

Dr. Emanuele Giorgi

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Research Statement

I am a **biostatistician** who specializes in the development of spatial and spatio-temporal statistical methods with applications in **global health**. This includes developing innovative statistical methods for mapping, forecasting of disease risk, with particular emphasis on infectious diseases and other health conditions that disproportionately affect low- middle-income countries (LMICs). A key aspect of my research is the implementation of these statistical methods in the R open-source software environment, ensuring accessibility and reproducibility. In addition to methodological and software contributions, I am deeply committed to building statistical capacity in LMICs. Through partnerships with international organizations, academic institutions, and funding bodies, I have led training programs, workshops, and mentoring initiatives to empower researchers and public health professionals with the skills needed to analyze and interpret complex data.

Education

- **Ph.D. in Statistics and Epidemiology**, Lancaster University, UK (September 2015)
- **MSc in Statistics**, Università degli Studi di Padova, Italy (July 2012)
Achieved 110/110 cum laude
- **BSc in Statistics**, Università degli Studi di Padova, Italy (April 2010)
Achieved 110/110 cum laude
- Award in Leadership and Management (Level 5), Lancaster University, UK (August 2019)
- Postgraduate Certificate in Academic Practice, Lancaster University, UK (November 2018)

Languages

- English: proficient (C2)
- Italian: native
- Japanese: I have passed the Japanese Language Proficiency Test N3 exam (B1/B2, intermediate)

Employment history

- Associate Professor in Biostatistics, Lancaster University, UK (1 August 2020 - Present)
- Assistant Professor in Biostatistics, Lancaster University, UK (1 July 2018 - 31 July 2020)
- Medical Research Council Fellow in Biostatistics, Lancaster University UK (1 July 2015 - 30 June 2018).

Awards and Fellowships

- **Dean's Award 2024** (Student nomination award) from the Faculty of Health and Medicine. Award given in recognition of strong commitment to training individuals from underrepresented backgrounds and passion to train the next generation of statisticians from countries where there is a need for such expertise and epidemiologists from countries where there is a need for such expertise.
- Winning proposal for the **Mardia Interdisciplinary Workshop Prize 2024** awarded by the Royal Statistical Society. The funds received from this prize has supported the delivery of workshops focused on the application of geostatistical methods to inform policy decisions on the control and elimination of neglected tropical diseases.
- **Lancaster University Research Impact Awards Highly Commended.** Award given in recognition of the impact generated by the impact case study selected by the Faculty of Health Medicine at Lancaster University for the Research Excellence Framework 2021 (www.ref.ac.uk).
- **Invitational fellowship awarded by the Japanese Society for the Promotion of Science** for a research visit of 1 month (June 2022) at the School of Tropical Medicine in Nagasaki University to start a new collaboration with Prof Minakawa Noboru and his team.
- **Royal Statistical Society Research Prize** (September 2018): Award given for outstanding published contribution at the interface of statistics and epidemiology, spanning the development of spatial statistical methods, their application to a range of substantive problems in global population health research and their implementation in open-source software.
- **N8 New Pioneers** (www.n8research.org.uk/n8-new-pioneers): winning nomination across the N8 Research Partnership Universities for “significant contributions to the development of statistical methodology and its applications to public health problems in developing countries”.
- **IPUMS International Research Award** (March 2019): Award given in recognition of outstanding work, published in the paper by Macharia, Giorgi, Thurania et al. (2019), using Integrated Public Use Microdata Series data.
- **Strategic Skills Development Fellowship in Biostatistics**, Medical Research Council, (June 2015 - July 2018).
- **Young Investigator Award, First-tier mention** (November 2014): Award given for the work presented at American Society of Tropical Medicine and Hygiene 2014 Conference in New Orleans, USA.
- **Young Statistician's Showcase Prize** (July 2014): Best postgraduate student paper among European applicants, selected from more than 30 entries submitted for the International Biometric Conference held in Florence, Italy, in July 2014.
- Economic and Social Research Council, Quantitative Methods Pathway PhD Studentship (October 2012)

Leadership and Engagement

- **Head of the World Health Organization Collaborating Centre** on Geostatistical Methods for Neglected Tropical Diseases (August 2022 – present).
- **Head of the Centre for Health Informatics, Computing and Statistics** (July 2021 – present).

