MARIA GRACIA GERVASI, Ph.D.

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EDUCATION

- **Doctor of Philosophy** **2013**
  University of Buenos Aires, School of Sciences, Argentina.

Thesis: Participation of anandamide in the release of spermatozoa from the bovine oviductal epithelium.
Mentor: Silvina Perez Martinez, Ph.D.
Institution: Laboratory of Biology in reproduction in mammals, Center for Pharmacological and Botanical Studies (CEFYBO-CONICET), Buenos Aires, Argentina.

- **Bachelor of Science in Biology** **2007**
  University of Buenos Aires, School of Sciences, Argentina.

Diploma: Biologist (6-year career equivalent to a bachelor's in biology and Master in Molecular Biology).
Thesis: The endocannabinoid system in bull sperm and bovine oviductal epithelium: role of anandamide in sperm-oviduct interaction.
Mentor: Silvina Perez Martinez, Ph.D.

ACADEMIC POSITIONS

- **Assistant Professor of Reproductive Physiology** **from 08/2023**
  Department of Animal Science. University of Connecticut, Storrs, CT, USA

- **Research Assistant Professor** **2019-2023**
  Department of Veterinary and Animal Sciences. University of Massachusetts, Amherst, MA, USA

- **Assistant Professor** **Oct 2021- Dec 2022**
  Department of Development and Cell Biology. Bedford Research Foundation, Bedford, MA, USA

- **Visiting Research Scientist** **Jan 2022- June 2022**
  Genetically Engineered Models (GEM) Center/Rudolf Jaenisch Lab. Whitehead Institute of Biomedical Research, Cambridge, MA, USA

- **Postdoctoral Fellow** **2013 - 2019**
  Department of Veterinary and Animal Sciences. University of Massachusetts, Amherst, MA, USA. Mentor: Pablo Visconti, Ph.D.

- **Visiting Postdoctoral Fellow** **2017 (4 weeks) and 2015 (6 weeks)**
  Department of Electrical and Computer Engineering
  Colorado State University, Fort Collins, CO, US. Supervisor: Diego Krapf, Ph.D.

- **Graduate student** **2008 - 2013**
  Laboratory of Biology of Reproduction in mammals. Center for Pharmacological and Botanical Studies (CEFYBO-CONICET), Buenos Aires, Argentina. Mentor: Silvina Perez Martinez, Ph.D.

- **Graduate student international internship** **2011 (2 months)**
  Reproductive Sciences Section of the Department of Cancer Studies and Molecular Medicine. Leicester Medical School, Leicester, United Kingdom. Mentor: Justin Konje, MD-Ph.D.

- **Graduate student international internship** **2008 (6 months)**
  Department of Reproduction and Development, School of Biology. Catholic University of Chile (PUC), Santiago de Chile, Chile. Mentor: Manuel Villalon, Ph.D.

- **Undergraduate student internship** **2006 - 2008**
  Laboratory of Biology of Reproduction in mammals. Center for Pharmacological and Botanical Studies (CEFYBO-CONICET), Buenos Aires, Argentina. Mentor: Silvina Perez Martinez, Ph.D.

- **Undergraduate student internship** **2003 - 2005**
  Department of Biochemistry, School of Agronomy. University of Buenos Aires, Buenos Aires, Argentina.Mentor: Eduardo A. Pagano, Ph.D.

TEACHING EXPERIENCE

Invited Lecturer (1 lecture and 1 seminar/year) **2021-2022**
Graduate course "Analyses of sperm function". Department of Physiology, University of Murcia, Murcia, Spain.

Invited Lecturer (1 lecture/year) **2021-2022**
Graduate course "Experimental models for the study of reproduction". Center for Pharmacological and Botanical Studies (CEFYBO-CONICET). University of Buenos Aires, Buenos Aires, Argentina

Invited Lecturer (1 lecture/year) **2021 and 2023**
Research and Animal Management II (ANIMLSCI 456). Department of Veterinary and Animal Sciences University of Massachusetts, Amherst, MA, USA.

Lecturer **2019-2020**
Research Animal Management I (ANIMLSCI 455, fall semester) and Research Animal Management II (ANIMLSCI 456, spring semester). Department of Veterinary and Animal Sciences. University of Massachusetts, Amherst, MA, USA.

Invited Lecturer (1 lecture/year) **2019-2022**
Advanced Cellular Biology (MOLCLBIO 641). Molecular and Cellular Biology Graduate Program University of Massachusetts, Amherst, MA, USA.

Teaching Assistant **2018-2019**
Laboratory of mouse *in vitro* fertilization. Frontiers in Reproduction Course, Marine Biological Laboratory (MBL), Woods Hole, MA, USA.

Invited Lecturer (1 lecture/year) **2018**
Fundamentals of light microscopy. Frontiers in Reproduction Course, Marine Biological Laboratory (MBL), Woods Hole, MA, USA.

Laboratory coordinator **2016**
Fundamentals of light microscopy. Frontiers in Reproduction Course, Marine Biological Laboratory (MBL), Woods Hole, MA, USA.

Lecturer **2011 - 2013**
General biology. Nursing school. National University of José C. Paz, Buenos Aires, Argentina.

Teaching assistant **2013**
Graduate course "Experimental models for the study of reproduction". Center for Pharmacological and Botanical Studies (CEFYBO-CONICET). University of Buenos Aires, Buenos Aires, Argentina.

Teaching assistant **2011-2012**
Graduate course "Advances in Pharmacology of Reproduction". Center for Pharmacological and Botanical Studies, University of Buenos Aires. Buenos Aires, Argentina.

