Vinícius Pereira de Lima Júnior
v.lima@ufl.edu

Profile

I am a DVM, Ph.D with experience in research and development of immunotherapies, including attenuated and vectored vaccines and live adjuvants aimed at preventing diseases in farm animals. I have also worked in alternative (cage-free) systems with white and brown layers.

Skills & Abilities

- Poultry husbandry and health
- Food safety
- Histopathology
- Cell culture
- Bacterial genome editing (allelic exchange & λ-red)
- Plasmid construction
- Gross pathology
- NGS (Illumina)
- ELISA
- *In vitro* assay development
- *In vivo* assay development
- Aseptic/sterile technique
- DNA/RNA extraction
- Light microscopy
- Bacterial culture
- Bioinformatics

Research and Professional Experiences

Assistant Scientist | University of Florida | November 2025 – Current

- Design and conduct animal experiments with poultry species.
- Sample collection and processing.
- Immunization through mucosal and parenteral routes.
- Data analysis.
- Student mentoring and training.
- Grant writing.
- Support laboratory administration.

Poultry Veterinarian/Researcher | Morning Star Fields OZ LLC | November 2024 – October 2025

- Responsible for flock management and health through disease prevention programs, nutrition, and environmental control.
- Performed necropsies and collected samples for disease diagnosis.
- Analyzed production data to ensure bird performance aligned with their genetic potential.
- Planned and implemented vaccination schedules.
- Ensured compliance with health programs mandated by regulatory agencies such as USDA, FDA, and FDACS.
- Developed biosecurity programs and ensured adherence by farm staff.
- Conducted risk assessments to support disease prevention.
- Developed Standard Operating Procedures (SOPs) and Hazard Analysis and Critical Control Points (HACCP) protocols related to animal husbandry and egg processing.
- Provided guidance on nutrition and environmental management to optimize egg production.

- Assisted in audits conducted by regulatory and certifying agencies including the FDA, USDA, and Certified Humane.
- Created emergency response plans for disease outbreaks and natural disasters.
- Conducted field research and built partnerships with public and private sector stakeholders.

Graduate Research Fellow (Ph.D) | University of Florida | Fall 2019 – Fall 2024

- Plan, construct, and characterize recombinant strains from different *Salmonella* serotypes, including *S. Typhimurium*, *S. Enteritidis*, *S. Gallinarum*, and *S. Infantis*, for use as attenuated, vectored, or live adjuvant vaccines administered in ovo or by spray.
- Conduct in vivo and in vitro experiments to assess the safety and immunogenicity of live attenuated vaccines.
- Perform genome editing in *Salmonella spp.*, *E. coli*, and *L. monocytogenes*, including gene deletions and insertions of promoters and regulatory elements (Shine-Dalgarno sequences, start codons, spacers, etc.) using allelic exchange (suicide vector) and λ-Red recombination.
- Carry out classical molecular biology techniques such as PCR, qPCR, gel electrophoresis, molecular cloning, and Western blotting.
- Design and construct plasmids and expression vectors for protein production in *Salmonella spp.* and *E. coli*.
- Extract DNA/RNA and prepare libraries for sequencing and differential gene expression analysis.
- Perform genomic sequence analysis, including alignment, database searches, motif and pattern identification, gene and promoter identification, and genome comparisons.
- Conduct structural evaluations, including analysis, comparison, classification, and prediction of protein and nucleic acid structures.
- Perform functional analyses such as gene expression profiling, protein–protein interaction prediction, subcellular localization prediction, and reconstruction and simulation of metabolic pathways.
- Evaluate virulence using animal and alternative models (e.g., in ovo embryo models).
- Ensure compliance with internal and external regulatory agencies, including IACUC, EHS, USDA, and AAALAC.
- Conduct cell line assays to detect activation of pattern recognition receptors.
- Write research proposals for funding and patent applications.
- Train laboratory technicians and graduate students.
- Manage molecular biology laboratories and animal facilities.

