

# GUSTAVO SCHETTINI

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## EDUCATION

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<b>Virginia Polytechnic Institute and State University, Virginia Tech</b> Ph.D. in progress in Animal and Poultry Sciences	<i>2022 - Present</i> GPA: 4.0
<b>Sao Paulo State University, UNESP</b> M.Sc. in Genetics and Animal Breeding	<i>2019 - 2021</i> GPA: 4.0
<b>Federal University of Bahia, UFBA</b> B.S. in Veterinary Medicine	<i>2013 - 2018</i> GPA: 3.0

## COMPLEMENTARY EDUCATION

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<b>Graduate Teaching Assistant Workshop</b> , Virginia Polytechnic Institute and State University. 2022.	Credit Hours: –
<b>Systems Biology and Gene Networks Inference: Application to Livestock Breeding and Genetics</b> , Sao Paulo University (ESALQ-USP). 2019.	Credit Hours: 40h
<b>Special Topics: Data Analysis in R Software</b> , Sao Paulo State University (UNESP). 2019.	Credit Hours: 24h
<b>Special Topics in Applied Genomic Selection in Livestock: Methods and Tools</b> , Sao Paulo State University (UNESP). 2019.	Credit Hours: 24h
<b>Introduction to Using Software R</b> , Federal University of Bahia (UFBA). 2015.	Credit Hours: 20h

## TEACHING EXPERIENCE

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<b>Teaching Assistant.</b> Course: Genomics (APSC 4054). Virginia Polytechnic Institute and State University. Instructor: Fernando Biase	<i>Fall 2024</i>
<b>Teaching Assistant.</b> Course: Genomics (APSC 4054). Virginia Polytechnic Institute and State University. Instructor: Fernando Biase	<i>Fall 2023</i>
<b>Teaching Assistant.</b> Course: Animal Breeding and Genetics (ALS 3104). Virginia	<i>Spring 2023</i>

Polytechnic Institute and State University. Instructor: Gota Morota

**Teaching Assistant.** Course: Special Topics in Biotechnology in Animal Production (MEVB10). Federal University of Bahia (UFBA). Instructor: Barbara M. P. da Silva Souza

*Fall 2020*

- Biotechnologies applied to animal breeding I: Principles of DNA sequencing and DNA polymorphisms' identification.
- Biotechnologies applied to animal breeding II: Principles of RNA sequencing and Gene (Co-) expression analyses overview.

## RESEARCH EXPERIENCE

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<b>Graduate Research Assistant</b> , Virginia Polytechnic Institute and State University	<i>2022- Present</i>
<b>Graduate Research Assistant</b> , Sao Paulo State University (UNESP)	<i>2019-2021</i>
<b>Undergraduate Research Internship</b> , Sao Paulo State University (UNESP)	<i>2018-2018</i>
<b>Undergraduate Research Internship</b> , Federal University of Bahia (UFBA)	<i>2018-2018</i>
<b>Rural Extension Projects Internship</b> , Federal University of Bahia (UFBA)	<i>2018-2018</i>
<b>Technological Development and Innovation Internship</b> , Federal University of Bahia (UFBA)	<i>2017-2018</i>
<b>Scientific Research Initiation</b> , Federal University of Bahia (UFBA)	<i>2015-2017</i>

## RESEARCH SUPPORT

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1. Graduate Research Development Program (GRDP)  
\$1000  
Transcriptome profile of in vitro-produced bovine blastocyst associated with hatching rate.  
**PI: Schettini, G.P.** 09/30/2022–10/01/2023
2. AG2PI support to develop genomic workflows.  
\$8000  
Integrating Illumina and ONT sequence workflow.  
**PI: Schettini, G.P.** 09/30/2023–05/31/2024

## PEER-REVIEWED JOURNAL PAPERS

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1. **Schettini G. P.**; Morozyuk, M.; Biase, F.H. **Identification of novel cattle (*Bos taurus*) genes and biological insights of their function in pre-implantation embryo development.** BMC Genomics, v. 25, 775, 2024, <https://doi.org/10.1186/s12864-024-10685-5>
2. Kalbfleisch, T.S., McKay, S.D., Murdoch, B.M. *et al.* **The Ruminant Telomere-to-Telomere (RT2T) Consortium.** Nature Genetics, v. 56, 1566–1573, 2024, <https://doi.org/10.1038/s41588-024-01835-2>
3. Biase F. H.; **Schettini G. P.** **Protocol for the electroporation of CRISPR-Cas**

**for DNA and RNA targeting in Bos taurus zygotes.** STAR Protocols, v. 5, 2024, <https://doi.org/10.1016/j.xpro.2024.102940>