- **Member of the UK Research Innovation Talent Panel College** (January 2023 – present): Acted as a panel decision member for funding calls, including International Collaboration Grants (May 2023, EPSRC-funded).
- Completed the **Bonnington Leadership Programme** at Lancaster University, designed for senior staff (Grade 8 or above) with significant management and leadership responsibilities.
- Served as a **grant reviewer** for various funding bodies, including:
 - Medical Research Council Methodology funding scheme
 - UKRI Future Leaders Fellowships
 - Discovery Grants, Natural Sciences and Engineering Research Council of Canada
- External reviewer for a promotion case to “Principal Enterprise Fellow” (Level 5), Faculty of Environmental and Life Sciences, University of Southampton (November 2021).
- Consulted by:
 - Dr Clare McVicker (Academy of Medical Sciences) to develop the AMS International Strategy 2022–2032 (December 2021).
 - Bill & Melinda Gates Foundation and the Expanded Special Project for the Elimination of Neglected Tropical Diseases on geospatial modelling applications (May 2021).
- **Director of Studies** for:
 - Master of Research in “Quantitative and Translational Skills in Global Health” (2020–2022).
 - Master of Science in “Health Data Science” (2021 – present), securing 30 scholarships from the Office for Students (2023–25) and 5 from AstraZeneca (2024–25).
- **Academic Adviser for the Commonwealth Scholarship Commission** (December 2019 – present): Expert reviewer for Master and PhD scholarship applications from Commonwealth countries.
- **Advisory Committee Member for the Wellcome Trust Open Research Fund** (September 2019 – present): Provide expertise in geospatial statistics, assessing grant applications at panel meetings.
- **Royal Statistical Society Coordinator for the AIMS Partnership** (January 2018 – January 2022): Led the collaboration with the African Institute for Mathematical Sciences (AIMS) to recruit lecturers, tutors, and design the statistics curriculum for the Master of Applied Mathematics.
- **Member of the College of Experts, African Research Excellence Fund (AREF)** (June 2016 – present): Panel member and reviewer for fellowship applications supporting African researchers.
- **Committee Member of the British and Irish Region, International Biometric Society** (March 2017 – December 2019): Organized scientific events promoting collaboration between statisticians and scientists in various disciplines.
- **Admissions Tutor** (September 2017 – present): Developed a novel statistical approach with Dr Karen Grant to improve selection of medical students for the Bachelor of Medicine and Surgery, using an ordinal outcomes model to adjust for interviewer severity and station difficulty.

Publications

• Books

1. Diggle, P.J, **Giorgi, E.**, (2024). *Time-series analysis: a biostatistical introduction*. Oxford Press University.
2. Diggle, P.J, **Giorgi, E.**, (2019). *Model-based Geostatistics for Global Public Health: Methods and Applications*. Chapman & Hall/CRC.