Research Assistant | University of Florida | April 2017 – July 2019

- Conducted LD_{50} studies in day of hatch chicks using different bacterial pathogens.
- Performed bacterial cultures and isolated spontaneous mutants under selective conditions.
- Evaluated vectored vaccines against *C. perfringens* and *C. jejuni*.
- Detected gene insertion and deletion through PCR.
- Constructed suicide vectors.
- Assisted with general laboratory management and record keeping.
- Managed the Poultry Research Facility at the University of Florida.

Research Assistant | University of Florida | August 2016 – February 2017

- Performed full semen analysis and processing.
- Performed pregnancy diagnosis exams in dairy cattle through palpation and
- ultrasonography.
- Evaluated dairy cow herds for metritis, administered medication IM and in utero, collected

blood samples and performed clinical examination for the research: Using Chitosan Micro particles to Prevent and Treat Metritis in Lactating Dairy Cows.
- Examined dairy cow herds for activity of heifers in estrus.
- Supported clinical labs preparation and assisted professors in the lectures of large animal reproduction.
- Participated in technical visits in the local poultry industry.
- Performed chicken necropsy and sample collection.

Intern | Agrocria Animal Nutrition and Seeds | January 2016 – August 2016
- Formulated ruminant diets.
- Formulated poultry diets.
- Helped in research to develop new products.
- Provided technical assistance in beef and dairy farms.
- Organized production data.

Intern | Frigosuíno Sol Nascente | June 2015 – December 2015
- Helped in the development and management of the quality assurance program.
- Oversee pre-operational and post-operational cleaning and sanitation procedures, monitor the proper functioning of industrial equipment and facility.
- Elaborated labels and monitored spreadsheets.
- Supervised performance and activities of the production area.
- Performed statistical control of production and elaborated budget and expense reports.
- Organized documents, spreadsheets and developed GMP, SOP, HACCP.
- Conducted training and provide guidance about foodborne illness to collaborators, supervisors and managers of various areas.

Intern | Avian Pathology and Microbiology Laboratory - UFG | October 2014 – July 2016
- Cleaning, preparation and sterilization of laboratory glassware.
- Performed clinical examination of different bird species.
- Prepared culture media and biochemical tests to isolate and identify aerobic and anaerobic bacteria.
- Conducted disease investigations on backyard chicken flock.
- Collected and analyzed emu eggs (*Dromaius novaehollandiae*).
- Performed egg and bird necropsy, organ evaluation and sample collection.
- Collected tracheal and cloacal swabs.
- Performed full bacteriological analysis and tests of samples.
- Prepared bacterial smear and gram stain to identify gram positive and gram negative agents.
- Participated and helped in many MSc and PhD research projects.
- Performed antibiotic sensitivity tests.
- Performed *Salmonella* spp. investigation in chicken feed and its ingredients.
- Performed serological tests for *Mycoplasma gallisepticum, Mycoplasma synoviae* and *Salmonella* pullorum.
- Collected blood samples through cardiac puncture and puncture of peripheral veins.
- Interpreted serological, bacteriological, biochemical tests, and antibiogram tests and emitted the results to farmers.
- Evaluated strategies to control and prevent disease processes in poultry populations.
- Organized the laboratory data.

Education

Doctor of Philosophy | December 2024 | University of Florida, Gainesville, Florida

Dissertation: Construction, Characterization and Evaluation of Novel Self-Destructing Attenuated Adjuvant *Salmonella* Strains Designed to be Delivered *in Ovo.*

Bachelor of Veterinary Medicine | August 2016 | Universidade Federal De Goiás, Goiânia, Goiás, Brazil

Capstone Project: Bacteriology of Avian Diseases.

Teaching Experience

Teaching Assistant at Federal University of Goiás – Veterinary Anatomy (Spring 2012)
Teaching Assistant at Federal University of Goiás – Veterinary Histology (Spring 2012)
Teaching Assistant at University of Florida – VME 5111 Animal Systems II (Spring 2020)
Teaching Assistant at University of Florida – VME 5110 Animal Systems I (Fall 2020)
Lecturer at University of Florida – VME 5313 Poultry Diseases (Fall 2022 & 2023)