Teaching assistant **2007 - 2008**
Department of Biodiversity and Experimental Biology. Subjects: zoology and cellular biology. School of Science, University of Buenos Aires, Buenos Aires, Argentina.

Teaching Assistant **2004 - 2005**
Applied Biology and Food Department. Subject: Biochemistry. School of Agronomy, University of Buenos Aires, Buenos Aires, Argentina.

FUNDING

USDA National Institute of Food and Agriculture Research Initiative Competitive Grant **2022**
Area: Agriculture and Food Research Initiative

Program: Animal Health and Production and Animal Products: Animal Reproduction
Project title: Bovine sperm Ca^{2+} signaling and energy pathways in basic science and Assisted Reproductive Technologies (ART).
Role: Project director
Grant Number: 2022-67016-36302
Total: $600,000 Direct costs: $400,000

Faculty Research Grant/Healey Endowment Grant (FRG/HEG) **2020**
University of Massachusetts, Amherst.
Project title: Link between sperm incubation conditions and early embryo development: possible applications to improve assisted reproductive technologies.
Role: Principal investigator.
Project ID: P1FRG0000000261
Total: $20,000

Grant for organization of a scientific meeting from Boehringer Ingelheim Stiftung **2017**
Support for the meeting Gordon Research Conference (GRC) / Gordon Research Seminar (GRS) on Fertilization and Activation of Development 2017.

TRAVEL GRANTS AND FELLOWSHIPS

Travel grant from the Male Contraceptive Initiative (MCI) **2018**
Partial support to attend the Advanced Sequencing Technologies & Applications Course
CSHL, Long Island, NY, USA.

Support grant from the National Human Genome Research Institute **2018**
Partial support to attend the Advanced Sequencing Technologies & Applications Course
CSHL, Long Island, NY, USA.

Travel grant from the Marine Biological Laboratory (MBL) **2018**
Support to attend the Course Stem Cells and Regeneration.
MBL, Woods Hole, MA, USA.

Grant for postdoctoral studies from the Lalor Foundation, USA **2014**
Research field: Biochemical regulation of TSSK1, a potential target for male contraception.
Place of work: Department of Veterinary and Animal Sciences, University of Massachusetts, Amherst.
Supervisor: Pablo Visconti, PhD.

Grant for postdoctoral studies from the Lalor Foundation, USA **2013**
Research field: Biochemical regulation of TSSK1, a potential target for male contraception.
Place of work: Department of Veterinary and Animal Sciences, University of Massachusetts, Amherst.
Supervisor: Pablo Visconti, PhD.

Travel grant from the Marine Biological Laboratory **2012**
Support to attend the course Frontiers in Reproduction (FIR)
MBL, Woods Hole, MA, USA.

Grant for international training from Boehringer Ingelheim Fonds, Germany **2011**
Research field: Endocannabinoids in the female reproductive tract.
Place of work: Reproductive Sciences Section of the Department of Cancer Studies and Molecular Medicine, Leicester Medical School, Leicester, United Kingdom.
Supervisor: Silvina Perez Martinez, PhD and Justin Konje, MD-Ph.D.

Grant for international training from The Company of Biologists, United Kingdom **2011**
(Declined to accept)
Research field: Endocannabinoids in the female reproductive tract.

Place of work: Reproductive Sciences Section of the Department of Cancer Studies and Molecular Medicine, Leicester Medical School, Leicester, United Kingdom.
Supervisor: Silvina Perez Martinez, Ph.D. and Justin Konje, MD-Ph.D.

Type II Internal Fellowship for graduate training **2011**
from the National Research Council (CONICET), Argentina.
Research field: Participation of anandamide in the sperm releasing from bovine oviductal epithelium.
Place of work: Lab of Biology of Reproduction in mammals, Center for Pharmacological and Botanical Studies (CEFyBO), Buenos Aires, Argentina.

Grant for international training **2007**
from the Latin-American Program for Research in Sexual and Reproductive Health (PLISSER).
Research field: Participation of anandamide in the sperm releasing from bovine oviductal epithelium.
Place of work: Reproduction and Development Area, School of Biology, Catholic University of Chile (PUC), Santiago de Chile, Chile.
Supervisor: Manuel Villalón, Ph.D.

Type I Internal Fellowship for graduate training **2007**
from the National Research Council (CONICET), Argentina.
Research field: Participation of anandamide in the sperm releasing from bovine oviductal epithelium.
Place of work: Lab of Biology of Reproduction in mammals, Center for Pharmacological and Botanical Studies (CEFyBO), Buenos Aires, Argentina.

AWARDS AND PRIZES

- NIH trainee travel award from the American Society of Andrology. 44th annual conference of the American Society of Andrology. Chicago, IL, USA. **April 2019**.
- NIH trainee travel award from the American Society of Andrology. 41st annual conference of the American Society of Andrology. New Orleans, LA, USA. **April 2016**.
- Prize from the Argentinean Society of Physiology for the work “Study of anandamide (AEA) as a physiological inductor of the sperm release from the oviduct in bovines”. Rosario, Argentina, **October 2012**.
- Special Mention in the X Annual meeting of the Argentinean Society of Biology for the work “Involvement of epithelial cadherin in the formation of the spermatic oviductal reservoir in bovines”. Buenos Aires, Argentina, **December 2008**.
- Award from the Chilean Society of Reproduction and Development for presentation of the work “Anandamide capacitates bull spermatozoa possibly through de heparin pathway”. XIX Annual meeting of the Chilean Society of Reproduction and Development. Chillán, Chile, **September 2008**.

