

Marcela Ambrogi

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EDUCATION

University of Wisconsin, School of Medicine and Public Health, Madison WI

Postdoctoral in Integrated Program in Endocrinology, degree expected March 2024

Dissertation title: "Urethral neuroendocrine cells mediate an innate response to ascending *E. coli* infection during pregnancy."

Committee: Dr. Ian Bird, Dr. Jon Levine, Dr. Jenna Racine and Dr. Chad Vezina

University of Wisconsin, Comparative Biosciences, Madison, WI

Ph.D. in Physiology of Reproductive Physiology, degree expected March 2024

Dissertation title: "A role of urethral neuroendocrine cells in the innate response to ascending *E. coli* infection"

Committee: Dr. Chad Vezina, Dr. Laura Hernandez, Dr. Fei Zhao, Dr. Satish Kumar, and Dr. Michael Romero (Mayo clinic)

São Paulo State University, Animal Reproduction, Jaboticabal, SP

Master's degree in Animal Reproduction, 2016

Dissertation title: "Supplementation of the transport media with Antioxidants and AMPc modulators as a strategy to improve the quality of bovine oocytes intended for the *in vitro* production of Embryos."

Committee: Dr. Gisele Zoccal Mingoti, Dr. Joaquim Garcia, Dr. Fernanda da Cruz Landim

Tuiuti University, Clinic and Reproduction in Bovines, Tuiuti, PR

Specialization in Clinic and Reproduction of Bovines, 2014

Dissertation title: "*In vitro* fertilization in bovines."

Committee: Dr. Guilherme de Medeiros Bastos

Midwest state university, School of Veterinary Medicine, Guarapuava, PR

Doctor in Veterinary Medicine, 2014

Dissertation title: "Embryo Transfer in Horses"

Committee: Dr. Mariana Coneglian, Dr. Karen Reginal Lemos, Dr. Pedro Paulo Teixeira

PUBLICATIONS

Bastos, GM; Rodriguez, MGK; **Ambrogi, M.**; Martins, LHS; Dranca, GS. Artificial insemination in sheep by laparoscopy. Producer Magazine- Rural do Paraná. Guarapuava Rural Union, p.62 - 65, 2012

Ueno, RK, Neumann, M, Marafon, F; **Ambrogi, M** ; Daros, AB, Pletz, E. Effect of hay on performance of Holstein calves at suckling and post-weaning. *Ceres Magazine*, v.61, p.668 - 674, 2014.

Rodriguez, MGK; **Ambrogi, M**; Vrisman, DP; Maciel, GS; Feliciano, SEA; Teixeira, PPM. Laparoscopic follicular aspiration in sheep. *Follicular aspiration by laparoscopy in sheep*, v.14, p.55 - 60, 2015.

Rocha-Frigoni NAS; Leao BCS; Dall Acqua PC; **Ambrogi M**; Mingoti GZ. Insulin-like growth factor-1 protects bovine pre-implantation embryos produced in vitro from anti-developmental actions of menadione. *Reproduction Fertility and Development. Impact Factor (2017 JCR): 2.1050*, v.28, p.176 -, 2016.

Leao BCS; Rocha-Frigoni NAS; Dall Acqua PC; **Ambrogi M**; Mingoti GZ. Supplementation with linolenic acid, l-carnitine, alone or associated, during IVM results in decrease of ROS levels and apoptotic index of vitro produced embryos. *Reproduction, Fertility and Development. Impact Factor (2017 JCR): 2.1050*, v.28, p.232 -, 2016.

Dall Acqua PC; Leao BCS; Rocha-Frigoni NAS; **Ambrogi M**; Mingoti GZ. Effects of melatonin on reactive oxygen species generation and acquisition of embryonic developmental competence of bovine oocytes matured in vitro. *Reproduction, Fertility and Development. Impact Factor (2017 JCR): 2.1050*, v.28, p.231 -, 2016.

Meneghel M; Dall Acqua PC; **Ambrogi M**; Leao BCS; Rocha-Frigoni NAS; Mingoti GZ. Effects of forskolin during in vitro culture on modulation of intracytoplasmic lipid content and embryo resistance to cryopreservation. *Brazilian Veterinary Research (Online). Impact Factor (2018 JCR): 0.3020*, 2016.

