

Luís Henrique de Aguiar

Department of Animal Science

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PROFESSIONAL EXPERIENCE

2017 – Present – Post Doctoral Scholar – Department of Animal Science – University of California – Davis

Areas: Environmental, nutritional, and metabolic determinants of pre-antral follicle development

Characterization of bovine ovarian stem cells.

2013-2017 – In vivo and vitro production of bovine embryos, reproductive control and dairy bull semen freezing - Esperança Dairy and Agriculture – Fortaleza -CE, Brazil.

2011 –2012 - Senior Laboratory Technician at the Molecular and Developmental Biology Lab – UNIFOR – Brazil.

Areas: cell biology and embryology, in special the production of transgenic cell lines, animal cloning (cattle and goats), bovine IVP, research.

EDUCATION

(2013–2017) PhD in Livestock and Agriculture Biotechnology – RENORBIO - University of Fortaleza (UNIFOR) – Brazil. Supervisor: Dr. Marcelo Bertolini

(2006–2011) DVM Degree – School of Veterinary Medicine – Santa Catarina State University (UDESC) – Brazil.

AWARDS

2016: 2nd place in the student competition at the 30th Brazilian Embryo Technology Society (SBTE) meeting, applied area.

2015: Training award: Advances in the Generation of Genetically Modified Animals Models. Pasteur Institute Montevideo, Uruguay.

2013 - Ceará State Research Foundation Graduate Scholarship - Conceptus abnormalities and strategies to deliver nucleic acids into embryos for the epigenetic modulation of bovine somatic nuclei for cloning by nuclear transfer – RENORBIO – Ceará State University, UECE.

2010 – Undergraduate Research Scholarship – Conjugated Linoleic Acid (CLA) influence on cryopreserved bovine IVP embryos, UDESC.

2009 – Undergraduate Research Fellowship – Development of cryopreserved swine oocytes used in SCNT and IVF procedures, UDESC.

PUBLICATIONS

1. Feltrin C, **Aguiar, LH**, Mendez-Calderón CEM, Carneiro, IS, Quetz, JS, Lima, AAM, Wheeler MB, Rodrigues JL, Murray JD, Maga EA, Bertolini LR, Bertolini M. Effects of oocyte source, cell origin, and embryo reconstruction procedures on *in vitro* and *in vivo* embryo survival after goat cloning. *Animal Reproduction* 2017, *In press*.
2. **Aguiar LH**, Ticiani E, Rodriguez-Villamil P, Ongaratto FL, Lazarotto CR, Rodrigues JL, Bertolini LR, Bertolini M. Probability, odds and random chance: the difficult task of modulating the epigenetic profile of cloned embryos. *Animal Reproduction* 2017, 14 (1):102-123.
3. Gerger RPC, Rossetto R, Ribeiro ES, Ortigari Jr. I, Zago FC, **Aguiar LH**, Costa UM, Lopes RFF, Ambrósio CE, Miglino MA, Rodrigues JL, Forell F, Bertolini LR, Bertolini M. Impact of cumulative gain in expertise on the efficiency of Handmade Cloning in cattle. *Theriogenology* 2017, 95:24-32.
4. Fernandes CCL, Martins LT, Gaudêncio Neto S, Tavares KCS, **Aguiar LH**, Calderón CEM, Silva AM, Alves JPM, Silva CMG, Rossetto R, Bertolini LR, Bertolini M, Rondina D. Gene expression, oocyte quality and embryo production by cloning in goats supplemented with different diets. *Small Ruminant Research* 2016, 144:255-262.
5. Gerger RPC, Zago F, Ribeiro ES, Gaudencio Neto S, Martins LT, **Aguiar LH**, Rodrigues VHV, Furlan FH, Ortigari I Jr, Sainz RD, Ferrell CL, Miglino MA, Ambrosio CE, Rodrigues JL, Rossetto R, Forell F, Bertolini LR, Bertolini M. Morphometric developmental pattern of bovine Handmade Cloned concepti in late pregnancy. *Reproduction, Fertility and Development* 2016, 10.1071/rd15215.
6. Martins LT, Gaudencio Neto S, Tavares KCS, Calderon CEM, **Aguiar LH**, Lazzarotto C, Ongaratto FL, Rodrigues VHV, Carneiro IS, Rossetto R, Almeida AP, Fernandes CCL, Rondina D, Dias ACO, Chies JM, Polejaeva I, Rodrigues JL, Forell F, Bertolini LR, Bertolini M. Developmental Outcome and Related Abnormalities in Goats: Comparison between somatic cell nuclear transfer- and *in vivo*-derived concepti during pregnancy through term. *Cellular Reprogramming* 2016, 18:264-279.
7. Rodrigues-Villamil P, Hoyos-Marulanda V, Martins JAM, Oliveira AN, **Aguiar LH**, Moreno FB, Velho ALMCS, Monteiro-Moreira AC, Moreira RA, Vasconcelos IM, Bertolini M, Moura AA. Purification of Binder of Sperm Protein 1 (BSP1) and its effects on bovine *in vitro* embryo development after fertilization with ejaculated and epididymal sperm. *Theriogenology* 2016, 85:540-554.
8. Tavares KCS, Dias ACO, Lazzarotto CR, Gaudencio Neto S, Carneiro IS, Ongaratto FL, Pinto AFM, **Aguiar LH**, Calderon CEM, Toledo Jr, Castro FO, Santos DS, Chies JM, Bertolini M, Bertolini LR. Transient expression of functional glucocerebrosidase for treatment of Gaucher's Disease in the goat mammary gland. *Molecular Biotechnology* 2016, 58:47-55.
9. Alves JPM, Fernandes CCL, Lazzarotto CR, **Aguiar LH**, Calderon CEM, Tavares KCS, Bertolini LR, Bertolini M, Rondina D. Comparative expression profiles of