SCIENTIFIC PUBLICATIONS

1. Barrachina F, Ottino K, Elizagaray ML, **Gervasi MG**, Tu LJ, Markoulaki S, Spallanzani RG, Capen D, Brown D, Battistone MA. Regulatory T cells play a crucial role in maintaining sperm tolerance and male fertility. *Proc Natl Acad Sci USA*. **2023** Sep 12; 120(37): e2306797120. doi: 10.1073/pnas.2306797120. PMID: 37676910.
2. Romarowski A, Fejzo J, Nayyab S, Martin-Hidalgo D, **Gervasi MG**, Balbach M, Violante S, Salicioni AM, Cross J, Levin LR, Buck J, Visconti PE. Mouse sperm energy restriction and recovery (SER) revealed novel metabolic pathways. *Front Cell Dev Biol*. **2023** Aug 15; 11:1234221. doi: 10.3389/fcell.2023.1234221. PMID: 37655160.
3. Mohanty G, Tourzani DA, **Gervasi MG**, Suvorov A, Pilsner R, Visconti PE. Effects of preconception exposure to phthalates on mouse sperm capacitation parameters. *Andrology*. **2023** Oct;11(7):1484-1494. doi: 10.1111/andr.13423. PMID: 36891737.
4. Tourzani DA, Yin Q, Jackson EA, Rando OJ, Visconti PE*, **Gervasi MG***. (*Co-corresponding authors). Sperm Energy Restriction and Recovery (SER) alters epigenetic marks during the first cell cycle of development in mice. *Int J. Mol Sci*. **2022** Dec 30**;** 24(1), 640. doi.org/10.3390/ijms24010640. PMID: 36614081.

5. Yang F*, **Gervasi MG***, Leu NA, Orta G, Tourzani DA, De la Vega-Beltran JL, Ruthel G, Darszon A, Visconti PE, and Wang PJ. (*equal contributors). C2CD6 regulates targeting and organization of the CatSper calcium channel complex in sperm flagella. *Development* **2022** Jan 15;149(2). doi: 10.1242/dev.199988. PMID: 34919125.
6. Marin-Briggiler CI, Luque GM, **Gervasi MG**, Mondillo C, Salicioni AM, Krapf D, Visconti PE, Buffone MG. Human sperm remain motile after a temporary energy restriction but do not undergo capacitation-related events. *Front Cell Dev Biol*. **2021** Nov 12;9:777086. doi.org/10.3389/fcell.2021.777086. PMID: 34869380.
7. Nayyab S*, **Gervasi MG***, Tourzani DA, Caraballo DA, Jha KN, Teves ME, Cui W, Georg GI, Visconti PE, Salicioni AM. (*equal contributors). TSSK3, a novel target for male contraception, is required for spermiogenesis. *Mol Reprod Dev.* **2021**. Oct 8. doi: 10.1002/mrd.23539. PMID: 34623009.
8. Tourzani DA, Battistone MA, Salicioni AM, Breton S, Visconti PE*, **Gervasi MG***. (*Co-corresponding authors). Caput ligation renders immature mouse sperm motile and capable to undergo cAMP-dependent phosphorylation. *Int J. Mol Sci*. **2021** Sep 23;22(19):10241. doi: 10.3390/ijms221910241. PMID: 34638585
9. Gillespie A, **Gervasi MG**, Sathiyaseelan T, Connelley T, Telfer JC, Baldwin CL. γδ TCR and the WC1 co-receptor interactions in response to Leptospira using imaging flow cytometry and STORM. *Frontiers in Immunology.* **2021**. Jul 28;12:712123. doi: 10.3389/fimmu.2021.712123. PMID: 34394114.
10. Luque MG, Xu X, Romarowski A, **Gervasi MG**, Orta G, De la Vega-Beltrán JL, Stival C, Gilio N, Dalotto-Moreno T, Krapf D, Visconti PE, Krapf D, Darszon A, Buffone MG. Cdc42 activity is essential for the interplay between cAMP/PKA pathway and CatSper function. *FASEB.* **2021**. doi: 10.1096/fj.202002773RR.
11. Wang F, **Gervasi MG**, Bošković A, Sun F, Rinaldi VD, Yu J, Wallingford MC, Tourzani DA, Mager J, Zhu LJ, Rando OJ, Visconti PE, Strittmatter L, Bach I. Deficient spermiogenesis in mice lacking Rlim. *Elife.* **2021** Feb 23;10:e63556. doi: 10.7554/eLife.63556. PMID: 33620316
12. **Gervasi MG**, Soler AJ, Gonzalez-Fernandez L, Alves MG, Oliveira PF, Martin-Hidalgo D. Extracellular Vesicles, the road toward the improvement of ART outcomes. *Animals.* **2020** Nov 21; 10(11):2171. doi: 10.3390/ani10112171. PMID: 33233342. Review.
13. Hidalgo DM, Romarowski A, **Gervasi MG**, Navarrete F, Balbach M, Salicioni AM, Levin LR, Buck J, Visconti PE. Capacitation increases glucose consumption in murine sperm. *Mol Reprod Dev*. **2020** Oct; 87(10):1037-1047. doi: 10.1002/mrd.23421. PMID: 32914502
14. Balbach M, **Gervasi MG**, Hidalgo DM, Visconti PE, Levin LR, Buck J. Metabolic changes in mouse sperm during capacitation. *Biol Reprod*. **2020** Oct 5; 103(4):791-801. doi: 10.1093/biolre/ioaa114. PMID: 32614044
15. Osycka-Salut C, Martinez-Leon E, **Gervasi MG**, Castellano L, Davio C, Chiarante N, Franchi A, Ribeiro ML, Perez-Martinez S. Fibronectin induces capacitation-associated events through the endocannabinoid system in bull sperm. *Theriogenology*. **2020** Sep 1; 153:91-101. doi: 10.1016/j.theriogenology.2020.04.031 PMID: 32447096
16. Salicioni AM, **Gervasi MG**, Sosnik J, Tourzani DA, Nayyab S, Caraballo DA, Visconti PE. Testis-Specific Serine Kinase (TSSK) Proteins Family in Male Fertility and as Targets for Non-hormonal Male Contraception. *Biol Reprod*. **2020** Aug 4; 103(2):264-274. doi: 10.1093/biolre/ioaa064. PMID: 32337545. Review.
17. Navarrete FA, Aguila L, Martin-Hidalgo D, Tourzani DA, Luque GM, Ardestani G, Garcia-Vazquez FA, Levin LR, Buck J, Darszon A, Buffone MG, Mager J, Fissore RA, Salicioni AM, **Gervasi MG***, Visconti PE*. (*Co-corresponding authors). Transient Sperm Starvation Improves the Outcome of Assisted Reproductive Technologies. *Front Cell Dev Biol*. **2019** Nov 5; 7:262. doi: 10.3389/fcell.2019.00262 PMID: 31750304
18. Alonso CAI, Lottero-Leconte R, Luque GM, Vernaz ZJ, Di Siervi N, **Gervasi MG**, Buffone MG, Davio C, Perez-Martinez S. MRP4-mediated cAMP efflux is essential for mouse spermatozoa capacitation. *J Cell Science*. **2019** Jul 26; 132(14). doi: 10.1242/jcs.230565. PMID: 31253671
19. Paudel B, **Gervasi MG**, Porambo J, Caraballo DA, Tourzani DA, Mager J, Platt MD, Salicioni AM, Visconti PE. Sperm capacitation is associated with phosphorylation of the testis-specific radial spoke protein Rsph6a. *Biol Reprod*. **2019** Feb 1; 100(2):440-454. doi: 10.1093/biolre/ioy202. PMID: 30239614
20. Romarowski A, Velazco A, **Gervasi MG**, Xu X, Torres Rodriguez P, Luque MG, Sanchez Cardenas C, Ramirez Gomez H, Krapf D, Visconti P, Krapf D, Guerrero A, Darszon A, Buffone MG. Super-resolution imaging of live sperm reveals specific dynamic changes of the actin cytoskeleton during acrosomal exocytosis. *J Cell Science*. **2018** Nov 8; 131(21). doi: 10.1242/jcs.218958. PMID: 30301778