Dall Acqua PC; Leao BCS; Rocha-Frigoni NA; Nunes, GB; **Ambrogi, M**; Silva, MIA; Rodrigues, LT; Mingoti, GZ. Long-term transport of bovine oocytes with meiotic blockers: effects on nuclear maturation. *Reproduction, Fertility and Development. Impact Factor (2017 JCR): 2.1050*, v.29, p.198 - 199, 2017.

Leao BCS; Rocha-Frigoni NAS; Dall Acqua PC; **Ambrogi M**; Nunes, GB; Rodrigues, LT; Silva, MIA; Mingoti, GZ. Supplementation with Linolenic Acid and L-Carnitine during IVM reduced the expression of genes related to lipogenesis but did not alter the lipid content and cryotolerance of In Vitro-Produced Embryos. *Reproduction, Fertility and Development. Impact Factor (2017 JCR): 2.1050*, v.29, p.185 - 185, 2017.

Ambrogi, M; Dall Acqua PC; Rocha-Frigoni NA; Leao BCS; Mingoti, GZ. Transporting bovine oocytes in a medium supplemented with different macromolecules and antioxidants: Effects on nuclear and cytoplasmic maturation and embryonic development in vitro. *Reproduction in Domestic Animals. Impact Factor (2018 JCR): 1.6380*, v.52(3), p.409-421. doi: 10.1111/rda.12923.

Abstracts published in proceedings of events.

Mingoti GZ; Meneghel M; Dall Acqua PC; **Ambrogi M**; Leao BCS; Rocha-Frigoni NAS. Effect of supplementation with linoleic acid (omega 6) during in vitro production of bovine embryos on the modulation of intracytoplasmic lipid content and resistance to cryopreservation In: Annual Meeting of the Brazilian Society of Embryo Technology, 2015, Gramado. Proceedings of the 29th Annual Meeting of the Brazilian Embryo Technology Society (SBTE). 2015. v.12. p.836 - 836

Meneghel M; Dall Acqua PC; **Ambrogi M**; Leao BCS; Rocha-Frigoni NAS; Mingoti GZ; Achilles MA. Effects of Forskolin during in vitro culture on modulation of intracytoplasmic lipid content and resistance of bovine embryos to cryopreservation In: Brazilian Society of Embryos Technology Annual Meeting, 2015, Gramado. Proceedings of the 29th Annual Meeting of the Brazilian Embryo Technology Society (SBTE) .2015. v.12. p.839 - 839

Meneghel M; Dall Acqua PC; **Ambrogi M**; Gouvea LM; Achilles MA; Leao BCS; Nogueira E; Rocha-Frigoni NAS; Mingoti GZ. Cryotolerance and design rate after exposure of bovine embryos to modifying drugs of intracytoplasmic lipid concentration before vitrification. In: Annual Meeting of the Brazilian Society of Technology of Foz Iguacu, 2016 Proceedings of the 30th Annual Meeting of the Brazilian Embryo Technology Society (SBTE). 2016.

Nunes GB; Dall Acqua PC; **Ambrogi M**; Leao BCS; Rocha-Frigoni NAS; Mingoti GZ. Effects of modulation of oxidative stress and lipid content on the development potential, quality and cryotolerance in vitro bovine. In: Annual Meeting of the Brazilian Society of Embryos Technology, 2016, Foz do Iguacu. Proceedings of the 30th Annual Meeting of the Brazilian Embryo Technology Society (SBTE). 2016.

Mingoti GZ; Meneghel M; Dall Acqua PC; **Ambrogi M**; Leao BCS; Rocha-Frigoni NAS. Effects of forskolin and linoleic acid (omega 6) during in vitro culture on modulation of intracytoplasmic lipid content and resistance of bovine embryos to cryopreservation In: 18th International Congress of Animal Reproduction (ICAR), 2016, France. 18th International Congress of Animal Reproduction (ICAR). 2016.

Ambrogi M; Dall Acqua PC; Leao BCS; Rocha-Frigoni NAS; Nunes GB; Rodrigues LT; Mingoti GZ. Pre-maturation of bovine oocytes with AMPc modulators and antioxidants during transport: effects on embryonic development and cryotolerance In: Annual Meeting of the Brazilian Embryos Technology Society, 2016, Foz do Iguacu. Proceedings of the 30th Annual Meeting of the Brazilian Embryo Technology Society (SBTE). 2016.