Honors

Conference of Research Workers in Animal Diseases (CRWAD) Travel Award - 2024
2nd place Three Minute Thesis Presentation – ID&I Research Retreat, University of Florida (2023)
Best Graduate Student Poster Presentation – ID&I Research Retreat, University of Florida (2022)
University of Florida International Center Certificate for Outstanding Achievement, University of Florida (2020)
Graduate School funding Award, University of Florida (08/2019 – 08/2023)
Latin American/Caribbean Scholarship, University of Florida (01/2017 – 01/2018)
Scientific Initiation Scholarship, Universidade Federal de Goiás (08/2014-08/2016)

Membership in Professional Societies

American Association of Avian Pathologists
Poultry Science Association
World Veterinary Poultry Association

Publications

- Miryala, K. R., Curtiss, R., III, **Lima, V**., & Swain, B. (2026). Route-Dependent Mucosal and Systemic Immune Remodeling Induced by a Regulated-Lysis *Edwardsiella* piscicida Vaccine in Channel Catfish. Vaccines, 14(5), 410. https://doi.org/10.3390/vaccines14050410

Abstracts in the Proceedings

- **Lima, V.**, Wanda, S., Wang, S., & Curtiss III, R. (2026). Design and construction of genetically modified *Salmonella* strains for in ovo administration. In Proceedings of the Conference of Research Workers in Animal Diseases (CRWAD 2026) (p. 247)
- **Lima, V.**, Wanda, S.-Y., Natoce, D., & Curtiss III, R. (2024). Self-destructing attenuated *Salmonella* strains to improve poultry health. In 2024 PSA Annual Meeting Abstracts (p. 77)

- **Lima, V.**, Wanda, S.-Y., Natoce Jr., D., & Curtiss III, R. (2024). Administration of attenuated *Salmonella* strains in ovo to induce protective immunity against bacterial pathogens. In Proceedings of the Conference of Research Workers in Animal Diseases (CRWAD 2024) (p. 156).
- **Lima, V.**, Natoce, D., & Curtiss, R. (2023). Using antibiotic selection to improve *Salmonella* isolation in infection studies. In Proceedings of the American Association of Avian Pathologists Annual Meeting 2023 (p. 160).
- **Lima, V.**, Wanda, S.-Y., Swain, B., Wang, S., & Curtiss, R. (2023). Novel adjuvant *Salmonella* strains to enhance food safety and animal health. In Proceedings of the American Association of Avian Pathologists Annual Meeting 2023 (pp. 65–66).
- **Lima, V.**, Wanda, S., Swain, B., Wang, S., & Curtiss III, R. (2023). Self-destructing attenuated *Salmonella* strains: Innate immunity activators to improve food safety and animal health. In Proceedings of the Conference of Research Workers in Animal Diseases (CRWAD 2023) (p. 161).
- Almeida, A. M. S., Moraes, D. M. C., Figueira, S. V., Leonidio, **Junior-Lima, V. P.**, A. R. A., & Andrade, M. A. (2016). Aspectos clínicopatológicos e resistência a antimicrobianos de *Salmonella* Gallinarum isoladas de galinhas caipiras melhoradas no estado de Goiás. In Anais do Endivet 2016.

Funded Research Awards

Self-Destructing *Salmonella* as Innate Immunity Activator to Improve Food Safety - USDA NIFA
Grant No. 2020-67017-33237
Proposal No. 2020-03292
Award Amount: $474,991

Self-Destructing *Salmonella* as Innate Immunity Activator to Improve Food Safety (Renewal) - USDA NIFA
Grant No. 2025-67017-45107
Proposal No. 2024-10036
Award Amount: $650,000

Patents

1. Title: Self-Destructing Salmonella as Innate Immunity Activator to Improve Food Safety.
   U.S. Application Number: 18/018,938
   Publication Number: 20230279338
   Date Filed: 07/29/2021
   Inventors: Roy Curtiss III, Vinicius Lima.

2. Title: In Ovo Vaccination of Genetically Modified Salmonella Vectored Vaccines
   U.S. Application Number: 63/753,227
   Publication Number: N/A
   Date Filed: 02/03/2025
   Inventors: Roy Curtiss, Vinicius Lima, Soo-Young Wanda, Shifeng Wang.

Languages

- Brazilian Portuguese – Fluent

- English – Fluent
- Spanish – Intermediary