21. Tourzani DA, Paudel B, Miranda P, Salicioni AM, Visconti PE, **Gervasi MG**. Changes in protein O-GlcNAcylation during epididymal maturation. *Front Cell Dev Biol***. 2018** Jun 11; 6:60. doi: 10.3389/fcell.2018.00060. PMID: 29942801
22. **Gervasi MG***, Xu X*, Carbajal-Gonzalez B, Buffone MG, Visconti PE, Krapf D. (*equal contributors). The actin cytoskeleton of the mouse sperm flagellum is organized in a helical structure. *J Cell Science*. **2018** Jun 11; 131(11). doi: 10.1242/jcs.215897. PMID: 29739876
23. Stival C, Ritagliati C, Xu X, **Gervasi MG**, Luque MG, Baró Graf C, de la Vega-Beltrán JL, Torres NI, Darszon A, Krapf D, Buffone MG, Visconti PE, Krapf D. Disruption of protein kinase A localization induces the acrosome reaction in capacitated mouse sperm. *J Biol Chem*. **2018** Jun 15; 293(24):9435-9447. doi: 10.1074/jbc.RA118.002286 PMID: 29700114
24. Matamoros-Volante A, Moreno-Irusta A, Torres-Rodriguez P, Giojalas L, **Gervasi MG**, Visconti PE, Treviño CL. Semi-automatized segmentation method using image-based flow cytometry to study sperm physiology: the case of capacitation-induced tyrosine phosphorylation. *Mol Hum Reprod* **2018** Feb 1; 24(2):64-73. doi: 10.1093/molehr/gax062. PMID: 29186618
25. **Gervasi MG**, Visconti PE. Molecular changes and signaling events occurring in sperm during epididymal maturation. *Andrology.* **2017** Mar; 5(2):204-218. doi: 10.1111/andr.12320. PMID: 28297559. Review.
26. **Gervasi MG**, Visconti PE. Chang's meaning of capacitation: A molecular perspective. *Mol Reprod Dev.* **2016** Oct; 83(10):860-874. doi: 10.1002/mrd.22663. PMID: 27256723. Review.
27. Alvau A*, Battistone MA*, **Gervasi MG**, Navarrete FA, Xu X, Sánchez-Cárdenas C, De la Vega-Beltran JL, Da Ros VG, Greer PA, Darszon A, Krapf D, Salicioni AM, Cuasnicu PS, Visconti PE. (*equal contributors). The tyrosine kinase FER is responsible for the capacitation-associated increase in tyrosine phosphorylation in murine sperm. *Development*. **2016** Jul 1; 143(13):2325-33. doi: 10.1242/dev.136499. PMID: 27226326
28. **Gervasi MG**, Osycka-Salut C, Sanchez T, Alonso C, Llados C, Castellano L, Franch AM, Villalón M, Perez-Martinez S. Sperm Release from the Oviductal Epithelium Depends on Ca^{2+} Influx Upon Activation of CB1 and TRPV1 by Anandamide. *J Cell Biochem.* **2016** Feb; 117(2):320-33. doi: 10.1002/jcb.25273. PMID: 26129689
29. Osycka-Salut C, **Gervasi MG**, Castellano M, Alonso CA, Pérez-Martínez S. Sperm interaction with the female reproductive tract: more than a simple cellular attachment. *Journal of the Argentinean Society of Gynecological and Reproductive Endocrinology.* **2015** Dec; 22(3):11-23. *Article in Spanish.* ISSN: 5053701.
30. Caballero JN, **Gervasi MG**, Veiga MF, Dalvit GC, Perez-Martínez S, Cetica PD, Vazquez-Levin MH. Epithelial cadherin is present in bovine oviduct epithelial cells and gametes, and is involved in fertilization-related events. *Theriogenology.* **2014** Jun; 81(9):1189-206. doi: 10.1016/j.theriogenology.2014.01.028. PMID: 24629593.
31. Osycka-Salut C, Diez F, Burdet J, **Gervasi MG**, Franchi A, Bianciotti LG, Davio C, Perez-Martinez S. Cyclic AMP efflux, via MRPs and A1 adenosine receptors, is critical for bovine sperm capacitation. *Mol Hum Reprod.* **2014** Jan; 20(1):89-99. doi: 10.1093/molehr/gat053. PMID: 23907162
32. **Gervasi MG**, Marczylo TH, Lam PM, Rana S, Franchi AM, Konje JC, Perez-Martinez S. Anandamide levels fluctuate in the bovine oviduct during the oestrous cycle. *PLoSOne.* **2013** Aug 16; 8(8):e72521. doi: 10.1371/journal.pone.0072521. PMID: 23977311
33. Sordelli MS, Beltrame JS, Cella M, **Gervasi MG**, Perez Martinez S, Burdet J, Zotta E, Franchi AM, Ribeiro ML. Interaction between lysophosphatidic acid, prostaglandins and the endocannabinoid system during the window of implantation in the rat uterus. *PLoSOne.* **2012** Sep; 7(9):e46059. doi: 10.1371/journal.pone.0046059. PMID: 23029388.
34. Osycka-Salut C, **Gervasi MG**, Pereyra EN, Cella M, Ribeiro ML, Franchi A, Perez-Martinez S. Anandamide induces sperm release from oviductal epithelia through nitric oxide pathway in bovines. *PLoSOne* **2012** Feb 17; 7(2):e30671. doi: 10.1371/journal.pone.0030671. PMID: 22363468
35. **Gervasi MG**, Osycka-Salut C, Caballero J, Vazquez-Levin M, Pereyra E, Billi S, Franchi A and Perez-Martinez S. Anandamide capacitates bull spermatozoa through CB1 and TRPV1 activation. *PLoSOne* **2011** Feb 11; 6(2):e16993. doi: 10.1371/journal.pone.0016993. PMID: 21347292.
36. **Gervasi MG**, Rapanelli M, Ribeiro ML, Farina M, Billi S, Franchi AM and Perez-Martinez S. The endocannabinoid system in bull sperm and bovine oviductal epithelium: role of anandamide in sperm-oviduct interaction. *Reproduction* **2009** Mar; 137(3):403-14. doi: 10.1530/REP-08-0204. PMID: 19042982
37. Ribeiro ML, Farina MG, Perez-Martinez S, Sordelli MS, **Gervasi MG,** Vercelli CA, Aisemberg J, Cervini M, Cella M, Billi S and Franchi AM. The role of anandamide during pregnancy. A short tale about the endocannabinoid system. *Physiological Mini-Reviews*, **2007** Vol 3 (nº1). ISSN 1669-5410.

