Phd in Statistics · Edinburgh, Scotland · **thiago.oliveira@ed.ac.uk**

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`, `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, LaTeX, Markdown, Office 365
- Operational systems: Unix|Linux, Mac, Windows
- Other programmes: Inkscape, Slack, Evernote, ClikUp, Zoom, Teams
- Languages: Portuguese (native), English

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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

2020-Actual — Researcher Fellow — University of Edinburgh

- PI: Dr. Gregor Gorjanc
- Quantitative genetics and genomics of plant breeding
- The Roslin Institute

2019-2020 — Postdoc in Biostatistics — NUIGalway

- PI: Prof. Dr. John Newell and Prof. Dr. Carl Scarrott
- Aspire Academy research collaboration project, Statistical modelling for optimizing athlete performance, and early detection of secondary waves of Covid-19 infections.
- School of Mathematics, Statistics & Applied Maths; and Insight Centre for Data Analytics

2017 – 2019 — Assistant Professor at University of São Paulo – ESALQ/USP (18 months)

Education

2014 – 2018 — PhD in Statistics — ESALQ/USP

- Title: Estimating the longitudinal concordance correlation through fixed effects and variance components of polynomial mixed-effects regression model
- Advisor: Dr. Silvio Sandoval Zocchi and Prof. John Hinde

2016 — Visiting scholar – internship — NUI Galway

- Supervisor: Prof. John Hinde
- Development of new methodology in Concordance Analysis

2012 – 2014 — MSc in Statistics — ESALQ/USP

- Title: Mixed-effects models applied to hue peel color of papaya cv. Sunrise Solo measured by an scanner and colorimeter over time
- Advisor: Dr. Silvio Sandoval Zocchi

2007 – 2012 — BSc in Agricultural Engineering — ESALQ/USP

- 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^{th} USP International Symposium of Undergraduate Research, University of São Paulo.

Most relevant publications

Preprint **Oliveira, T.P.**; Obšteter, J.; Pocrnic, I.; Heslot, N.; Gorjanc, G. A method for partitioning trends in genetic mean and variance to understand breeding practices, **BioRxiv**, 2022. DOI: https://doi.org/10.1101/2022.01.10.475603

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

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

Article **Oliveira, T.P.**; Moral, R. A.; Zocchi, S. S.; Demetrio, C. G. B; Hinde, J. Icc: 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

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

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