• Journal Articles - published or in press

1. Puranik, A., Diggle, P. J., Odiere, M. R., Gass, K., Kepha, S., Okoyo, C., Mwandawiro, C., Wakesho, F., Omondi, W., Sultani, H. M., **Giorgi, E.**, *Understanding the impact of covariates on the classification of implementation units for soil-transmitted helminths control: A case study from Kenya*. BMC Medical Research Methodology, 24, 294 (2024). <https://doi.org/10.1186/s12874-024-02420-1>
2. Khaki, J., Macharia, P., **Giorgi, E.**, Benova, L., *Prevalence and determinants of double and triple burden of malnutrition among mother-child pairs in Malawi: a mapping and multilevel modelling study*. Public Health Nutrition. Public Health Nutrition. 2024;27(1):e241. doi:10.1017/S1368980024002064
3. Soni, N., Eyre, M. T., Souza, F. N., Diggle, P. J., Ko, A. I., Begon, M., Pickup, R., Childs, J. E., Khalil, H., Carvalho-Pereira, T. S. A., Pertile, A. C., Carvalho, M., de Oliveira, D., Junior, N. N., **Giorgi, E.***, Costa, F.*, *Disentangling the influence of reservoir abundance and pathogen shedding on zoonotic spillover of the Leptospira agent in urban informal settlements*. International Journal of Hygiene and Environmental Health. 12:1447592. doi: 10.3389/fpubh.2024.1447592
*These authors contributed equally.
4. Khaki, J.J, Meiring, J.E., Thindwa, D., Henrion, M.Y., Jere, T.M., Msuku, H., The STRATAA Consortium, Heyderman, R.S., Gordon, M. A., **Giorgi, E.** (2024). *Modelling Salmonella Typhi in Blantyre, Malawi, using point pattern methods*. Scientific Reports. 14, 17164. <https://doi.org/10.1038/s41598-024-66436-9>
5. Barrett, C. L., Chiphwanya, J., Mkwanda, D., Matipula, D. E., Ndhlovu, P., Chaponda, L., Turner, J. D., **Giorgi, E.**, Betts, H., Martindale, S., Taylor, M. J., Read, J. M., Kelly-Hope, L. A. (2024). *The national distribution of lymphatic filariasis cases in Malawi using patient mapping and geostatistical modelling*. PLoS Neglected Tropical Diseases. <https://doi.org/10.1371/journal.pntd.0012056>
6. Mountain, R., Knight, J., Heys, K., **Giorgi, E.***, and Gatheral*, T. (2024). *Spatio-temporal modelling of referrals to outpatient respiratory clinics in the integrated care system of the Morecambe Bay area*. BMC Health Services Research. DOI: 10.1186/s12913-024-10716-7
*These authors contributed equally.
7. Carvalho-Pereira, T., Eyre, M., Zeppelini, C., Espirito Santo, V., Santiago, D., Santana, R., Palma, F., Reis, M., Lustosa, R., Khalil, H., Diggle, P., **Giorgi, E.**, Costa, F., Begon, M. (2023). *Basic urban services fail to neutralise environmental determinants of 'rattiness', a composite metric of rat abundance*. Urban Ecosystems. <https://doi.org/10.1007/s11252-023-01481-2>
8. Sasanami, M., Amoah, B., Amza, A., Souley, A. S. Y., Diori, A. N., Bakhtiari, A., Kadri, B., Szwarcwald, C. L., Gomez, D. V. F., Almou, I., Lopes, M. F. C., Masika, M. P., Beidou, N., Boyd, S., Harding-Esch, E. M., Solomon, A. W., **Giorgi, E.** (2023). *Using model-based geostatistics for assessing the elimination of trachoma*. PLoS Neglected Tropical Diseases, 17(7): e0011476. <https://doi.org/10.1371/journal.pntd.0011476>
9. Dermauw, V., De Vijver, E. V., Dorny, P., **Giorgi, E.**, Ganaba, R., Millogo, A., Tarnagda, Z., Cisse, A. K., Carabin, A., *Geostatistical analysis of active human cysticercosis: Results of a large-scale study in 60 villages in Burkina Faso*. PLoS Neglected Tropical Diseases. <https://doi.org/10.1371/journal.pntd.0011437>
10. Borlase, A., Rutte, E. A., Castano, S., Blok, D. J., Toor, J., Giardina, F., Davis, E. L., NTD Consortium* (2022) *Evaluating and mitigating the potential indirect effect of COVID-19 on control programmes for seven neglected tropical diseases: a modelling study*. Lancet Global Health. DOI:10.1016/S2214-109X(22)00360-6
* I have co-authored this paper as member of the NTD consortium.

