

# Thiago de Paula Oliveira | CV

Enthusiastic **biostatistician** with ten years of academic experience and a passion for applied statistics to help people understand their data. Experienced professional in **statistical modelling** and **experimental design**, working in different areas such as **agriculture, sports, and genetics**. I have science production covering those areas with peer-reviewed papers and technical reports. In addition, exceptional analytical and communication skills were developed as a result of interaction with clients. For more information about me, please, visit my blog <https://prof-thiagooliveira.netlify.app/>.

## »»» Technical Skills

- » Statistics:** High statistical awareness, focusing on statistical modelling and data analysis. I've worked with generalized linear mixed models, splines, longitudinal data, concordance analysis, state-space approach, pedigree and genomic-based models, graphical models, and non-linear models. I have experience with **classical and Bayesian views**.
- » Genetics:** Simulating **animal and plant breeding programmes** to test and compare new schemes or evaluate how to improve genetic mean and variance. Experience in helping breeders with statistical analysis of real data using software/packages like blupf90, BGLR, JAGS, and STAN.
- » Sports:** Theory and application of statistical methods to evaluate **athlete performance and clinical trials**.
- » Agriculture:** **Planning experimental designs**, analysis of entomologic and vegetable production data
- » R Packages:** Enthusiast in creating R packages or functions as a solution to standardize statistical analysis and delivery faster responses to clients. Some of public packages: [AlphaPart](#), [AlphaSimR](#), and [lcc](#).
- » Dashboard:** Skills in creating **shiny dashboards** as a solution for interactive data visualization and analysis for clients. Example of public shiny app I developed: [COVID-19 prediction](#), [Experiment Design](#).
- » GitHub:** Managing the [Highlander Lab](#) and [AlphaGenes](#) organizations. I handle repositories, actions, projects, teams, and pull requests.
- » HPC Servers:** Ability to work with **high-performance computers** at the University of Edinburgh to do statistical analysis.

## Software and Language Skills

- » Statistical computing:** R, Shiny, RStudio, Bash, Maple, SageMath, C++, blupf90
- » Computational programs:** GitHub, Docker, LaTeX, Quarto, Markdown, Office 365
- » Operational systems:** Unix|Linux, Mac, Windows
- » Other programmes:** Inkscape, Slack, Evernote, Zoom, Teams
- » Languages:** Portuguese (native), English

## Client Focus

Partners from different companies and universities over the last few years. Some examples:

- » **ORRECO:** I supported and delivered statistical models and dashboards to measure athlete performance.
- » **Aspire Academy:** Long-term athletes' performance forecast on several Olympic sports. I also delivered a dashboard that shows descriptive statistics and statistical quantities of interest.
- » **Limagrain:** development of maize breeding programmes and statistical modelling

With those interactions, I've developed some skills such as i) **ability to lead meetings** and communicate professionally and positively; and ii) how to **listen and understand client needs**.

## Professional Experience

2023-Actual	Consultant Statistician	AbacusBio
	<ul style="list-style-type: none"> <li>» Selection index</li> <li>» Quantitative genetics and genomics of plant and animal breeding</li> <li>» Dashboard and docker development</li> </ul>	
2020-2023	Researcher Fellow	University of Edinburgh
	<ul style="list-style-type: none"> <li>» PI: Dr. Gregor Gorjanc</li> <li>» Quantitative genetics and genomics of plant breeding</li> <li>» The Roslin Institute</li> </ul>	
2019-2020	Postdoc in Biostatistics	NUI Galway
	<ul style="list-style-type: none"> <li>» PI: Prof. Dr. John Newell and Prof. Dr. Carl Scarrott</li> <li>» Aspire Academy research collaboration project, Statistical modelling for optimizing athlete performance, and early detection of secondary waves of Covid-19 infections.</li> <li>» School of Mathematics, Statistics &amp; Applied Maths; and Insight Centre for Data Analytics</li> </ul>	
2017 – 2019	Assistant Professor at University of São Paulo – ESALQ/USP (18 months)	

## Education

2014 – 2018	PhD in Statistics	ESALQ/USP
	<ul style="list-style-type: none"> <li>» Title: Estimating the longitudinal concordance correlation through fixed effects and variance components of polynomial mixed-effects regression model</li> <li>» Advisor: Dr. Silvio Sandoval Zocchi and Prof. John Hinde</li> </ul>	
2016	Visiting scholar – internship	NUI Galway
	<ul style="list-style-type: none"> <li>» Supervisor: Prof. John Hinde</li> <li>» Development of new methodology in Concordance Analysis</li> </ul>	
2012 – 2014	MSc in Statistics	ESALQ/USP
	<ul style="list-style-type: none"> <li>» Title: Mixed-effects models applied to hue peel color of papaya cv. Sunrise Solo measured by an scanner and colorimeter over time</li> <li>» Advisor: Dr. Silvio Sandoval Zocchi</li> </ul>	

- » Title: Calibration of scanner methodology to evaluate 'Golden' papaya peel color.
- » Advisor: Dr. Silvio Sandoval Zocchi

### »»» Teaching and Supervision

- 2017-2018 Teaching experience in **Experimental Statistics** (160h) and **Calculus** (480h) at the **University of São Paulo**. In addition, I worked with students from Agricultural Engineering, Forest Engineering, and Food Science programmes.
- Supervision Experience in **supervising 2 under-graduate students** and **1 PhD candidate**.

