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About me

I am a data scientist specialising in Biodiversity and Public Health, with over a decade of experience conducting and publishing innovative research. My expertise lies in analysing large, complex datasets and leveraging advanced data-science approaches to uncover global patterns in public health coverage and the intricate relationships between biodiversity, environmental factors, and human impact. I have a strong background in data analysis, GIS, and statistical modelling, with extensive proficiency in R programming, enabling me to deliver impactful insights that inform decision-making in public health and life sciences.

Skills

R Programming

GIS, Statistics

Git, LaTeX

Python, HPC cluster scripts, Shell

(Skill scale from 0 (Fundamental) to 6 (Expert))

Experience

2022-present — Research Consultant — Freelance

Evaluated and compared the impact estimates of Dengue, TB, GBS and Shigella vaccines from the GAVI's Vaccine Investment Strategy 2024 with those of the vaccines from the Vaccine Impact Modelling Consortium (VIMC).

2019-2022 — Research Consultant and Research Associate — Imperial College London, UK

Analysed, organised, and prepared vaccine impact estimates for 12 pathogens (Cholera, HepB, Hib, HPV, Japanese encephalitis, Measles, MenA, PCV, Rotavirus, Rubella, Typhoid, Yellow fever) across 112 countries spanning from 2000 to 2030, incorporating multiple estimates from diverse modelling groups for each pathogen. *PI: Prof. Neil M. Ferguson and Line manager: Dr Katy Gaythorpe*

2018- 2019 — Visitor scholar — University of Pittsburgh, PA, USA

Assessed and predicted extinction risks for 300 plant species through comprehensive exploration and analysis of their spatial time-series data using spatial point pattern analysis. *PI: Dr. Justin Kitzes*

2017-2019 — NSF Postdoctoral Associate — Kenyon College, OH, USA

Conducted an extensive analysis of functional diversity distributions among plant species across the biomes of North and South America. Used distribution data from approximately 85,000 plant species, comprising around 9 million geographic points, in conjunction with publicly available functional traits. *PI: Prof. Andrew Kerkhoff and Prof. Brian J. Enquist*

2013-2017 — Lecturer and demonstrator — Natural History Museum Imperial College London, UK

Lectured and demonstrated for several quantitative courses in the Taxonomy and Biodiversity MSc and Life Sciences BSc programmes

Education

2013-2017 — Ph.D. Life Science — Imperial College London, UK
Plant Macroevolution and biodiversity responses to land-use change

2012-2013 — M.Res. with Distinction
Biodiversity, Informatics and Genomics — Imperial College London, UK
Effects of land use on local biodiversity in Colombia

2004-2010 — B.Sc. in Biology — Universidad Industrial de Santander, Colombia
1st class honours

Selected publications

2022 *Echeverría-Londoño, S,.* Hartner, A. M., Li, X., Roth, J., Portnoy, A., Sbarra, A. N., ... & Gaythorpe, K. A. Exploring the subnational inequality and heterogeneity of the impact of routine measles immunisation in Africa. *Vaccine*, 40(47), 6806-6817.

2021 *Echeverría-Londoño, S,.* Li, X., Toor, J., de-Villiers, M., Nayagam, S., Hallett, T.B., Abbas, K., Jit, M., Klepac, P., Jean, K. & Garske, T. How can the public health impact of vaccination be estimated? *BMC Public Health*, 21, 2049 (2021).

2020. *Echeverría-Londoño, S,.* Särkinen, T., Fenton, I. S., Knapp, S. and Purvis, A. Dynamism and context dependency in the diversification of the megadiverse plant genus Solanum L. (Solanaceae), *Journal of Systematics and Evolution*, 58(6), 767-782.

2018. *Echeverría-Londoño, S.,* Enquist. B. J., Neves, D. M., Violle, C. and Kerkhoff, A. J. Plant functional diversity and the biogeography of biomes in North and South America. *Frontiers in Ecology and Evolution*, 6(DEC), 219.

2016. *Echeverría-Londoño, S.,* Newbold, T., Hudson, L. N., Hill, S. L., Contu, S., Lysenko, I., ...and Purvis, A. Modelling and projecting the response of Colombian biodiversity to land-use change, *Diversity and Distributions*, 22, 1099–1111.