11. Cremonese, C., Souza, F. N., Palma, F. A. G., Sodre, J. F. A., Ribeiro, P. de S., Santana, J. O., Coelho, R. H., Ticona, J. P. A., Nazare, R., de Oliveira, D., Eyre, M., Knee, J., Ristow, P., Stauber, C., Lopez, Y. A., **Giorgi, E.**, Diggle, P. J., Cumming, O., dos Reis, M. G., Ko, A., Costa, F. (2023). *Simplified sewerage to prevent urban leptospirosis transmission: a cluster non-randomized controlled trial protocol in disadvantaged urban communities of Salvador, Brazil*. BMJ Open. 13:e065009. doi: 10.1136/bmjopen-2022-065009
12. Kitawa, Y. S., Johnson, O., **Giorgi, E.**, Zeytu Gashaw Asfaw (2023). Understanding the importance of spatial correlation in identifying spatio-temporal variation of disease risk, in the case of malaria risk mapping in southern Ethiopia. Scientific African. doi: 10.1016/j.sciaf.2023.e01926
13. Greenland-Bews, C., Byrne, R. L., Owen, S. O., Watkins, R. L., Benguey, D., Buist, K., Clerkin, K., Escadafal, C., Finch, L. S., Gould, S., **Giorgi, E.**, Hodgkinson, A., Mashenko, L., Powell, D., Savage, H. R., Thompson, C. R., Turtle, L. T., Wardale, J., Wooding, D., Edwards, T., Atienzar, A. C. (2023). *Evaluation of Eight Lateral Flow Tests for the detection of anti-SARS-CoV-2 antibodies in a vaccinated population* Corresponding Author: Dr Emily R Adams. BMC Infectious Diseases. <https://doi.org/10.1186/s12879-023-08033-1>
14. Echodu, D., Yeka, D., Eganyu, T., Odude, W., Bukenya, F., Amoah, B., Wanzira, H., Colborn, K., Elliott, R. C., Powell, S. E., Kilama, M., Mulebeke, R., Nankabirwa, J., **Giorgi, E.**, Roskosky, M., Omoding, O., Gonahasa, S., Opigo, J. (2023). *Impact of population based indoor residual spraying with and without mass drug administration with dihydroartemisinin-piperaquine on malaria prevalence in a high transmission setting: a controlled trial in northeastern Uganda*. BMC Infectious Diseases. <https://doi.org/10.1186/s12879-023-07991-w>
15. Macharia, P. M., Moturi, A., Mumo, E., **Giorgi, E.**, Okiro, E. A., Snow, R. W., N. R. (2022). *Modelling geographic access and catchment areas for public primary schools in Kenya*. Children's Geographies. <https://doi.org/10.1080/14733285.2022.2137388>
16. Eyre, M. T., Souza, F. N., Carvalho-Pereira, T. S. A., Nery, N., de Oliveira, D., Cruz, J. S., Sacramento, G. A., Khalil, H., Wunder, E. A., Hacker, K. P., Childs, J. E., Reis, M., Begon, M., Diggle, P. J., Ko, A. I., **Giorgi, E.***, Costa, F.* (2022). *Linking rattiness, geography and environmental degradation to spillover Leptospira infections in marginalised urban settings*. ELife. <https://doi.org/10.7554/eLife.73120>
*These authors contributed equally.
17. Ringwald, B., Tolhurst, R., Taegtmeier, M., Digolo, L., Gichuna, G., Gaitho, M. M., Phillips-Howard, P. A., Otiso, L., **Giorgi, E.** (2022). *Intra-urban variation of intimate partner violence against women and men in Kenya: a secondary data analysis*. Journal of Interpersonal Violence. <https://doi.org/10.1177/08862605221120893>
18. Macharia, P., Ray, N., Gitonga, C. W., Snow, R. W., **Giorgi, E.** (2022). *Combining school-catchment area models with geostatistical models for analysing school survey data from low-resource settings: inferential benefits and limitations*. Spatial statistics. <https://doi.org/10.1016/j.spasta.2022.100679>
19. Grau-Pujol, B., Cano, J., Marti-Soler, H., Casellas, A., **Giorgi, E.**, Nhacolo, A., Saute, F., Gine, R., Quinto, L., Saco, C., Munoz, J. (2022). *Neighbors' use of water and sanitation facilities can affect children's health: a cohort study in Mozambique using a spatial approach*. BMC Public Health 22, 983 (2022). <https://doi.org/10.1186/s12889-022-13373-9>
20. Kay, G. A., Owen, S. I., **Giorgi, E.**, Williams, C. T., Menzies, S., Clark, D. J., Cuevas, L. C., Davies, B. M. O., Eckersley, N. M., Hughes, G. L., Kirwan, D. E., Krishna, S., Patterson, E. I., Planche, T., Staines, H. M., Adams, E. R. (2022). *Immunoglobulin-G enzyme-linked immunosorbent assay predicts neutralising antibody response in convalescent SARS-CoV-2 patients*. Scientific Reports. 3351 <https://doi.org/10.1038/s41598-022-07263-8>
21. Johnson, O., **Giorgi, E.**, Fronterre, C., Amoah, B., Atsame, J., Ella, S. N., Biamonte, M. Ogousan, K., Hundley, L., Gass, K., Diggle, P. J. (2022). *Geostatistical modelling enables efficient safety assessment for ivermectin use in Loa loa endemic areas through a combined antibody and LoaScope testing strategy*. PLoS Neglected Tropical Diseases. 16, 2, p. e0010189
22. Kyomuhangi, I., **Giorgi, E.** (2022). *A threshold-free approach with age-dependency for estimating malaria seroprevalence*. Malaria Journal. <https://doi.org/10.1371/journal.pone.0262145>
23. Johnson, O., Fronterre, C., Diggle, P. J., Amoah, A., **Giorgi, E.** (2021). *MBGapp: A Shiny application for teaching model-based geostatistics to population health scientists*. PLoS ONE. <https://doi.org/10.1371/journal.pone.0262145>