### »»» Awards

- 2020 Marie Skłodowska-Curie COFUND Fellowship under the project "Quantitative genetics and genomics of plant breeding"
- 2010 Honorable Mention at the 18<sup>th</sup> USP International Symposium of Undergraduate Research, University of São Paulo.

### »»» Most relevant publications

- Article Richardson, C; Amer, P; Post, M; **Oliveira, T.d.P.**; Grant, K.; Crowley, J.; Quinton, C.; Miglior, F; Fleming, A; Baes, C. F.; Malchiodi, F. Breeding for sustainability: Development of an index to reduce greenhouse gas in dairy cattle, **The international journal of animal biosciences**, 2025. DOI: <https://doi.org/10.1016/j.animal.2025.101491>
- Article Das, K; **Oliveira, T.d.P.**; Newell, J. Comparison of Markerless and Marker-based Motion Capture Systems using 95% Functional Limits of Agreement in a Linear Mixed-Effects Modelling Framework, **Scientific Reports**, 2023. DOI: <https://doi.org/10.1038/s41598-023-49360-2>
- Article **Oliveira, T.d.P.**; Newell, J. A Hierarchical Approach for Evaluating Athlete Performance with an Application in Elite Basketball, **Scientific Reports**, 2024. DOI: <https://doi.org/10.1038/s41598-024-51232-2>
- Article Taniguti, C. T; Taniguti, L. M.; Amadeu, R. R.; Mollinari, M.; Pereira, G. S.; Riera-Lizarazu, O.; Lau, J.; Byrne, D.; Gesteira, G. S.; **Oliveira, T.d.P.**; Ferreira, G. C.; Garcia, A. A. F. Developing best practices for genotyping-by-sequencing analysis using linkage maps as benchmarks, **GigaScience**, 2023. DOI: <https://doi.org/10.1093/gigascience/giad092>
- Article **Oliveira, T.d.P.**; Obšteter, J.; Pocrnic, I.; Heslot, N.; Gorjanc, G. A method for partitioning trends in genetic mean and variance to understand breeding practices, **Genetics Selection Evolution**, 2023. DOI: <https://doi.org/10.1186/s12711-023-00804-3>
- Article Lara, L.A.d.C.; Pocrnic, I.; **Oliveira, T.P.**; Gaynor, C.; Gorjanc, G. Temporal and genomic analysis of additive genetic variance in breeding programmes, **Heredity**, 2021. DOI: [10.1038/s41437-021-00485-y](https://doi.org/10.1038/s41437-021-00485-y)
- Article **Oliveira, T.P.**; Buinvels, G; Pedlar, C.; Newell, J. Modelling menstrual cycle length in athletes using state-space models, **Scientific Reports**, 11, 2021. DOI: [10.1038/s41598-021-95960-1](https://doi.org/10.1038/s41598-021-95960-1)
- Article **Oliveira, T.P.**; Moral, R. A.; Zocchi, S. S.; Demetrio, C. G. B; Hinde, J. lcc: an R package to estimate the concordance correlation, Pearson correlation, and accuracy over time. **PeerJ**. Accepted for publication in August of 2020. DOI: [10.7717/peerj.9850](https://doi.org/10.7717/peerj.9850)
- Article Popin, G. V.; Santos, A. K. B.; **Oliveira, T.P.**; Camargo, P. B.; Cerri, C. E. P.; Siqueira-Neto; M. Sugarcane straw management for bioenergy: effects of global warming on greenhouse gas emissions and soil carbon storage. **Mitigation and Adaptation Strategies for Global Change**, 2019. Link: <https://doi.org/10.1007/s11027-019-09880-7>

- Article Esteves, M. B.; Kleina, H. T.; Sales, T. M.; **Oliveira, T.P.**; Lara, I. A. R.; Almeida, R. P. P.; Coletta-Filho, H. D.; Lopes, J. R. S. Transmission efficiency of *Xylella fastidiosa* subsp. *pauca* sequence types by sharpshooter vectors after *in vitro* acquisition. **The American Phytopathological Society**, v. 109, no.2, 2019. Link: <https://doi.org/10.1094/PHYTO-07-18-0254-FI>
- Article **Oliveira, T.P.**; Hinde, J.; Zocchi, S. S. Longitudinal Concordance Correlation Function Based on Variance Components: An Application in Fruit Color Analysis. **Journal of Agricultural, Biological, and Environmental Statistics**, v. 23, p. 233-254, 2018. Link: <https://doi.org/10.1007/s13253-018-0321-1>

## »»» References

- » Dr. Gregor Gorjanc Email: [gregor.gorjanc@roslin.ed.ac.uk](mailto:gregor.gorjanc@roslin.ed.ac.uk)
- » Prof. John Newell Email: [john.newell@nuigalway.ie](mailto:john.newell@nuigalway.ie), Phone: +353 (0) 91 524411
- » Prof. John Hinde Email: [john.hinde@nuigalway.ie](mailto:john.hinde@nuigalway.ie), Phone: +353 (0) 91 492043