

Rodrigo Rampazo Amadeu

phone: +1-352-433-8470

email: rramadeu@gmail.com

URL: <https://rramadeu.github.io/>

Last updated: December 16, 2022

Education

- 2021 PH.D. in Horticultural Sciences (Minor: Statistics), University of Florida, USA
Dissertation: "Statistical methods for genomic-assisted blueberry breeding"
Advisor Dr. Patricio Munoz, [Blueberry Breeding & Genomics Lab](#)
- 2018 M.S. in Plant Genetics and Breeding, ESALQ, University of São Paulo, Brazil
Thesis: "Molecular pairwise relatedness in autopolyploids: a simulation study"
Advisor Dr. Antonio Augusto Franco Garcia, [Statistical-Genetics Lab](#)
- 2015 B.ENG. in Agriculture (Minor: Biotechnology), ESALQ, University of São Paulo, Brazil
- 2015 B.EDU. in Agricultural Sciences, ESALQ, University of São Paulo, Brazil

Experience

- Nov 2021 to current **Bayer Crop Science, USA**
Quantitative Genetics Scientist, Corn Product Design
- May 2018 to Nov 2021 **University of Florida, USA**
Graduate Research Assistant, Blueberry Breeding & Genomics Lab, Supervisor Dr. Patricio Munoz
- Planning and optimization of breeding program
- Genetic data analysis (genomic prediction, population genetics, gene discovery and mapping)
- Agricultural data analysis (experiment design and planning, linear mixed models)
- Development of statistical-genetics software: AGHmatrix, diaQTL, PedigreeSimR)
- Plant breeding activities (phenotyping, selection)
- Jan 2016 to Mar 2018 **University of São Paulo, Brazil**
Graduate Research Assistant, Statistical-Genetics Lab, Supervisor Dr. Augusto F. Garcia
- Genetic data analysis (genomic prediction, population genetics, gene discovery and mapping)
- Agricultural data analysis (experiment design and planning, linear mixed models)
- Development of statistical-genetics software: onemap, onemap2pop, and fullsibQTL)
- Oct 2013 to Oct 2014 **University of Florida, USA**
Intern, Forage Breeding and Genomics Lab, Supervisor Dr. Patricio Munoz
- Development of software to build genomic relationship matrices (AGHmatrix)
- Plant breeding activities (pollination, phenotyping, selection)
- Jul 2010 to Dec 2015 **University of São Paulo, Brazil**
Intern, Statistical-Genetics Lab, Supervisor Dr. Augusto F. Garcia
- Development of pipeline for SNP dosage calling in autopolyploid data
- Population structure analysis of sugarcane panel
- CNPq & Santander scholarships

Awards & Scholarships

- 2021 Award, Top Cited Article 2020-2021, Crop Science, Wiley
- 2020 Scholarship, Murial Rumsey scholarship, CALS, Univ. of Florida
- 2020 Scholarship, outstanding teaching assistantship, Univ. of Florida
- 2019 Scholarship, outstanding teaching assistantship, Univ. of Florida
- 2019 Award, poster competition Plant Science Symposium, Univ. of Florida - 1st Place
- 2016 Award, Prof Brieger, best graduating student of Dep. of Genetics, Univ. of São Paulo
- 2013 Scholarship, Science without Borders - CAPES - 1yr tuition and living at Univ. of Florida
- 2012 Scholarship, Scientific Initiation - PIBIC/CNPq
- 2011 Scholarship, Scientific Initiation - Santander

Journal articles (19)

