

Juan A. Arias López

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Education

- 2018 – **Ph.D. Neuroscience and Clinical Psychology** at University of Santiago de Compostela Biostatistics & Biomedical Data Science Unit. Thesis title: *Development of statistical methods for the analysis of neuroimage data towards early diagnosis of neurodegenerative diseases*. Supervisors: Prof. Pablo Aguiar-Fernández & Prof. Andrew H. Kemp & Prof. Carmen Cadarso-Suárez (†)
 - (2021) Research stance at Institute for Systems and Computer Engineering, Technology, and Science INESC-TEC) - University of Porto. Supervisor: Prof. Jaime Cardoso
- M.Sc. Statistical Techniques** at University of A Coruña.
Final dissertation: *Statistical analysis and automatic classification of Positron Emission Tomography neuroimaging data in Alzheimer's Disease*. Supervisors: Prof. Rubén Fernández Casal & Prof. Manuel Oviedo de la Fuente
- 2015 – 2016 **M.Sc. Neuroscience and Clinical Psychology** at University of Santiago de Compostela. Specialization in *Cognitive Neuroscience*.
Final dissertation: *Effects of intensive alcohol consumption patterns (Binge Drinking) on attention and memory processes in university students: A follow-up study using Event-Related Potentials*. Supervisors: Prof. Sonia Doallo-Pesado & Prof. Fernando Cadaveira-Mahía
- 2011 – 2015 **B.Sc. Biology** at University of A Coruña.
Final dissertation: *Understanding biological invasions: an experimental study with *Carpobrotus edulis**. Supervisor: Prof. Sergio Rodríguez-Roiloa

Employment History

- 2023 – **Junior Biostatistician** at Biostatech, Advice, Training & Innovation in Biostatistics, S.L. Statistical consultancy, Data Analysis, R Programming, R&D assistance.
- 2022 – 2023 **Research Technician** at Center for Research in Molecular Medicine and Chronic Diseases (CIMUS).
2IQBIONEURO. Promotion of an R&D network in biological chemistry for the diagnosis and treatment of neurological diseases.. Supervisor: Prof. Pablo Aguiar Fernández
- 2021 – 2022 **International Research Trainee** at University of Porto, Institute for Systems and Computer Engineering, Technology, and Science (INESC-TEC).
Development of deep learning algorithms for Alzheimer's disease prediction and diagnosis.. Supervisor: Prof. Jaime Cardoso

Employment History (continued)


- 2019 – 2020 **Research Trainee** at University of Santiago de Compostela, Biostatistics and Biomedical Data Science Unit.
Implementation of GAMLSS models for application in neuroimage and diagnosis of neurodegenerative diseases. Supervisor: Prof. Carmen Cadarso-Suárez (†)
- 2017 – 2017 **Assistant Teacher** at Swansea University, College of Human and Health Sciences. Professor in debate sessions within module *Introduction to Medical Psychology* of the *Genetics B.Sc.* and *Applied Medical Sciences B.Sc.* bachelor programmes. Corrector and assistant in the module *Statistical Methods in Psychology*. Supervisor: Prof. Andrew H. Kemp
- 2016 – 2017 **Research Assistant** at Swansea University, Psychology Department.
- Assistant to professor Andrew H. Kemp in his research on the physiological and psychological changes occurring in social situations and its implications to health.
 - This collaboration led to the publication of a book chapter, a review article, and to become part of the Neuroqualia research consortium and the UK-based research group *GENIAL science* as external collaborator.
- 2014 – 2015 **Collaboration Fellowship** at University of A Coruña's Environment Office. Organization of workshops and conferences, ecological preservation of the university forest "Monte da Fraga", volunteer organization, environmental divulgation.

Further Employment History

- 2022 – **Reviewer** for Journal of [Evolutionary Psychological Science](#) (*Remote*)
- 2017 – 2018 **Archaeology Field Assistant** at Terra Arqueos S.L. *Castro de Elviña* (A Coruña)
- 2017 – 2017 **Freelance Content Writer** at [EDUopinions Blog](#) (*Remote*)
- 2016 – 2017 **Archaeology Trainee** at Terra Arqueos S.L. *Castro de Arxeriz* (Lugo)
- 2014 – 2015 **Lifeguard** at *Monforte de Lemos' River Club* (Lugo)

Research Publications





- 1 **Arias, J. A.**, Cadarso-Suárez, C. & Aguiar-Fernández, P. (2022). Functional data analysis for imaging mean function estimation: Computing times and parameter selection. *Computers*. doi:[10.3390/computers11060091](https://doi.org/10.3390/computers11060091)
- 2 **Arias, J. A.**, Cadarso-Suárez, C. & Aguiar-Fernández, P. (2021a). Computational issues in the application of functional data analysis to imaging data. *Computational Science and Its Applications – ICCSA 2021*. doi:[10.1007/978-3-030-86960-1_46](https://doi.org/10.1007/978-3-030-86960-1_46)
- 3 **Arias, J. A.**, Cadarso-Suárez, C. & Aguiar-Fernández, P. (2021b). Simultaneous confidence corridors for neuroimaging data analysis: Applications to alzheimer's disease diagnosis. arXiv: [2102.02908](https://arxiv.org/abs/2102.02908) [[q-bio.NC](https://arxiv.org/abs/2102.02908)]
- 4 **Arias, J. A.**, Williams, C., Raghvani, R., Aghajani, M., Baez, S., Belzung, C., ... Kemp, A. (2020). The neuroscience of sadness: A multidisciplinary synthesis and collaborative review for the human affectome project. *Neuroscience and Biobehavioural Reviews*. doi:[10.1016/j.neubiorev.2020.01.006](https://doi.org/10.1016/j.neubiorev.2020.01.006)