BOOK CHAPTERS

- Physiological and Pharmacological Aspects in the Oviductal Function in Mammals in “Inflammatory mediators involved in normal and pathological pregnancies”. Villalón M, **Gervasi MG**, Carreño D y Perez-Martinez S. 2010 Research Signpost (ISBN: 978-81-308-0397-7). Ed: ML Ribeiro, Co-Ed: M Farina, Ed. Cons: AM Franchi.

INVITED TALKS

1. “Manipulation of sperm metabolism improves sperm function revealing post-fertilization paternal effects: possible applications on assisted reproductive technologies”. Invited speaker at the Department of Animal Science, University of Connecticut, Storrs. **March 1, 2023.**
2. “Sperm contribution to early embryo development: possible applications of sperm energy restriction and recovery (SER) for the improvement of assisted reproductive techniques.” Invited speaker at the seminar series of the Institute of Immunology, Genetics and Metabolism (INIGEM CONICET-UBA). Buenos Aires, Argentina. Virtual seminar in Spanish. **Aug 22, 2022.**
3. “The mammalian spermatozoon: cytoskeleton, function, and their contribution to early embryo development”. Invited speaker at the seminar series of the Center for Pharmacological and Botanical Studies (CEFYBO CONICET-UBA), Buenos Aires, Argentina. Virtual seminar in Spanish. **Aug 17, 2022.**
4. “Role of sperm energy restriction and recovery (SER) treatment on early embryo development.” Invited speaker at the international meeting V Jornadas de Reproduccion. Santa Cruz Huatulco, Mexico. Hybrid meeting, virtual presentation. **May 10, 2022.**
5. “Role of sperm energy restriction and recovery (SER) treatment on early embryo development.” Speaker at the international seminar series Reproseminars. Virtual (in Spanish). **December 2, 2021.**
6. “Effects of sperm incubation conditions on in vitro early embryo development in the mouse.” Invited speaker at the I International Workshop on Applied Cellular and Molecular Biology. Organized by the Doctoral Program in Sciences, Universidad de La Frontera, Chile. Virtual meeting. **Nov 25, 2021.**
7. “Effects of sperm manipulation on early embryo development after in vitro fertilization in the mouse.” Invited speaker at the International Symposium on Reproductive Health: Overcoming barriers for research in reproduction (ISRH 2021). Virtual meeting. **May 7, 2021.**
8. “To inject, or not to inject? That is the question.” Invited panelist at the UMass Biotech Training Program (BTP) “Biotech tAles” seminar (virtual seminar). University of Massachusetts, Amherst, MA. Virtual meeting. **Apr 2, 2021.**
9. “Unraveling the sperm actin cytoskeleton by superresolution microscopy.” Invited speaker at workshop in conjunction with the annual symposium of the Quebec Reproduction Network (RQR) in Montreal, Quebec, Canada. Virtual meeting. **Nov 9, 2020.**
10. “Advanced sequencing technologies. Basic concepts of next generation sequencing (NGS).” Invited speaker at Reproseminars (techniques edition – organizer Dr. Mariano Buffone). Virtual seminar in Spanish. **Jun 25, 2020.**
11. “Superresolution microscopy: brief introduction to STORM and SIM. Invited speaker at the seminar series “Techniques at teatime” organized by the Department of Veterinary and Animal Sciences, UMass-Amherst. Virtual seminar. **May 22, 2020**.
12. “Regulation of sperm fertilization-competence in mammals.” Invited seminar at the Department of Animal Science, Cornell University. Ithaca, NY. **May 2018**.
13. “Novel cytoskeletal structures of mouse sperm.” Invited seminar at the Department of Animal Science, University of California Davis. Davis, CA. **February 2017**.
14. “The endocannabinoid anandamide (AEA) regulates the oviductal sperm selection in bovines by inducing sperm capacitation.” Invited talk at the Gordon Research Seminar (GRS), Fertilization & Activation of Development, Holderness, NH, United States. **July 2013.**

MEETING PRESENTATIONS (last 5 years, presenter underlined)

1. Sperm energy restriction and recovery (SER) treatment improves sperm function in the bovine model. Arroyo-Salvo C, Aguila-Paredes L, Eckenreiter C, Shaw R, Navarrete FA, Perez-Martinez S, Fissore R, Visconti PE, and **Gervasi MG**. Gordon Research Conference (GRC), Fertilization & Activation of Development. Holderness, NH, United States. July 2023. Format: poster.
2. Characterization of TSSK1, TSSK2, and TSSK3 as potential targets for male contraception. Nayyab S, **Gervasi MG**, Tourzani DA, Cui W, Salicioni AM, and Visconti PE. Gordon Research Conference

(GRC), Fertilization & Activation of Development. Holderness, NH, United States. July 2023. Format: poster presentation that was selected to be presented as an oral presentation in the same meeting.