4. Nix, J. L.; **Schettini, G. P.**; Speckhart S. L.; Ealy, A. D.; Biase, F. H. **Ablation of OCT4 function in cattle embryos by double electroporation of CRISPR-Cas for DNA and RNA targeting (CRISPR-DART).** PNAS Nexus, pgad343, 2023, <https://doi.org/10.1093/pnasnexus/pgad343>
5. Nix, J. L.; **Schettini, G. P.**; Biase, F. H. **Sexing of cattle embryos using RNA-sequencing data or polymerase chain reaction based on a complete sequence of cattle chromosome Y.** Frontiers in Genetics, v. 14, 2023. <https://doi.org/10.3389/fgene.2023.1038291>
6. Toro-Ospina, A.; Herrera Rios, A. C.; dos Santos, W. B.; **Schettini, G. P.**; Vallejo Aristizabal, V. H.; Tovar Claros, G.; Ortiz Morea, E. G. **Genetic Architecture and Signatures of Selection in the Caqueteño Creole (Colombian Native Cattle).** Diversity, v. 14, 828, 2022. <https://doi.org/10.3390/d14100828>.
7. Toro-Ospina, A.; Herrera Rios, A. C.; **Schettini, G. P.**; Vallejo Aristizabal, V. H.; dos Santos, W. B.; Zapata, C. A.; Ortiz Morea, E. G. **Identification of Runs of Homozygosity Islands and Genomic Estimated Inbreeding Values in Caqueteño Creole Cattle (Colombia).** Genes, v. 7, 1232, 2022. <https://doi.org/10.3390/genes13071232>.
8. **Schettini, G. P.**; Peripolli, E.; Alexandre, P. A.; Dos Santos, W. B.; Pereira, A. S. C.; De Albuquerque, L. G.; Baldi, F.; Curi, R. A. **Transcriptome Profile Reveals Genetic and Metabolic Mechanisms Related to Essential Fatty Acid Content of Intramuscular *Longissimus tho- racis* in Nellore Cattle.** Metabolites, v. 12, 471, 2022. <https://doi.org/10.3390/metabo12050471>.
9. **Schettini, G. P.**; Peripolli, E.; Alexandre, P. A.; Dos Santos, W. B.; da Silva Neto, J. B.; Pereira, A. S. C.; De Albuquerque, L. G.; Curi, R. A.; Baldi, F. **Transcriptomic profile of longissimus thoracis associated with fatty acid content in Nellore beef cattle.** Animal Genetics, v. 53, p. 264-280, 2022. <https://doi.org/10.1111/age.13199>.
10. Dos Santos, W. B.; **Schettini, G. P.**; Maiorano, A. M.; Bussiman, F. O.; Balieiro, J. C. C.; Ferraz, G. C.; Pereira, G. L.; Baldassini, W. A.; Neto, O. R. M.; Neto, H. N. O.; Curi, R. A. **Genome-wide scans for signatures of selection in Mangalarga Marchador horses using high-throughput SNP genotyping.** BMC genomics, v. 22, p. 737-754, 2021. <https://doi.org/10.1186/s12864-021- 08053-8>.
11. **Schettini, G. P.**, Lambert, S. M.; Da Silva Souza, B. M. P.; Costa, R. B.; De Camargo, G. M. F. **Genetic potential of Sindhi cattle for A2 milk production.** Animal Production Science, v. 60, p. 893-895, 2020. <http://dx.doi.org/10.1071/an18677>.
12. Dos Santos, W. B.; **Schettini, G. P.**; Fonseca, M. G.; Pereira, G. L.; Chardulo, L. A. L.; Neto, O.; Baldassini, W. A.; Oliveira, H. N.; Curi, R. A. **Fine-scale estimation of inbreeding rates, runs of homozygosity and genome-wide heterozygosity levels in the Mangalarga Marchador horse breed.** Journal of Animal Breeding and Genetics, v. 00, p. jbg.12508, 2020. <http://dx.doi.org/10.1111/jbg.12508>.
13. Da Silva Neto, J. B.; Peripolli, E.; Da Costa e Silva, E. V.; Espigolan, R.; Neira, J. D. R.; **Schettini, G. P.**; Da Costa Filho, L. C. C.; Barbosa, F. B.; Macedo, G. G.;

Costa-Brunes, L.; Lobo, R. B.; Pereira, A. S. C.; Baldi, F. **Genetic correlation estimates between age at puberty and growth, reproductive, and carcass traits in young Nelore bulls**. *Livestock Science*, v. 241, p.104266, 2020. <http://dx.doi.org/10.1016/j.livsci.2020.104266>.

## SKILLS

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1. Laboratory-related techniques
  - DNA and RNA extraction
  - Library construction for Next Generation Sequencing
  - Oxford Nanopore Technologies Sequencing
  - *In vitro* embryo production (bovine)
2. Programming
  - Unix/Linux
  - Bash
  - awk
  - R
  - Docker/Conda
  - Git
3. Languages
  - English – Full professional proficiency
  - Spanish – Professional working proficiency
  - Portuguese – Native