genes related to cellular stress and development in oocyte of goats fed with distinct concentrations of lipids. *Acta Scientiae Veterinariae* 2015, 43:1296.

10. Feltrin C, Cooper CA, Mohamad-Fauzi N, Rodrigues VHV, **Aguiar LH**, Gaudencio-Neto S, Martins LT, Calderón CEM, Moraes AS, Carneiro IS, Almeida TM, Silva ING, Rodrigues JL, Maga EA, Murray JD, Libório AB, Bertolini LR, Bertolini M. Systemic immunosuppression by methylprednisolone and pregnancy rates in goats undergoing the transfer of cloned embryos. *Reproduction in Domestic Animals* 2014, 49:648-656.
11. Fernandes CCL, Feltrin C, Martins LT, Gaudêncio Neto S, **Aguiar LH**, Silva AM, Oliveira CHA, Silva LM, Silva CMG, Bertolini M, Rondina D. Goat oocyte quality and competence to undergo IVM and embryo development after parthenogenetic activation from goats fed with different levels of cashew nut bran as source of dietary lipids. *Theriogenology* 2014, 82:332-337.
12. Silva LM, Lazzarotto C, Tavares KCS, Oliveira CHA, Silva AM, Fernandes CCL, **Aguiar LH**, Martins LT, Gaudencio Neto S, Rios DB, Bertolini LR, Bertolini M, Silva CMG, Rondina D. Comparative expression profiles of genes related to oocyte development in goats after long-term feeding with biodiesel castor industry residues. *Animal Reproduction Science* 2014, 148:32-41.

SUBMITTED MANUSCRIPTS

1. Tavares KCS, Lazzarotto CR, Méndez-Calderón CE, **Aguiar LH**, Lilico S, Rossetto R, Ongarotto F, Wheeler MB, Bertolini M, Long CR, Whitelaw CB, Bertolini LR. CRISPR/Cas9 combined with NHEJ attenuation by RNAi enhanced introgression of a transgene into the ROSA26 locus in fibroblast cells for cloning transgenic goats. Submitted to New Biotechnology, 2017.
2. Fernandes CCL, **Aguiar LH**, Calderón CEM, Silva AM, Alves JPM, Rossetto R, Bertolini LR, Bertolini M, Rondina D. Nutritional impact on gene expression and competence of oocytes used to support embryo development and livebirth by cloning procedures in goats. Submitted to Animal Reproduction Science, 2017.
3. Alves K, Alves B, Martins, LT, Méndez-Calderón CE, Gaudencio-Neto S, **Aguiar LH**, Santos R, Domingues S, Bertolini M, Figueiredo JR, Smitz J, Rodrigues AP. Autografting of fresh and vitrified ovarian tissue: Challenges when donors present low percentages of normal preantral follicles. Submitted to Research in Veterinary Science, 2016.

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