: A retrospective study in Argentina between 2005 and 2023”

Vazquez-Levin MH, Verón GL, **Manjon AA**.

Argentine Society of Gynecological and Reproductive Endocrinology Journal. Vol. XXXII N° 1 January-June 2025: 35-41. Figure chosen as the journal cover

Uncovering the Role of IZUMO Family Members in Human Fertilization

Manjon AA*, Verón GL*, Garay SA, Juarez A, GE de Raffo F, Vazquez-Levin MH.

Molecular Reproduction and Development. 2025 Aug;92(8):e70040. doi: 10.1002/mrd.70040. PMID: 40760720.

Novel sperm protease PRSS38 is involved in human and mouse fertilization

Manjon AA, Verón GL, Stegmayer G, Vitale R, GE de Raffo F, Lane L, Vazquez-Levin MH. Sent to consideration

Book chapters

Estudios globales en andrología: de la investigación al laboratorio clínico

Vazquez-Levin MH, Verón GL, **Manjon AA**, Mariatti C, Catalano D.

Cerezo Parra Gerardo, Rocío Núñez Calonge y Mónica Vazquez-Levin, eds. 2023. Salud Reproductiva Masculina. México: Yao Díaz, 2023. ISBN: 978-607-99997-1-1

<https://play.google.com/store/books/details?id=q6jEEAAAQBAJ&pli=>

Laboratory Evaluation of Sperm-Ovum Interaction

Vazquez-Levin MH, Verón GL, **Manjon AA**.

Encyclopedia of Reproduction, 3rd edition

In press

Research background

Internship in the Experimental Thrombosis Laboratory, Academia Nacional de Medicina:

Studies in endothelial progenitors' infection by Coxsackie B3 virus and consequences in their regenerative potential

Director: Dr. Soledad Negrotto.

Period: 03/2019 – 07/2019

Degree thesis in the Cellular Interaction in Reproduction and Cancer Laboratory, Instituto de Biología y Medicina Experimental (IBYME):

Title: “Estudios sobre la expresión y funciones de una proteasa novel identificada mediante el uso de abordajes bioinformáticos”

Period: 10/2019-02/2021

Thesis defense: February 18th 2021. Grade: 10/10.

Internship in the Genetics of Male Infertility Laboratory, Dipartimento di Scienze Biomediche Sperimentali e Cliniche, “Mario Serio”, Università degli Studi di Firenze:

Director: Dr. Csilla Krausz

Period: 01/2024 – 03/2024

Teaching

Posgraduate subject "Seminars in endocrine physiology and biochemistry" in the IBYME from University of Buenos Aires

2021-current

"Physiological and molecular bases of the fertilization process. Application in the andrological diagnosis" course, Argentine Society of Biology (SAB)

2022-current

"Online course of actualization in male reproductive health", Argentine Society of Gynecological and Reproductive Endocrinology (SAEGRE)

2023-current

Courses

Artificial insemination in bovines' course:

Instituto Fahy, 2015. 30 hours, Practical and theory

Introduction to Human Behavioural Genetics course:

University of Minesotta (online course, coursera.org). June 8 2020- 22 July 2020. 8 weeks, theory

VII Andrology interdisciplinary course:

Sociedad Argentina de Andrología (SAA) (virtual). 9 April 2021- 9 de December 2022. Theory

Real Time PCR course

Genetics council of Sociedad Argentina de Investigación Clínica (SAIC) (virtual). 9 May 2022-13 May 2022. Theory

2nd IBYME'S science communication course

Instituto de Biología y Medicina Experimental (IBYME). 16 June 2022- 14 July 2022. Theory

Endocrinology area from Clinical Biochemistry I course

Facultad de Farmacia y Bioquímica de la Universidad from Buenos Aires (UBA). 4 May 2023-7 June 2023. Practical and theory. Grade 9/10

Laboratory Animals course

Facultad de Farmacia y Bioquímica de la Universidad de Buenos Aires (UBA). 8 May 2023- 26 June 2023. Practical and theory. Grade 8/10.

Human Molecular genetics course

Facultad de Farmacia y Bioquímica de la Universidad de Buenos Aires (UBA). 12 May 2023- 29 June 2023. Practical and theory. Grade 8/10.

Bioinformatic tools for the analysis of protein structure, disorder and interactions

Universidad de San Martín. 80hs, 13-24 May, 2024. Theory. Grade 8/10

Practical capacitation in florescence microscopy techniques.

Universidad de Buenos Aires, Facultad de Farmacia y Bioquímica. 46hs June 10-14 2024. Practical and theory. Grade 9/10

Genetics, genomics and precision medicine in human pathology course.

Universidad de Buenos Aires, Facultad de Farmacia y Bioquímica. 42hs July 10-17 2024. Practical-theory. Grade 8/10.

Nanobiotechnology principles

Universidad de Buenos Aires, Facultad de Farmacia y Bioquímica. 50hs July 1-12 2024. Practical-theory. Grade 10/10.

