

Luciano Rogério Braatz de Andrade



✉ lucianorogério@gmail.com
Tel.: +55 (45) 99119-6545
Work.: +55 (75) 3312-8184

Education

- 2019 **Ph.D. in Genetics and Breeding**, Federal University of Viçosa, Minas Gerais, Brazil.
- 2015 **Master Degree in Genetics and Breeding with sandwich in USP/ESALQ**, Federal University of Viçosa, Minas Gerais, Brazil.
- 2012 **B.S Agronomy**, Santa Catarina State University, Santa Catarina, Brazil.

Work Experience

- 2022-present **Researcher Associate**, UAV Pilot, Nursery Seeds Production team, Syngenta Seeds, Cascavel, Paraná, Brazil.

In my current role, I have garnered recognition for my expertise in phenomics at Syngenta, where I serve as a LATAM pivotal figure for conducting UAV-relative maturity analysis in soybean trials and other recent UAV traits. Additionally, I provide support to the Nursery Seeds Production team leader by conducting statistical analyses for various research initiatives. Notably, our Phenomics team achieved third place in the Digital Acceleration category at the Syngenta Seeds Research and Development awards.

- 2021-2022 **Post-Doctoral Associate**, Joint Affiliation: CALS (College of Agriculture and Life Sciences), Cornell University, Ithaca, New York, United States.

In this position, I provided support to the Next Generation Cassava partners by contributing to their genomic selection efforts and conducting breeding scheme simulations with the goal of optimizing genetic gain. My responsibilities included performing all tasks related to genomic prediction, such as markers imputation using Beagle v.5.0. Additionally, I delivered output files containing genomic estimated breeding values (GEBVs), genomic estimated genetic values (GEGVs), and a list of the most promising crosses featuring top individuals from the breeding program.

- 2019-2021 **Technology Innovation Fellow**, Joint Affiliation: Cassava breeding program, EMBRAPA Cassava and Fruits, Bahia, Brazil.

I was hired in EMBRAPA to enhance the genetic gains within the cassava breeding program through the implementation of high-throughput phenotyping and genomic selection tools. Our primary tools for phenotyping included the utilization of Unmanned Aerial Vehicles (UAVs) and portable Near-Infrared Spectroscopy (NIRS). For UAV-based phenotyping, we employed the Phantom 4 PRO V2.0 and a multispectral camera Micasense RedEdge M, coupled with software such as WebODM and the FIELDimageR R package. WebODM facilitated the generation of maps, point clouds, and Digital Elevation Models (DEMs) from aerial imagery, while FIELDimageR enabled the estimation of agronomic traits for delineated units using the Raster object. In addition, we utilized portable NIRS tools to analyze cassava root samples, allowing for the estimation of various root quality traits.

- 2017-2019 **Graduate Research Assistant (Ph.D. Degree)**, Cassava breeding program, EMBRAPA Cassava and Fruits, Bahia, Brazil.

During my P.h.D. period, I had the opportunity to work with a clonal propagation crop, which has different ways and tools to improve breeding. I improved my skills of organizing and installing trials, data collection with Fieldbook android app, nursing management, controlled crosses, and statistical analysis of genomic data and high throughput phenotyping data of drone images and near infrared spectrometry.

I applied genomic selection and managed the dataset to a big data software ([Cassavabase](#)). Since my P.h.D, I am Cassavabase curator of EMBRAPA Cassava breeding program. Cassavabase software allow us to achieve a better management of our breeding program improving quality controls of all our operations.

2015-2017 **Graduate Research Assistant (Ph.D. Degree)**, Laboratory of Bioinformatics, Federal University of Viçosa, Minas Gerais, Brazil.

During my P.h.D period at Federal University of Viçosa, I gave support information for Genes software users, and assisted Genolyptus project selecting promising Eucalyptus clones from Genolyptus trails to start a Eucalyptus breeding program in Federal University of Viçosa.

2013-2014 **Graduate Research Assistant (Master Degree)**, Laboratory of Allogamous Plant Breeding, Luiz de Queiroz College of Agriculture, University of São Paulo.

I worked at Allogamous Plant Breeding laboratory at their corn breeding program for abiotic stress (Nitrogen Use Efficiency). I had the opportunity to work with single hybrids, double haploids, nursing management, corn crossing, and statistical analysis as population structure and genetic diversity of commercial hybrid maize.

2012 **Undergraduate Research Assistant**, EMBRAPA Wheat, Rio Grande do Sul, Brazil.
2nd Semester

I also had an internship as Plant breeder assistant of triticale, oat, and rye breeding programs at EMBRAPA Wheat for four months period. Where I conducted controlled crosses, and biotic and abiotic stress evaluations for segregating populations.

2009-2012 **Undergraduate Research Assistant**, Department of Agronomy, Santa Catarina State University, Santa Catarina, Brazil.

During my undergraduation I had experiences with common beans breeding program, focusing in inbreed line trials evaluation, germplasm bank and to bacterial disease resistance. I gave support for other students taking care of recommended common bean cultural practices.

Work Achievements

- Third place in Digital Acceleration category in Syngenta Seeds Research and Development Awards for UAV relative maturity evaluation in Soybean
- High plot trials cost avoidance due to environment effects
- Genomic selection and Genomic Mate selection applied in EMBRAPA Cassava breeding program
- Cassava breeding program management experience
- Mixed model selection in breeding programs
- Wide experience with high throughput phenotyping with VANT and portable NIRS phenotyping

Languages

Portuguese (Native Language).

English: Writing (Advanced), Reading (Advanced), Speaking (Advanced).

Spanish: Reading (Advanced), listening (Intermediate).

Professional References

Ph.D. Jean-Luc Jannink – Research Geneticist at the USDA-ARS Robert W. Holley Center for Agriculture & Health, Ithaca, New York, US.

✉ jj332@cornell.edu

Ph.D. Tabare Abadie – Leader of Plant Sciences Symposia Series, Corteva Agriscience, Iowa, US.

✉ tabare.abadie@corteva.com

Ph.D. Marcos Deon Vilela de Resende - Researcher, EMBRAPA Forest.

✉ marcos.deon@gmail.com

Tel: +55 (31) 3899-1214

Ph.D. Eder Jorge de Oliveira - Researcher, EMBRAPA Cassava and Fruits.

✉ eder.oliveira@embrapa.br

Tel: +55 (75) 3312-8041

Ph.D. Roberto Fritsche Neto – Assistant Professor, Louisiana State University.

✉ RFritsche@agcenter.lsu.edu

Tel: +1 (337) 788-7531