Dall Acqua PC; **Ambrogi M**; Rocha-Frigoni NAS; Leao BCS; Rodrigues LT; Mingoti GZ. Melatonin supplement during in vitro maturation in the absence of gonadotrofins recovers embryonic development and reduces oxidative stress in bovine embryos produced in vitro. 2016, Annual Meeting of the Brazilian Society of Foz do Iguacu, 2016. Proceedings of the 30th Annual Meeting of the Brazilian Embryo Technology Society (SBTE). 2016.

Ambrogi M, Bandera P, Hernandez LL, Romero MF, Holmes HT, Kumar JMS, Vezina CM. The role of Urethral Neuroendocrine cells in Urinary Tract Infection. Endocrinology and Reproductive Physiology (ERP) Annual Symposium, 2022, Madison, WI.

Ambrogi M, Bandera P, Hernandez LL, Romero MF, Holmes HT, Kumar JMS, Vezina CM. The role of Urethral Neuroendocrine cells in Urinary Tract Infection. O'Brien Center Annual Symposium, 2022, Madison, WI.

Ambrogi M, Bandera P, Hernandez LL, Romero MF, Holmes HT, Kumar JMS, Vezina CM. A role for Urethral Neuroendocrine cells in the innate response to ascending E. coli infection. Collaborating for the Advancement of Interdisciplinary Research in Benign Urology (CAIRIBU), Center Annual Symposium, 2022, Rockville, MD.

Farhat W, Yadav P, **Ambrogi M**, Spiegelhoff A, Vezina CM, Stietz KPK (2023). Role of Shh Pathway in Urinary Continence and its Impact on Cellular Fate in Mouse Urethra. American Urological Association (AUA), 2023, Chicago, IL.

Ambrogi M, Riddle M, Stietz KPK, Hernandez L, Vezina CM. Role of peripheral 5-HT in the urethral tonus and voiding. International Continence Society (ICS), 2023, Toronto, Canada.

Ambrogi M, Riddle M, Stietz KPK, Manuel SJR, Hernandez L, Vezina CM. Role of peripheral 5-HT in the urethral tonus and voiding. Endocrinology and Reproductive Physiology (ERP) Annual Symposium, 2023, Madison, WI.

RESEARCH EXPERIENCE

Research project at **Cattle Nutrition Center (NUPRAN)**. I was involved in the project "the Effect of hay on performance of Holstein calves at suckling and post-weaning". I contributed to the development, execution, and analysis of the project. Also, I evaluated the effects of corn silage production and use. Midwest State University, School of Veterinary Medicine, 2012.

Research project at the **Center of Biotechnology of Animal Reproduction**. I Performed Artificial insemination and laparoscopic follicular aspiration in sheep and obstetric interventions in horses. Midwest State University, School of Veterinary Medicine, 2013.

Research project at **Animal Reproduction laboratory**. I participated in the Intensification of lamb meat production in the Guarapuava region. Received Fellowship from CNPq. Midwest State University, School of Veterinary Medicine, 2013.

Research project in **Equine Clinic**. My team developed bivalves sarmiento orthosis for immobilization in case of digital extensor tendon rupture in equine. Midwest state university, School of Veterinary Medicine, 2014

Research project entitled **Supplementation with Linolenic acid and L-Carnitine during IVM reduced the expression of genes related to lipogenesis but did not alter the lipid content and cryotolerance of in vitro-produced embryos**. Participated in the execution and analysis, São Paulo State University, 2015.

Research project entitled **Long-term transport of bovine oocytes with meiotic blockers: effects on nuclear maturation**. I contributed in the execution, São Paulo State University, 2015

Research project entitled **Effects of melatonin on reactive oxygen species generation and acquisition of embryonic developmental competence of bovine oocytes matured in vitro**. Participated in the execution, São Paulo State University, 2015.

Research project entitled **Supplementation with linolenic acid, l-carnitine, alone or associated, during IVM results in decrease of ROS levels and apoptotic index of vitro produced embryos**. Participated in the execution, São Paulo State University, 2015.

Research project entitled **Insulin-like growth factor-1 protects bovine pre-implantation embryos produced in vitro from anti-developmental actions of menadione. Reproduction fertility and development**. I contributed in the execution, São Paulo State University, 2015.

