

# Erick Chacon Montalvan

*PhD in Statistics and Epidemiology*

## Education

- 2016–2019 **PhD in Statistics and Epidemiology**, *Lancaster University*, United Kingdom, **awarded**.  
Bayesian Spatial Modelling of Environmental and Health Data with Applications in Brazilian Amazonia.
- 2014–2015 **MSc in Statistics**, *Lancaster University*, Lancaster - United Kingdom, **Distinction**.  
Royal Statistical Society (RSS) accredited Master programme with relevant training on Statistical Inference, Bayesian Statistics and Computing Intensive Methods.
- 2013–2014 **Statistical Engineer**, *National University of Engineering*, Lima - Peru, **Grade: 19/20**.  
Degree obtained after dissertation, thesis conducted in collaboration with the Peruvian Institute of Marine Research (IMARPE) and the French Research Institute for Development (IRD).
- 2008–2012 **BSc with a major in Engineering Statistics**, *National University of Engineering*, Lima-Peru, **Placement: A+, top tenth, second place**.  
Training in mainstream statistical topics including statistical modelling and computational statistics.
- 2008–2009 **Training as an Analyst**, *Center of Information and Communications Technologies (CTIC-UNI)*, Lima, **212 hours of training as an Analyst**.  
This program covered relevant topics like  $\LaTeX$ , Neural Networks, Parallel Computing, Image Processing, Geostatistics, C++ and Project Management.

## Experience

### Work Experience

- 01/20–today **Senior Research Associate**, *DSNE - Lancaster University*, United Kingdom.  
Senior research associate in environmental data science: spatial statistical methods
- 08/19–12/19 **Part-time Lecturer**, *National University of Engineering*, Lima-Peru, **One semester**.  
Lecturer of two modules: Statistics II and Spatial Statistics.
- 12/18–01/19 **Consultant**, *German Society for International Cooperation - GIZ*, Lima-Peru, **Two months**.  
Consultancy to identify hot-spots with high traffic accident rate in four main cities of Peru.
- 10/15–12/15 **Consultant**, *Secretariat of the National Council of Road Safety*, Lima-Peru, **Two months**.  
Consultancy to identify and characterize traffic accidents hot-spots in 40 districts of Peru.
- 06/14–09/14 **Package Developer in R**, *Peruvian Institute of Marine Research*, Lima-Peru, **Four months**.  
ImarpeTools Package: Tools for graphics and summary reports for IMARPE
- 01/13–05/14 **Research Assistant**, *French Research Institute for Development*, Lima-Peru, **A year and 5 months of experience**.
  - Prediction of foraging areas for *Black Guillemots* on Cooper Island, Alaska. In collaboration with Friends of Cooper Island.
  - Prediction of sedimentary deposition environments based on bathymetrical, morphological and sedimentary characteristics in the Peruvian Continental Edge using techniques in spatial statistics. In collaboration with the Peruvian Institute of Marine Research.
- 08/12–11/12 **Technical Consultant of Statistics**, *Technical Secretariat of the Transport Council of Lima and Callao (ST-CTLC)*, Lima-Peru, **Four months**.
  - Analysis of the impact of vehicular inspections on traffic accident severity in Lima and Callao.
  - Market studies related to the supply and demand of services involved in the National System of Land Transportation.
- 05/12–07/12 **Technical Consultant of Statistics**, *General Management of Urban Transport - Provincial Municipality of Callao*, Callao-Peru, **Three months**.
  - Identifying high risk areas for traffic accidents in the Callao District Jurisdiction according to criteria identified by the Ministry of Health.

- 03/11–03/12 **Statistical Engineering Assistant / Internship**, *Technical Secretariat of the Transport Council of Lima and Callao (ST-CTLC)*, Lima-Peru, **One year experience**.
- Support in database administration and statistical analyses of the transportation studies.
  - Statistical trainer of the Technical Group.
- Casual Teaching
- 05-07/10/17 **Lecturer**, *Spatio-temporal Modelling in Epidemiology*, Conference CIPEFA I - National University of Engineering, Lima.
- 03/16, 03/18 **Tutoring**, *CHIC565: Environmental Epidemiology Module*, MSc Program in Statistics - Lancaster University, Lancaster.
- 15/09/14 **Lecturer**, *Knitr: Dynamic Reports in R*, Peruvian Institute of Marine Research, Lima.
- 17/07/14 **Lecturer**, *Introduction to L<sup>A</sup>T<sub>E</sub>X*, Peruvian Institute of Marine Research, Lima.
- 10-24/03/14 **Lecturer**, *Data Analysis in R*, Peruvian Institute of Marine Research, Lima.
- 08/12–09/12 **Lecturer**, *Statistics for Transportation Studies*, Technical Secretariat of the Transport Council of Lima and Callao (ST-CTLC), Lima.