24. **Giorgi, E.**, Macharia, P. M., Woodmansey, J., Snow, R. W., Rowlingson, B. (2021). *Maplaria: a user friendly web-application for spatio-temporal malaria prevalence mapping*. Malaria Journal. 20, 471 <https://doi.org/10.1186/s12936-021-04011-7>
25. **Giorgi, E.**, Fronterre, C., Macharia, P., Alegana, V., Snow, R., Diggle, P. (2021) *Model building and assessment of the impact of covariates for disease prevalence mapping in low-resource settings: to explain and to predict*. Journal of the Royal Society Interface. 18:20210104. <http://doi.org/10.1098/rsif.2021.0104>
26. Amoah, B., McCann, R. S., Kabaghe, A. N., Mburu, M., Chipeta, M G., Moraga, P., Gowelo, S., Tizifa, T., van den Berg, H., Mzilahowa, T., Takken, W., van Vugt, M., Phiri, K.S., Diggle, P. J., Terlouw, D. J., **Giorgi, E.** (2021). *Identifying fine-scale spatiotemporal patterns in Plasmodium falciparum transmission by monitoring parasite prevalence and entomological inoculation rate*. ELife. 10:e65682 doi:10.7554/eLife.65682
27. Grau-Pujol, B., Martí-Soler, H., Escola, V., Demontis, V., Jamine, J. C., Gandasegui, J., Muchisse, O., Cambra-Pellejá, M., Cossa, A., Martinez-Valladares, M., Sacoar, C., Van Lieshout, L., Cano, J., **Giorgi, E.**, Munoz, J. (2021). *Towards soil-transmitted helminths transmission interruption: the impact of diagnostic tools on infection prediction in a low intensity setting in Southern Mozambique*. PLoS Neglected Tropical Diseases. <https://doi.org/10.1371/journal.pntd.0009803>
28. Aguilar Ticona, J. P., Nery, N., Victoriano, R., Fofana, M. O., Ribeiro, G. S., **Giorgi, E.**, Reis, M. G., Ko, A. I., Costa, F. (2021). *Willingness to get the COVID-19 vaccine among residents of slum settlements*. Vaccines. 2021, 9(9), 951; <https://doi.org/10.3390/vaccines9090951>
29. Dissanayake, R., **Giorgi, E.**, Stevenson, M., Allavena, R., Henning, J. (2021). *Estimating koala density from incidental koala sightings in South-East Queensland, Australia (1997–2013), using a self-exciting spatio-temporal point process model* Ecology and Evolution. DOI: 10.1002/ece3.8082
30. Amoah, B., Fronterre, C., Johnson, O., Dejene, M., Seife, F., Negussu, N., Bakhtiari, A., Harding-Esch, E., **Giorgi, E.**, Solomon, A. W., Diggle, P. J. (2021). *Geostatistical analysis can yield more precise neglected tropical disease prevalence estimates than traditional analysis methods: mapping trachoma prevalence in Ethiopia*. International Journal of Epidemiology. dyab227, <https://doi.org/10.1093/ije/dyab227>
31. Macharia, P. M., Ray, N., **Giorgi, E.**, Okiro, E. A., Snow, R. W. (2021). *Defining service catchment areas in low resource settings*. BMJ Global Health. <http://dx.doi.org/10.1136/bmjgh-2021-006381>
32. Toor, J., Adams, E. R., Aliee, M., Amoah, B., Anderson, R. M., Ayabina, D., Bailey, R., Basanez, M.-G., Blok, D. J., Blumberg, S., Borlase, A., Rivera, R. C., Castano, M. S, Chitnis, N., Coffeng, L. E., Crump, R. E., Das, A., Davis, C. N., Davis, E. L., Deiner, M. S., Diggle, P. J., Fronterre, C., Giardina, F., **Giorgi, E.**, Graham, R., Hamley, J. I. D., Huang, C.-I., Kura, K., Lietman, T. M., Lucas, T. C. D., Malizia, V., Medley, G. F., Meeyai, A., Michael, E., Porco, T., Prada, J. M., Rock, K. T. S., Le Rutte, E., Smith, M. E., Spencer, S. E. F., Stolk, W. A., Touloupou, P., Vasconcelos, A., Vegvari, C., de Vlas, S. J., Walker, M., Hollingsworth, T. D. (2021) *Predicted Impact of COVID-19 on Neglected Tropical Disease Programs and the Opportunity for Innovation*, Clinical Infectious Diseases, <https://doi.org/10.1093/cid/ciaa933>
33. Johnson, O. O., Fronterre, C., Amoah, A., Montresor, A., **Giorgi, E.**, Midzic, N., Mutsaka-Makuvaza, M. J., Kargbo-Labord, I., Hodgese, M. H, Zhange, Y., Okoyog, C., Mwandawirog, C., Minnery, M., Diggle, P. J., *Model-based Geostatistical Methods Enable Efficient Design and Analysis of Prevalence Surveys for Soil-Transmitted Helminth Infection and Other Neglected Tropical Disease*. Clinical Infectious Diseases. 2021;72(S3):S172–9, DOI: 10.1093/cid/ciab192
34. Savage, E. R., Santos, V. S., Edwards, T., **Giorgi, E.**, Krishna, S., Planche, T., Staines, H. M., Fitchett, J. R. A., Kirwan, D. E., Atienzar, A. I. E., Clark, D. J., Adams, E. R., Cueva, L. E. *Prevalence of neutralising antibodies against SARS-CoV-2 in acute infection and convalescence: a systematic review and meta-analysis*. Plos Neglected Tropical Diseases. <https://doi.org/10.1371/journal.pntd.0009551>
35. Kyomuhangi, I., **Giorgi, E.** (2021) *A unified and flexible modelling framework for the analysis of malaria serology data*. Epidemiology & Infection. doi:10.1017/S0950268821000753
36. Diggle, P. J., Amoah, B., Claudio, F., **Giorgi, E.**, Johnson, O. O. (2021) *Rethinking NTD Prevalence Survey Design and Analysis: a Geospatial Paradigm*. Transactions of the Royal Society of Tropical Medicine and Hygiene. Pages 208–210, <https://doi.org/10.1093/trstmh/trab020>