3. Mouse sperm energy restriction and recovery (SER) revealed novel metabolic pathways. Romarowski A, Fejzo j, Nayyab S, Martin-Hidalgo D, **Gervasi MG**, Balbach M, Violante S, Salicioni AM, Cross J, Levin LR, Buck J, and Visconti PE. Gordon Research Conference (GRC), Fertilization & Activation of Development. Holderness, NH, United States. July 2023. Format: poster.
4. Molecular investment of oocytes and embryos; using the novel SunRISE technique to detect protein synthesis. Weber WD, Tourzani DA, **Gervasi MG**, and Visconti PE. Gordon Research Conference (GRC), Fertilization & Activation of Development. Holderness, NH, United States. July 2023. Format: poster.
5. Regulatory T cells play a crucial role in maintaining sperm tolerance and male fertility. Elizagaray M, Barrachina F, Ottino K, Tu L, **Gervasi MG**, Spallanzani RG, Capen DE, Brown D, Battistone MA. Gordon Research Conference (GRC), Fertilization & Activation of Development. Holderness, NH, United States. July 2023. Format: poster.
6. Bovine sperm Ca^{2+} signaling and energy pathways in basic science and assisted reproductive technologies (ART). **Gervasi MG**. National Institute of Food and Agriculture, AFRI Animal Reproduction annual project director meeting. Ottawa, Canada. July 2023. Format: talk.
7. Parthenogenetic potential of discarded human eggs following ambient temperature transport. Kiessling AA, **Gervasi MG**, Kearnan M, and Albertini D. International Society for Stem Cell Research Annual meeting. Boston, MA. June 2023. Format: poster.
8. Human parthenote stem cells: the challenges. **Gervasi MG**, Kiessling AA, and Albertini DF. International Society for Stem Cell Research Annual meeting. Boston, MA. June 2023. Format: poster.
9. Bovine sperm Ca^{2+} signaling and energy pathways in basic science and assisted reproductive technologies (ART). Eckenreiter C, Shaw R, Fissore R, Visconti P, and **Gervasi MG.** Meeting organized by the Cafe Summer Scholars Program, University of Massachusetts. Amherst, MA. Sep 2022. Format: poster.
10. Sperm Energy restriction and Recovery (SER) effects on bovine sperm function. Shaw R, Eckenreiter C, Visconti PE, **Gervasi MG**. Meeting organized by the Lee Science Impact Program (Lee SIP), University of Massachusetts. Amherst, MA. Aug 2022. Format: poster.
11. Optimization of human parthenogenetic activation from donated supernumerary oocytes. **Gervasi MG**, Kearnan M, Albertini DF, Kiessling, AA. Frontiers in Reproduction (FIR) symposium. Marine Biological Laboratory, Woods Hole, Massachusetts, USA. June 2022. Format: talk.
12. Mouse sperm energy restriction and recovery (SER) treatment prior to in vitro fertilization induces epigenetic changes in early embryos. Tourzani DA, Yin Q, Jackson EA, Rando O, Visconti PE, and **Gervasi MG**. Veterinary and Animal Sciences (VASCI) Bi-Annual Departmental Retreat. Greenfield, MA. May 2022. *Poster Award
13. The sperm energy restriction and recovery (SER) treatment affects embryonic genome activation in mice. Tourzani DA, Yin Q, Jackson EA, Rando OJ, Visconti PE, **Gervasi MG.** EMBO workshop "Awakening of the genome: The maternal-to-zygotic transition. Vienna, Austria. May 2022. Format: poster and selected lightning talk.
14. Understanding the effects of sperm metabolism leading to improved fertilization and embryo development. Romarowski A, Nayyab S, Martin-Hidalgo D, **Gervasi MG**, Salicioni AM, Balbach M, Levin LR, Buck J, Fejzo J, and Visconti PE. American Society of Andrology 47th Annual Conference of American Society of Andrology. La Jolla, CA. May 2022. Format: poster.
15. Sperm incubation conditions influence the success of pre-implantation embryo development. Tourzani DA, Jackson EA, **Gervasi MG**, and Visconti PE. American Society of Andrology 47th Annual Conference of American Society of Andrology. La Jolla, CA. May 2022. Format: poster.
16. Capacitation-Induced regulation of GSK3 alpha suggests that this kinase is involved in the acrosome reaction. Mohanty G, Paudel B, **Gervasi MG**, Tourzani DA and Visconti P. 47th annual conference of American Society of Andrology. La Jolla, CA, USA. May 2022. Format: poster.
17. Sperm incubation conditions influence the success of pre-implantation embryo development. Tourzani DA, Jackson E, Visconti PE, and **Gervasi MG**. International Symposium on Reproductive Health: Overcoming barriers for research in reproduction (ISRH 2021). Virtual conference. May 2021**.** * Award Winner.
18. Sperm Energy Recovery after starvation prior to in vitro fertilization induces epigenetic changes in early embryos in mice. Jackson E, Tourzani DA, Visconti PE, and **Gervasi MG**. Massachusetts Undergraduate Research Conference (MASS URC 2021). Virtual conference. April 2021.