Presentations

Poster presentation in the “IV Argentinian Biology Societies meeting”

Title: A novel sperm protease identification by bioinformatic, biochemistry and functional approaches.
 Authors: **Manjon AA***, Verón GL*, Duek P, Raffo F, Lane L & Vazquez-Levin MH (* same contribution)
 September 2020

Poster presentation in the “XXIII annual meeting of the Argentine Society of Biology”

Title: Identification of sperm proteases and evaluation of their transcripts as male reproductive health biomarkers.
 Authors: **Manjon AA**, Verón GL, Vazquez-Levin MH
 December 2021

Poster presentation in the “XVII annual meeting of biosciences societies”

Title: Expression of serine protease AR2 in mouse sperm and assessment of its participation in fertilization
 Authors: **Manjon AA**, Verón GL, Duek P, Raffo F, Lane L & Vazquez-Levin MH
 November 2022

Presentation in the IBYME institutional seminar

Presentation of the seminar "Sperm proteins and fertilization: characterization of new entities combining bioinformatics with molecular and functional studies"
 December 2022

Presentation in the IX Argentinian Andrology Congress

Title: Use of bioinformatic, biochemistry and functional approaches for the identification of sperm serine proteases relevant for fertilization
 Authors: **Manjon AA**, Verón GL, Duek P, Raffo F, Lane L & Vazquez-Levin MH
 May 2023

Seminar in the Genetics of Male Infertility Laboratory

Title: "Candidate genes for idiopathic infertility, Genetics of Male Infertility Laboratory, University of Florence, January 2024

Seminar in the Instituto de Fisiopatología y Bioquímica Clínica (INFIBIOC)

Title: "Sperm proteases: from bioinformatics identification to functional characterization", Instituto de Fisiopatología y Bioquímica Clínica (INFIBIOC) de la Facultad de Farmacia y Bioquímica de la UBA, August 2024

Seminar in the Centro de Estudios Biomédicos, Básicos, Aplicados y Desarrollo (CEBBAD)

Title: "Characterization of sperm proteins bioinformatically identified and its participation in fertilization". Centro de Estudios Biomédicos, Básicos, Aplicados y Desarrollo (CEBBAD), Maimónides University, August 2024

Presentation in the 9th Argentine Symposium of Young Researchers in Bioinformatics

Title: Integration of conventional and computational biology approaches for the identification of potential male infertility biomarkers.
 Authors: **Manjon AA**, Verón GL, Duek P, Lane L, Garay SA, Juarez A, Krausz CG, Vazquez-Levin MH
 November 2024. Oral and poster presentation

Presentation in the IBYME institutional seminar

Title: "Male fertility in time of changes: from climate to genética". Instituto de Biología y Medicina Experimental (IBYME).
 November 2024

Presentation in the XLIV Annual meeting of the Argentine Society of Andrology

Title: "Impact of heat waves on semen quality: A retrospective study in Argentina between 2005 and 2023".
 Authors: Verón GL, Manjon AA, Arévalo L, Santiago J, Vazquez-Levin MH. Instituto de Biología y Medicina Experimental (IBYME). November 2024

17° Latin-American Assisted Reproduction Congress

Title: "Towards Innovative Male Infertility Diagnosis and Treatment: Decoding Protein Interactions and Genetic Variants"
 Authors: **Manjon AA**, Garay S, Juarez A, Vazquez-Levin MH.
 April, 2025, poster

Popular science activities

Assistant in Genetics symposiums organized by the University of Morón

2018-2019

Coordinator in a science communication event in a secondary school

November 2019 and July 2025. Activities: coordinate games related to science with students

Speaker in a science communication event for secondary school students in IBYME

September 2022, 2023 and 2024

Speaker in a science communication event for general public in IBYME ("Noche de los museos")

September 2023

Coordinator in a science communication event for general public in the Argentinian Book Fair

April 2024 y 2025. Activities: coordinate games related to science

Congresses and meetings assistance

X Genetics actualization meeting:

Universidad de Morón, 2016

II Research meeting:

Universidad de Morón, 2017

XII Genetics actualization meeting:

Universidad de Morón, 2018.

III Littoral regional genetics meeting:

INTA Rafaela, 2018

XIII Genetics actualization meeting

Universidad de Morón, 2019

VIII Argentine Andrology congress

Fundación Instituto Leloir, 2019

"Gamete preservation: progresses, challenges and future perspectives" virtual workshop

SAB, SAPREF and Universidad de Maimónides, 2020

IV Argentinian Biology Societies meeting

Argentine society of biology (SAB) (virtual), 2020

XXI meeting of the Argentine society of biology

Virtual, December 2020

XIX Argentinian congress of reproductive medicine

Argentine society of reproductive medicine (SAMER) (virtual), March 2021

III scientific annual meeting 2021

SAMeR and SAB (virtual), 2021

VI international meeting of the Instituto de Investigación y Tecnología en Reproducción Animal

(INITRA) from the Universidad de Buenos Aires (UBA)

(virtual), 2021

"XVII annual meeting of biosciences societies"

SAIC, SAI, FAIC and SAFIS, November 2022

XXIII annual meeting of Argentine societies of biology

Argentine society of Biology, December 2022

IX Argentinian Andrology Congress

Argentinian society of andrology, May 2023

Annual meeting of the Argentine Society of Biology

2023

Presentation in the 9th Argentine Symposium of Young Researchers in Bioinformatics

November 2024

1st IDPfun2 Conference: "Unravelling the complexity of Intrinsically Disordered Proteins:

Technological Innovations and Future Perspectives"

April 2025

Regular assistant to the IBYME institute seminars

2020-2025. Weekly seminars

Regular assistant to the AndroLatam meetings

2022-2025. Coordinated by Dr. Vazquez-Levin

Regular assistant to the "Reproseminars"

2020-2025. Currently coordinated by Paula Stein, Nicolás Brukman and Cecilia Blengini