Research project entitled **Effects of forskolin during in vitro culture on modulation of intracytoplasmic lipid content and embryo resistance to cryopreservation**. Participated in the execution, São Paulo State University, 2015.

Research project entitled **Transporting bovine oocytes in a medium supplemented with different macromolecules and antioxidants: Effects on nuclear and cytoplasmic maturation and embryonic development in vitro**. Participated in the project development, writing, execution and data analysis, São Paulo State University, 2016.

Research IVF (*in vitro* Fertilization) lab technician at ABS global. I attended weekly meetings to demonstrate the project's progress seeking feedback. Project creation involving the improvement of critical steps in IVF to increase company's profit and client satisfaction, ABS DeForest, 2021.

PROFESSIONAL EXPERIENCE

Medical clinic and surgery at the Veterinary School Hospital. I learned through active engagement in the care of animal patients at Midwest State University, School of Veterinary Medicine, Guarapuava, Parana, Brazil, 2010.

Center of Equine Reproduction (EQUICENTER). I performed Artificial insemination, embryo transfer, collection of semen, and estrous synchronization in horses. Tatui, Sao Paulo, Brazil, 2013.

State University of Sao Paulo (UNESP), I Performed Obstetrics and reproduction of small and large animals. Jaboticabal, Sao Paulo, Brazil, 2013.

Keller's Broken Heart Agricultural Internship. I performed labor and delivery observation and primary care of calves. Mandan, North Dakota, US, 2017.

Reynold's Livestock Agricultural Internship. I performed primary care of dairy calves. Dodgeville, Wisconsin, US, 2017.

ABS Global, Quality Control technician. I executed PCR, analyzed semen motility, performed genomics analysis, and semen bacteria testing through colonies forming units count to assure the quality of bovine semen. DeForest, Wisconsin, US, 2018-2021.

TEACHING EXPERIENCE

Professor's Assistant

Midwest State University (UNICENTRO), Guarapuava, Parana (Brazil)

I assisted Professor Yudney Motta in **the Hospital Practices classes**. I Helped students with teaching advice and support and held weekly meetings to discuss lesson plans. I received a Fellowship from UNICENTRO. September 2011.

I Assisted Professor Yudney Motta in **Small animals Clinic classes**. I Helped students with teaching advice and support and held weekly meetings to discuss lesson plans. I received a Fellowship from UNICENTRO. March 2012.

I Assisted Professor Karen Regina Lemos in **Large Animals Semiology classes**. I Helped students plan course schedules, assisted with academic difficulties, and guided them with the overall study plan. I received a Fellowship from UNICENTRO. June 2012.

I Assisted Professor Karen Regina Lemos in **Equine Medical Clinic classes**. I Helped students plan course schedules, assisted with academic difficulties, and guided them with the overall study plan. Received Fellowship from UNICENTRO. March 2013.

Undergraduate Students during PhD

Piper Miramontes Kennedy Bandera (undergraduate student at University of Wisconsin-Madison) - Abstract and poster presentation, Title: A biological defense against urinary tract infections (UTI) at Research Symposium Spring 2022.

Ren Katz (Summer Program for Undergraduate Urology Research-SPUUR) – Abstract and poster presentation, Title: at 2023 Kidney, Urology, and Hematology Summer Undergraduate Research Conference.

ACADEMIC VOLUNTEER SERVICE

I've been part of **WiSolve** consulting group at University of Wisconsin, Madison, 2023.

HONORS/AWARDS

Honorable Mentions

Research entitled: Influence of antioxidants in vitro maturation on the acquisition of heat stress tolerance in bovine embryos.

Research entitled: Effects of melatonin during in vitro maturation on the competence of bovine oocytes subjected to heat stress.

TECHNICAL SKILLS/LANGUAGES

- Data Analysis.
- Delta course in Improv to Improve Science Communication and Teaching (UW Madison).
- Delta course in mentoring (UW Madison).
- Participated in Oncology 675-001: Core Techniques in Protein and Genetic Engineering, a course covering DNA cloning, RT-qPCR, protein purification and so much more in between at BioPharmaceutical Technology Center Institute (Promega Corporation).
- Proficient in Microsoft software.
- Fluent in Portuguese and English