GOOGLE SCHOLAR: 400+ CITATIONS, H-INDEX 13

- 2022 Fan, Z; Tieman, DM; Knapp, SJ; Zerbe, P; Famula, R; Barbey, CR; Foltá, KM; **Amadeu, RR**; Lee, Manbo; Oh, Y; Lee, S; Whitaker, VM. "A multi-omics framework reveals strawberry flavor genes and their regulatory elements". *New Phytologist* (18416), [link](#)
- 2022 Ferrao, LFV; Sater, H; Lyrene P; **Amadeu, RR**; Sims CA; Tieman D; Munoz, PR Munoz. "Terpene volatiles mediates the chemical basis of blueberry aroma and consumer acceptability". *Food Res. Int.*, 158 (111468), [link](#)
- 2021 **Amadeu, RR**; Munoz, PR; Zheng, C; Endelman, JB. "QTL mapping in outbred tetraploid (and diploid) diallel populations". *Genetics*, 219 (iyab124), [link](#)
- 2021 Zheng, C; **Amadeu, RR**; Munoz, PR; Endelman, JB. "Haplotype reconstruction in connected tetraploid F1 populations". *Genetics*, 219 (iyab106), [link](#)
- 2021 Ferrao, LFV; **Amadeu, RR**; Benevenuto, J; de Bem Oliveira, I; Munoz, R. "Genomic prediction in an outcrossing and autotetraploid fruit crop: lessons from blueberry breeding". *Front. Plant Sci.*, 12 (676326), [link](#)
- 2021 Quezada, M; **Amadeu, RR**; Vignale, B; Cabrera, D; Pritsch, C; Garcia, AAF. "Construction of a high-density genetic map of *Acca sellowiana* (Berg.) Burret, an outcrossing species, based on two connected mapping populations". *Front. Plant Sci.*, 12 (626811), [link](#)
- 2020 Cappai, F*; **Amadeu, RR*** (*contributed equally for this study); Benevenuto, J; Cullen, R; Garcia, AL; Grossman, AY; Ferrão, LFV; Munoz, PR. "High-resolution linkage map and QTL analyses of fruit firmness in autotetraploid blueberry". *Front. Plant Sci.*, 11 (562171), [link](#)
- 2020 de Bem Oliveira, I; **Amadeu, RR**; Ferrão, LFV; Munoz, PR. "Optimizing whole-genomic prediction for autotetraploid blueberry breeding". *Heredity*, 125, [link](#)
- 2020 **Amadeu, RR**; Lara, LADC; Munoz, PR; Garcia, AAF. "Estimation of molecular pairwise relatedness in autopolyploid crops". *G3*, 10(12), [link](#)
- 2020 de Oliveira, AA; Resende, MFR; Ferrão, LFV; **Amadeu, RR**; Guimarães, LJM; Guimarães, CT; Pastina, MM; Margarido, GRA. "Genomic prediction applied to multiple traits and environments in second season maize hybrids". *Heredity*, 125, [link](#)
- 2020 **Amadeu, RR**; Ferrão, LFV; de Bem Oliveira, I; Benevenuto, J; Endelman, JB; Munoz, PR. "Impact of dominance effects on autotetraploid genomic prediction". *Crop Science*, 60(2), [link](#)
- 2019 Estrada-Reyes, ZM; Tsukahara, Y; **Amadeu, RR**; Goetsch, AL; Gipson, TA; Sahlu, T; Puchala, R; Wang, Z; Hart, ST; Mateescu, RG. "Signatures of selection for resistance to *Haemonchus contortus* in sheep and goats". *BMC Genomics*, 20(1), [link](#)
- 2019 Lara, LADC; Santos, MF; Jank, L; Chiari, L; Vilela, MDM; **Amadeu, RR**; dos Santos, JP; Pereira, GDS; Zeng, ZB; Garcia, AAF. "Genomic selection with allele dosage in *Panicum maximum* Jacq.". *G3*, 9(8) [link](#)
- 2019 Benevenuto, J; Ferrão, LFV; **Amadeu, RR**; Munoz, P. "How can a high-quality genome assembly help plant breeders?". *GigaScience*, 8(6), [link](#)
- 2019 de Bem Oliveira, I; Resende Jr, MFR; Ferrao, LFV; **Amadeu, RR**; Endelman, JB; Kirst, M; Coelho, ASG; Munoz, PR. "Genomic prediction of autotetraploids; influence of relationship matrices, allele Dosage, and continuous genotyping calls in phenotype prediction". *G3*, 9(4), [link](#)
- 2018 Conson, ARO*; Taniguti, CH*; **Amadeu, RR*** (*contributed equally for this study); Andreotti, IAA; de Souza, LM; dos Santos, LHB; Rosa, JRBF; Mantello, CC; da Silva, CC; Scaloppi Jr, EJ; Ribeiro, RV; Le Guen, V; Garcia, AAF; Gonçalves, PS; Souza, AP. "High-resolution genetic map and QTL analysis of growth-related traits of *Hevea brasiliensis*". *Front. Plant Sci.*, 9(1255), [link](#)
- 2018 Ferreira, DA; Abreu, GF; Cheavegatti-Gianotto, A; Soldi, MCM; Carneiro, MS; **Amadeu, RR**; Hoffmann, HP; Aricetti, JA; Wolf, LD; Caldana, C. "Metabolite profiles of sugarcane culm reveal the relationship among metabolism and axillary bud outgrowth in genetically related sugarcane commercial cultivars". *Front. Plant Sci.*, 9(857), [link](#)
- 2018 Cellon, C; **Amadeu, RR**; Olmstead, JW; Mattia, MR; Ferrao, LFV; Munoz, PR. "Estimation of genetic parameters and prediction of breeding values in an autotetraploid blueberry breeding population with extensive pedigree data". *Euphytica*, 214(87), [link](#)