19. Validation of Testis-specific Serine/Threonine Kinase 3 as potential target for contraception. Tourzani DA, **Gervasi MG**, Nayyab S, Jha KN, Cui W, Salicioni AM, and Visconti PE. 46th annual conference of the American Society of Andrology. April 2021 (virtual conference).
20. Characterization of TSSK1 and TSSK2 as potential targets for male contraception. Nayyab S, **Gervasi MG**, Tourzani DA, Cui W, Salicioni AM, Visconti PE. 46th annual conference of the American Society of Andrology. April 2021 (virtual conference).
21. Effects of chronic exposure to phthalates on mouse sperm capacitation parameters. Mohanty G, Suvorov A, **Gervasi MG**, Visconti PE, Pilsner R. 46th annual conference of American Society of Andrology. April 2021 (virtual conference).
22. Immune synapse formation of WC1+ γδ T cells in response to Leptospira. Gillespie A, **Gervasi MG**, Telfer JC, Baldwin CL. Conference of Research Workers in Animal Diseases. Chicago, Illinois November 2019. Format: talk.
23. Characterization of TSSK1 and TSSK2 as potential targets for male contraception. **Gervasi MG**, Nayyab S, Tourzani DA, Cui W, Salicioni AM, Visconti PE. Gordon Research Conference (GRC), Fertilization & Activation of Development, Holderness, NH, United States. July 2019. Format: poster.
24. Fertilization and early embryo development are influenced by sperm incubation conditions. Tourzani DA, Navarrete FA, Visconti PE, **Gervasi MG**. Gordon Research Conference (GRC), Fertilization & Activation of Development, Holderness, NH, United States. July 2019. Format: poster.
25. Manipulation of sperm metabolism improves outcome of assisted reproductive technologies. **Gervasi MG**, Navarrete FA, Visconti PE. 43rd annual conference of the American Society of Andrology. Chicago, IL, USA. April 2019. Format: poster.
26. Role of Ca^{2+}/calmodulin-dependent serine-threonine phosphatase, calcineurin, in mouse sperm capacitation. Paudel B, Navarrete FA, **Gervasi MG**, Visconti PE. 43rd annual conference of the American Society of Andrology. Chicago, IL, USA. April 2019. Format: poster.
27. Testis-Specific serine/threonine kinase 1 as a possible target for male contraception. Tourzani DA, **Gervasi MG**, Cui W, Salicioni AM, Visconti PE. 43rd annual conference of the American Society of Andrology. Chicago, IL, USA. April 2019. Format: poster.
28. Role of gamma delta T cells of agricultural species in vaccine efficacy. Gillespie A, **Gervasi MG**, Telfer JC, Baldwin CL. Veterinary Vaccinology Network Conference. London, UK. January 9-10 2019. Format: poster.
29. Porcine periovulatory oviductal fluid inhibits the cAMP/PKA pathway during sperm capacitation in mice. **Gervasi MG**, Visconti PE, Matás C. 43rd annual conference of the American Society of Andrology. Portland, OR, USA. April 2018. Format: poster.
30. Changes in O-GlcNAcylation during epididymal sperm maturation. **Gervasi MG**, Tourzani DA, and Visconti PE. 43rd annual conference of the American Society of Andrology. Portland, OR, USA. April 2018. Format: poster.