- 5 Kemp, A. H., **Arias, J. A.** & Fisher, Z. (2017). Social ties, health and wellbeing: A literature review and model. In *Neuroscience and social science* (pp. 397–427). doi:10.1007/978-3-319-68421-5_17
- 6 **Arias, J. A.** (2016). Efectos del consumo intensivo de alcohol (binge drinking) sobre procesos de atención y memoria en población universitaria: Un estudio de seguimiento con potenciales evocados. 
<http://hdl.handle.net/2183/17393>



Conference Presentations

- 1 **Arias-López, J.A.** (2022). Comparing functional data analysis and statistical parametric mapping with neuroimaging data, Poster presentation at *31st International Biometric Conference*. Riga (Latvia).
- 2 **Arias-López, J.A.** (2021). Simultaneous confidence corridors and neuroimaging: Applications to alzheimer’s disease, Oral communication at *V Scientific Conferences of Students of the Spanish Society of Biostatistics*. Online (Spain).
- 3 **Arias-López, J.A.**, Cadarso-Suárez, C. & Aguiar-Fernández, P. (2021). Datos funcionais e neuroimaxe: Aplicabilidade e comparativa con statistical parametric mapping, Oral communication at *XV Galician Congress of Statistics and Operations Research*. Santiago de Compostela (Spain).

Languages





- Spanish  Mother tongue.
- Galician  Mother tongue. CELGA 4 (C1)
- English  Fluent. Trinity College Exams (C1). Cambridge Exams (B2).
- Portuguese  Basic competence. Official School of Languages (A2).

Other Skills

- Office  Proficient user of Microsoft Office and Open Office suites.
- Coding  R (Advanced), R Markdown (Advanced), L^AT_EX (Intermediate), PYTHON (Elementary), MATLAB (Elementary), GIT (Elementary).

Miscellaneous Experience

Courses

- 2022  **Screening for Perinatal Mental Health Disorders.** Riseup-PPD’s COST Action (CA18138) Sixth Training School - Valletta (25 hours).
- 2021  **Evidence-based Interventions in Peripartum Depression.** Riseup-PPD’s COST Action (CA18138) Third Training School - Madrid (25 hours).
-  **Principles and Practices in Clinical Trials.** Riseup-PPD’s COST Action (CA18138) Second Training School - Barcelona (25 hours).
-  **Science Communication in the Radio.** University of Santiago de Compostela and & FECYT (8 hours).

Miscellaneous Experience (continued)

- 2020 ■ **Introduction to R & Intermediate R & Introduction to the Tidyverse.** DataCamp.
- 2019 ■ **Multi-State Models with R.** University of Santiago de Compostela (BIOSTATNET Satellite Workshop).
- 2018 ■ **Statistical Analysis with R.** University of Santiago de Compostela (20 hours).
- **Introduction to R for the Social Sciences.** University of Santiago de Compostela (15 hours).
- 2017 ■ **General Teaching Skills for Researchers.** Swansea University (10h).
- 2016 ■ **Introduction to Magnetic Transcranial Stimulation.** University of A Coruña (14h).
- 2014 ■ **Bibliographic Research Tools.** University of A Coruña Library Service (10h).

Scientific Dissemination

- 2020 ■ **Lecturer** at the scientific dissemination project **”Stat Wars - The Data Empire”** organized by University of Santiago de Compostela and supported by the Spanish Foundation for Science and Technology.
- 2018 ■ **Producer and host** of the science-culture podcast **”Los Idus”** at Radio Kalimera studios.
- 2014 ■ **Founder member** of the students’ scientific divulgation society **UDCbigbang** at University of A Coruña. Lecturer in two editions of the *UDCiencia Science Conferences*.

Memberships

- 2020 ■ Member of **RISEUP-PPD COST action**, the pan-European research network in Peripartum Depression Disorder. Working Group 1: Prevention and Treatment Strategies in PPD.
- Member of the **International Biometric Society** as part of the Spanish Biostatistics Society.
- 2019 ■ Member of **GENIAL science**, as external collaborator to Prof. Andrew H. Kemp.
- 2017 ■ Member of **Neuroqualia - The Human Affectome Project**, as assistant to Prof. Andrew H. Kemp.

Congress Organization

- 2019 ■ **4th General Meeting of the Spanish National Net of Biostatistics.** — Santiago de Compostela
- **18th National Meeting of the Spanish Society of Neuroscience.** — Santiago de Compostela

Certificates

- 2013 ■ **Driving Licence: B.**
- 2011 ■ **First Aid Certificate.**