2016 **Amadeu, RR**; Cellon, C; Olmstead, JW; Garcia, AAF; Resende, MF; Munoz, PR. "AGHmatrix: R package to construct relationship matrices for autotetraploid and diploid species, a blueberry example". *The Plant Genome*, 9(3), [link](#)

Teaching

Fall 2020 **Teaching assistant** of Field Plot Techniques, graduate level, University of Florida Responsibilities: teach nine classes on analysis of experimental design, hold weekly office hours, remotely by Zoom

Sum 2020 **Guest lecturer** of Special Topic in Genetics and Breeding, graduate level, University of São Paulo Responsibilities: teach one class on Relationship coefficient in autopolyploid crops

Fall 2019 **Teaching assistant** of Mol. Marker Assisted Plant Breeding, graduate level, University of Florida Responsibilities: teach eight classes on analysis of genetic data, hold weekly office hours, synchronously in class & Zoom

Fall 2019 **Teaching assistant** of Field Plot Techniques, graduate level, University of Florida Responsibilities: teach three classes on analysis of experimental design, hold weekly office hours, synchronously in class & Zoom

Fall 2018 **Teaching assistant** of Field Plot Techniques, graduate level, University of Florida Responsibilities: teach three classes on analysis of experimental design, hold weekly office hours, synchronously in class & Zoom

Spring 2015 **Teaching assistant** of Calculus I, undergraduate level, University of São Paulo Responsibilities: hold weekly office hours

Spring 2012 **Teaching assistant** of Genetics, undergraduate level, University of São Paulo Responsibilities: hold weekly office hours

2011-2015 **Instructor** of Precalculus in a college preparatory school, Piracicaba, Brazil Responsibilities: teach once a week during four years (one year hiatus when I was in Florida), hold weekly office hours

Oral presentations

2021 **Seminar** "Enhancing molecular and data-driven breeding in blueberries". Corteva Agriscience PhD Seminar Series, USA.

2021 **Seminar** "QTL mapping in tetraploid diallel populations". CGDG. *The Roslin Institute*, UK. [link](#)

2020 **Amadeu, RR**; Munoz, PR; Chaozhi, Z; Endelman, J. "QTL mapping in autotetraploid multi-parent populations". *The 6th International Conference of Quantitative Genetics (ICQG6)*. Virtual conference. Oral session. [link](#)

Ad-hoc reviewer

BMC Genomics (1), BMC Plant Biology (1), Briefings in Bioinformatics (3), Computational and Structural Biotechnology (1), Crop Science (1), Frontiers in Plant Science (12), Plants (1)

Software development

AGHmatrix author, compute relationship matrices for diploid and autopolyploid species, [link](#)

onemap contributor, build genetic maps in experimental crosses, [link](#)

onemap2pop author, onemap extension to build multi-family genetic maps in outcrossing species, [link](#)

fullsibQTL co-author, QTL mapping in outcrossing species using composite interval mapping, [link](#)

diaQTL co-author, QTL mapping in multiparent and autopolyploid populations, [link](#)

MultiPolyPop author, simulation of multiparent and autopolyploid populations, [link](#)

SimpleMating author, simple mating allocation based on cullings for perennial breeding, [link](#)

Leadership

2010-2011 Student representative for the B.Edu. in Agr Sciences Committee, University of São Paulo

2011-2012 Student representative for the B.Eng. in Agriculture Committee, University of São Paulo

2010-2012 Student union member, University of São Paulo

Skills

genetics	genomic prediction, GWAS, QTL mapping, quantitative genetics, polyploid genetics, simulation
statistics	analysis of genetic & agricultural data, machine learning, linear mixed models
programming	R (advanced): package development, tidyverse, shiny/plotly app, parallelization
programming	shell/bash script, Linux, C/C++, ASReml, GitHub, AlphaGenes software, LaTeX
language	Portuguese (native), English (high proficiency)

Specialized Training

2021	Data-Driven Breeding and Genetics, Roslin Institute
2021	Fundamentals Deep Learning, Deep Learning Institute-NVIDIA, Gainesville, FL, US
2019	Analysis of Experiments Using ASReml-R, Dr. S. Gezan (UF), Gainesville, FL, US
2017	Modelling GxE Interaction in Genomic Prediction Analysis, Dr. J. Crossa (CIMMYT), Piracicaba
2016	Quantitative Genetics and Genomics Workshop, Drs. Morota & Spangler (UNL), Piracicaba, BR
2015	Brazilian Edition of the "Tucson Plant Breeding Institute", Org. Dr. Bruce Walsh, Piracicaba, BR
2015	EMBL-EBI Bioinformatics Workshop, EMBL-EBI, Piracicaba, BR