## Academic Awards

- 12/2019 **Awarded**, *Lecturer with highest grade on teaching performance survey*, National University of Engineering, Lima - Peru.
- 12/2015 **Awarded**, *Postgraduate Statistics Centre Prize of Excellence in Learning*, Postgraduate Statistics Centre - Lancaster University, Lancaster - UK.  
For consistently demonstrate high-levels of learning and achievement in terms of general conduct, in-class contribution, coursework, exams and dissertation.
- 12/2015 **Awarded**, *RSS Student Prize*, Royal Statistical Society, Lancaster - UK.  
RSS prize for outstanding performance on an accredited MSc course.
- 03/2015 **Full Time Doctoral Research**, *Faculty of Health and Medicine Doctoral Scholarship*, Lancaster University, Lancaster - UK.  
Scholarship to pursue full time doctoral research at Lancaster University to start on 2016.
- 08/2014 **International Master Scholar**, *Republic President Scholarship 20014-II*, PRONABEC (Peruvian Government), Lima - Peru.  
Scholarship to pursue a Master Degree at Lancaster University.

## Publications

**Chacón-Montalván**, E., Taylor, B. M., Cunha, M., Davies, G., Orellana, J., Parry, L. (2020). Rainfall variability and adverse birth outcomes in Amazonia, *under review on Nature Sustainability*, pages 1–26.

**Chacón-Montalván**, E., Parry, L., Giorgi, E., Torres, P., Orellana, J., and Taylor, B. M. (2020). Spatial Item Factor Analysis With Application to Mapping Food Insecurity, *under review on Annals of Applied Statistics*, pages 1–44.

Rivero, S., Trindade de Almeida, O., Torres, P., De Moraes, A., **Chacón-Montalván**, E., Parry, L. (2020). Fishing as an urban strategy for coping with food insecurity, *under review on Journal of Development Studies*, pages 1–41.

**Chacón-Montalván E.** (2019). Bayesian spatial modelling of environmental and health data with applications in Brazilian Amazonia: linking environment and health in disadvantaged groups, *doctoral thesis*, 163 pages.

**Chacón-Montalván E.**, Parry, L., Davies, G., and Taylor, B. M (2019). A Model-Based General Alternative to the Standardised Precipitation Index, *preprint on arXiv*, pages 1–19.

**Chacón-Montalván**, E. (2014). Spatio-Temporal Modelling of Vector-borne Diseases in the Brazilian Amazonia: A View on Dengue and Malaria Burden, *master dissertation*.

**Chacón-Montalván, E., Romero, V., Quispe, L. Camero, J. (2014).** Methodology for estimating process capability indices in non-normal data, *Scientific-Technical magazine of the Research General Institute of the National University of Engineering*, 24(1):43-52.

**Chacón-Montalván, E. (2014).** Prediction of Sedimentary Depositional Environments on the Basis of Bathymetric, Morphological and Sedimentary Features in the Peruvian Continental Margin by Means of Spatial Statistics, *undergraduate dissertation*.

## Software

- reprodown **R package**, tools to create a custom website of your data analysis projects with a reproducible workflow, using blogdown with GNU make, available at [github.com/ErickChacon/reprodown](https://github.com/ErickChacon/reprodown).
- mbsi **R package**, model-based Standardized Index: a package to analyse and visualise extreme precipitation events, available at [github.com/ErickChacon/mbsi](https://github.com/ErickChacon/mbsi).
- spifa **R package**, implementation of spatial item factor analysis: extends item factor analysis to the spatial domain, available at [github.com/ErickChacon/spifa](https://github.com/ErickChacon/spifa).
- datasim **R package**, package to simulate data based on models formula. It works with different types of effects and multivariate models, available at [github.com/ErickChacon/datasim](https://github.com/ErickChacon/datasim).
- day2day **R package**, functions that can be useful in the day-to-day data analysis like to find paths, make summaries and others, available at [github.com/ErickChacon/day2day](https://github.com/ErickChacon/day2day).
- spmirtpy **Python module**, simple tensorflow implementation of geostatistical models, under development, available at [github.com/ErickChacon/spmirtpy](https://github.com/ErickChacon/spmirtpy).
- ResearchNotes **L<sup>A</sup>T<sub>E</sub>X class**, template for scientific notes and reports. You can also use it for lecture notes, tutorial, labs, or as you want, available at [github.com/ErickChacon/research-notes](https://github.com/ErickChacon/research-notes).
- SimpleNotes **L<sup>A</sup>T<sub>E</sub>X class**, simple template for scientific notes and reports. It is compatible with ResearchNotes class and pandoc, available at [github.com/ErickChacon/simple-notes](https://github.com/ErickChacon/simple-notes).
- SimpleThesis **L<sup>A</sup>T<sub>E</sub>X class**, simple template for undergraduate or postgraduate thesis. This is compatible with SimpleNotes class, available at [github.com/ErickChacon/simple-thesis](https://github.com/ErickChacon/simple-thesis).
- Scholar-docs **Hugo theme**, documentation template powered by bootstrap, compatible with the R package reprodown, available at [github.com/ErickChacon/scholar-docs](https://github.com/ErickChacon/scholar-docs).
- Scholar **Hugo theme**, academic webpage template powered by bootstrap, compatible with the R package blogdown, available at [github.com/ErickChacon/scholar](https://github.com/ErickChacon/scholar).

## Computer Skills

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|-----------------|--|---------------------|------------------------|
| <b>Advanced</b> | R, L <sup>A</sup> T <sub>E</sub> X, Markdown, Docker | <b>Intermediate</b> | C++, Python, Bash, Git |
| <b>Basic</b>    | Julia, Html, CSS                                     | <b>Others</b>       | Tmux, Hugo, Nvim       |