

Luis Enrique Hernandez Castro

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SUMMARY

I am a data scientist and epidemiologist with over 10 years of experience in advanced statistical analysis of infectious diseases, utilising R/RStudio and bioinformatics software. Proven track record leading epidemiological, genetics/genomics, and healthcare analytical projects. I possess strong oral and written scientific communication and project management skills.

WORK EXPERIENCE

Advanced Healthcare Scientist.

NHS Greater Glasgow and Clyde.

May 2023 – Present

I oversee routine surveillance of healthcare-associated infections, local and national reporting, advanced data analysis and visualisation, and research for healthcare quality improvement within the NHS GGC Infection Prevention and Control team.

Research Fellow

The Roslin Institute – The University of Edinburgh

Oct 2020 – May 2023

I trained MSc/PhD students on statistical/epidemiological data analysis, and I led genome-wide association studies on smallholder dairy cattle in Kenya & Tanzania, Africa.

Junior project manager. The University of Glasgow (UK) and Del Rosario University (Colombia)

May – July 2020

Supported and coordinated rapid procurement of genomic resources for understanding COVID-19 transmission in Colombia and Venezuela.

Network coordinator. Pontifical Catholic University of Ecuador & the University of Glasgow.

Nov 2019 – Oct 2020

Coordinated a scientific research network of vector-borne diseases in Venezuela, Colombia and Ecuador.

Junior project manager. The University of Glasgow

Oct 2017 – Mar 2018

Coordinated and supported a Citizen Science project in Venezuela and Colombia on vector-borne diseases.

Graduate teaching assistant. The University of Glasgow

Sep 2016 – Dec 2019

Supported life and veterinary science senior lectures with wet-lab and computational/statistical training sessions.

EDUCATION

PhD in Infectious Diseases. The University of Glasgow, UK.
Feb 2016 – Dec 2020

MSc Quantitative Methods in Biodiversity, Conservation and Epidemiology. The University of Glasgow, UK.
Sep 2014 - Sep 2015

BSc (Hons) in Veterinary Medicine at the University of Yucatan, Mexico.
Sep 2007 – Sep 2012

SKILLS

R and RStudio for statistics and data science.

- NHS healthcare data manipulation and analysis, e.g., microbiology and patient movement data.
- Epidemiological analyses, e.g., risk factors for disease occurrence, and multivariable associations.
- Statistical modelling (e.g., GLMM) & spatial analyses
- Machine learning: Random Forest and GA.
- Data visualisation in R complex data sets.
- Population genomics and GWAS.

Bioinformatics.

- Minimac3, EAGLE, PLINK, GEMMA and ASREML
- Moderate scripting in LINUX, Python and PERL.
- NGS data quality control and decontamination, genotyping, mapping, and text file manipulation.
- Cutadapt and Dada2 for microbial deep sequencing.

Molecular wet lab.

- DNA extraction, gel electrophoresis, PCR, RADseq NGS library preparation and purification.

Other software

- QGIS 3.2.3+ (maps), MS Office, Ruby language (modelling), GIMP 2.10.8, Slack, GitHub.

INTERESTS

- Sci-fi books, films, music, travelling, Mexican cuisine, gardening, dancing, gym, outdoor walks, politics/immigration, nature and wildlife, and diversity and inclusion policy.

AWARDS

- Studentships to cover the cost of doing my Doctoral and master's degrees at the University of Glasgow. £85,788 in total.
- Several awards for doctoral field work, training and conference attendance. £6,122 in total.