PhD in Genetics and Plant Breeding · College Station, Texas · **chtaniguti@tamu.edu**

# Cristiane Hayumi Taniguti | CV

I'm a geneticist with focus in statistical genetics, bioinformatics and plant breeding. My eight years of academic experience provided my opportunities to interact with researchers and plant breeders from private and public organizations, understand their needs and develop statistical methods, computational tools, and graphical interfaces to attend them. I'm enthusiast to undestand and solve complex issues such as polyploid species genetics. I'm a extrovert person with great communication skills. I enjoy to disseminate new methods and technologies throught talks and courses. For more information about me, please, visit my personal website: https://cristianetaniguti.github.io/

## Technical Skills

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| Genetics: | Studies in meiosis heritage properties, reconstruction of diploid and polyploid population haplotypes, phenotypes and genotypes association, identification of candidate genes. |
| Bioinformatics: | Development of bioinformatic workflows to compare and perform SNP and dosage calling with different combinations of software. |
| Statistics: | Agricultural experimental designs, linear mixed models, and graphical models. |
| R Packages: | Development and maintenance of `OneMap` R package to build linkage maps in diploid outcrossing species. Development and maintenance of `VIEWpoly` package and shiny app to integrate and visualize results from polyploid species genetic analysis. |
| GitHub: | I handle repositories, actions, projects, teams, and pull requests. |
| HPC Servers and Cloud Computing: | I have experience working with **high-performance computers** at the University of São Paulo and Texas A&M. Also using the Google Cloud platform. |

### Software and Language Skills

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| Programming skills: | `R`, `Bash`, `WDL`, `C++` |
| Computational programs: | GitHub, LaTeX, Markdown, RStudio, Docker, Emacs, Office 365, Inkscape |
| Operational systems: | Unix\|Linux, Mac, Windows |
| Languages: | Portuguese (native), English |

## Education

2017-2021 (4 years) — Ph.D. in Genetics and Plant Breeding — University of São Paulo – ESALQ/USP

- Title: Building highly saturated genetic maps with OneMap 3.0: new approaches using workflows
- Advisor: Prof. Antonio Augusto Franco Garcia
- Statistical Genetics Laboratory

2015-2017 (2 years) — Master Degree in Genetics and Plant Breeding — University of São Paulo – ESALQ/USP

- Title: Development of an integrated genetic map for a full-sib progeny from crossing between *Eucalyptus grandis* and *Eucalyptus urophylla*
- Advisor: Prof. Antonio Augusto Franco Garcia
- Statistical Genetics Laboratory

2009 – 2014 (5 years) — Bachelor's Degree in Biotechnology — Federal University of São Carlos – UFSCar

- Title: Gene expression of *Anastrepha obiqua* male tissue libraries
- Advisor: Prof. Reinaldo Alvarenga Alves de Brito
- Population Genetics and Evolution Laboratory

## Professional Experience

2021 - present — Postdoctoral Research Associate — Texas A&M University, Department of Horticultural Sciences

- Funded by USDA SCRI grant: "Tools for Genomic-Assisted Breeding in Polyploids" Grant No. 2020-51181-32156
- Supervisor: Oscar Riera-Lizarazu and David Byrne

2014 — Intern — Sugarcane Technology Center – CTC

- Topic: SNP calling in sugarcane GBS dataset
- Supervisor: Sabrina Chabregas

2012 (3 months) — Summer student — McGill University MCGILL

- Title: Cellular regulation of CNC transcription factors
- Advisor: Prof. Volker Blank
- Division of Experimental Medicine

2009-2010 — Technical training — Accert! Chemistry and Biotechnology

- Topic: Studies in commercial important micotoxin production by fungus of *Fusarium* gender
- Supervisor: Rodrigo Facchini Magnani

## Most relevant publications

Article — **TANIGUTI, C. H.**; GESTEIRA, G. S.; LAU, J.; PEREIRA, G. S.; ZENG, Z. B.; BYRNE, D. H.; RIERA-LIZARAZU, O.; MOLLINARI, M. . VIEWpoly: a visualization tool to integrate and explore results of polyploid genetic analysis. **Journal of Open Source Software**. doi: 10.21105/joss.04242, 2022.

Article — RAVERDY, R.; LOURGANT, K.; MIGNOT, E.; ARNOULT, S.; BODINEAU, G.; GRIVEAU, Y., **TANIGUTI, C. H.** & BRANCOURT-HULMEL, M. . Linkage Mapping of Biomass Production and Composition Traits in a *Miscanthus sinensis* Population. **BioEnergy Research**, doi: 10.1007/s12155-022-10402-8, 2022.

Article — ALMEIDA, C. P.; PAULINO, J. F. de C. ; BONFANTE, G. F. J. ; PERSEGUINI, J. M. K. C. ; SANTOS, I. L. ; GONÇALVES, J. G. R. ; PATRÍCIO, F. R. A. ; **TANIGUTI, C. H.**; GESTEIRA, G. de S. G.; GARCIA, A. A. F. ; SONG, Q. ; CARBONELL, S. A. M. ; CHIORATO, A. F. & BENCHIMOL-REIS, L. L. . Angular Leaf Spot Resistance *Loci* Associated With Different Plant Growth Stages in Common Bean. **Frontiers in Plant Science**, doi: 10.3389/fpls.2021.647043, 2021.

Article — CONSON, A. R. O.;**TANIGUTI, C. H.**; AMADEU, R. R.; ANDREOTTI, I. A. A.; DE SOUZA, L. M.; DO SANTOS, L. H. B.; DE SOUZA, A. P. . High-resolution genetic map and QTL analysis of growth-related traits of *Hevea brasiliensis* cultivated under suboptimal temperature and humidity conditions. **Frontiers in Plant Science**, doi: 10.3389/fpls.2018.01255, 2018.

## Awards

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| 2021 | Market Ready Prize - Cornell Institute Digital Agriculture Hackathon 2021 |
| 2018 | WikiProject Computational Biology/ISCB award 2018 - International Society for Computational Biology (ISCB) and WikiProject Computational Biology |
| 2017 | Best Poster Award - Brazilian Association for Bioinformatics and Computational Biology |

## Main courses taught and other services provided to students and professionals

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| 2022 | Genetic data analysis in polyploid species: from allelic dosage to QTL mapping (ESALQ/USP) |
| 2021 | Update on Statistical Tools Applied to Plant Breeding (Epagri - Research Center for Family Agriculture) |
| 2020 | Short course "R introduction and applications in genetics" at X Four Biotec event (UFSCar) |
| 2020 | SNP and genotype calling in GBS data - A practical guide (ESALQ/USP - GGGC lab) |
| 2019 | Monitor of Genetic Marker Biometry discipline for graduate students (ESALQ/USP) |
| 2018 | Participation in the discipline Molecular Biology Applied to Plant Breeding with the talk "Building genetic maps, QTL mapping and applications in Plant Breeding" for graduate students – Agronomic Institute of Campinas (IAC) |
| 2017 | Monitor of Genetic discipline for undergrad students (ESALQ/USP) |
| 2016 - 2020 | Courses of programming in R environment (ESALQ/USP) |