OTHER SERVICE AND ORGANIZATION OF SCIENTIFIC MEETINGS

Reproseminars. International series of online seminars (biweekly) focused on Biology of Reproduction for Latinos. Twitter: @reproseminars. Role: **co-organizer** **March 2020 – June 2023**

American Society of Andrology (ASA) **2022**
Member of the ASA 2023 Local Committee for the annual meeting held in Boston MA, April 2023.

Gordon Research Conference (GRC) on Fertilization & Activation of Development **July 2019**
Holderness, NH, USA. Role: **Discussion leader** of the session "How to navigate through your career as a minority". Power Hour (hour dedicated to women in science).

43rd annual conference of the American Society of Andrology **April 2018**
Portland, OR, USA. Role: **Co-moderator** of the Male Contraception session.

Fall Symposium of the New England Society for Microscopy **November 2017**
University of Massachusetts, Amherst, MA, USA. Role: **organizer.**

Gordon Research Conference (GRC) on Fertilization & Activation of Development **July 2017**
Holderness, NH, USA. Role: **Poster session judge.**

Gordon Research Seminar (GRS) on Fertilization & Activation of Development **July 2017**

Holderness, NH, USA. Role: **Chair.** The activities included fundraising, organization of the scientific program and schedule together with the GRS Co-chair (Dr. Miranda Berhardt) and the GRC Chair (Dr. Mariana Wolfner) and Vicechair (Dr. Steven L'Hernault).

Spring Symposium of the New England Society for Microscopy **April 2017**
Marine Biological Laboratory, Woods Hole, MA, USA. Role: **organizer.**

Gordon Research Seminar (GRS) on Fertilization & Activation of Development **July 2015**
Holderness, NH, USA. Role: **Discussion Leader** of the session "The Activation of Development from Plants to Vertebrates."

PROFESSIONAL SOCIETIES

New England Society for Microscopy:
Board member, Director of Biological Sciences **2016 - 2017**
Member **2014 - 2019**

American Society of Andrology Member **2016 - present**

OTHER PROFESSIONAL ACTIVITIES

Participation as reviewer for scientific journals: Biology of Reproduction**;** Reproduction, Fertility, and Development; Journal of Assisted Reproduction and Genetics; Proceedings of the National Academy of Sciences (PNAS)**;** Frontiers in Cell and Developmental Biology; Frontiers in Veterinary Science**;** Molecular Reproduction and Development**;** Andrology**;** FASEB**;** Cytoskeleton**;** Scientific Reports**;** Molecular Human Reproduction**;** Reproductive BioMedicine Online**;** Theriogenology

Participation as external reviewer for Scientific Organizations:
- Argentinean National Agency for Scientific and Technological promotion. Evaluation of PICT projects.
- Deutscher Akademischer Austauschdienst (DAAD). Evaluation of applications for the Postdoctoral Researchers International Mobility Experience (PRIME) projects, 2021.

Participation on Peer review panels:
- Peer reviewer for the AFRI Animal Reproduction panel (USDA/NIFA).

Participation on scientific boards:
- External Member of the Advisory Board for the Advancing Fertility and Reproduction thrOugh Dedicated and Innovative Technological Applications (AFRODITA) Doctoral Network. Project within the framework of MARIE Sklodowska-CURIE ACTIONS Doctoral Networks.

- Member of the Bedford Research Foundation Scientific Advisory Board.

MENTORING AND TRAINING EXPERIENCE

Graduate Student Training and mentoring, University of Massachusetts, Amherst
- Saman Nayyab (Ph.D.-student) **2019 - 2021**
- Darya Tourzani (Ph.D.-student) **2016 - 2022**
- Bidur Paudel (Ph.D.-student) **2013 - 2019**
- Julie Majka (M.S.-student) **2013 - 2014**

Undergraduate Student Training and Mentoring, University of Massachusetts, Amherst
- Christina Eckenreiter **2022 - 2023**
- Riley Shaw **2022 - 2023**
- Haley Kersley **2019 - 2021**
- Erica Jackson **2019 - 2021**
- Connor Theis **2017 - 2018**
- Maddie Sookdeo **2016**
- Darya Tourzani **2015**

Visitor Student and Visitor Scientist Lab Training
- Camila Arroyo-Salvo, graduate student from the University of Buenos Aires, Argentina. **2023**
- Gen Takei, Assistant Professor, Dokkyo Medical University **2018 - 2019**
- Guillermina Luque, Research Assistant Professor, IByME, Buenos Aires, Argentina **2017**
- Daniel Zarka Trigo, graduate student from MNCN-CSIC, Madrid, Spain **2014 and 2016**

- Carmen Matas Parra, Professor, Dept. Biology and Technology of Reproduction, University of Murcia, Spain **2014 and 2017**
- Sequoyah Reynoso, graduate student from University of California, San Diego, CA **2014**

UNDERGRADUATE AND GRADUATE COMMITTEES

- Erica Jackson – Honors Undergraduate Capstone Thesis
  Commonwealth Honors College and Department of Veterinary and Animal Sciences. University of Massachusetts, Amherst. Graduation: May 2021. Role: **Committee Chair.**
- Darya A Tourzani – PhD Thesis
  Program: Animal Biotechnology and Biomedical Sciences. University of Massachusetts, Amherst**.**
  Graduation: June 2022. Role: **Committee member**