37. Andreis, F., Bryant, R., **Giorgi, E.**, Williamson, A. E., Ward, A. (2021) *Prescribing patterns for medical treatment of suspected prostatic obstruction: a longitudinal register-based study of the Scottish Health and Social Care Open Data* BMJ Open. doi:10.1136/bmjopen-2020-042606
38. Hossain, E., Hoque, A., **Giorgi, E.**, Fournie, G., Das, G. B., Henning, J. (2021). *Impact of improved small-scale livestock farming on human nutrition*. Scientific Reports. doi:10.1038/s41598-020-80387-x
39. Johnson, O. O., Getherall, T., Knight, J., **Giorgi, E.** (2020) *A modelling framework for developing early warning systems of COPD emergency admissions*. Spatial and spatio-temporal epidemiology. doi: 10.1016/j.sste.2020.100392
40. Moirano, G., Zanet, S., **Giorgi, E.**, Battisti, E., Falzoi, S., Acquaotta, F., Fratianni, S., Richiardi, L., Maule, M., Ferroglio, E. (2020) *Integrating environmental, entomological, animal and human data to model the Leishmania infantum transmission risk in a new endemic area in Northern Italy*. One Health. doi:10.1016/j.onehlt.2020.100159
41. Eyre, M. T., Carvalho-Pereira, T. S., Souza, F. N., Khalil, H., Hacker, K. P., Serrano, S., Taylor, J. P., Reis, M. G., Ko, A. J., Begon, M., Diggle, P. J., Costa, F., **Giorgi, E.** (2020) *A multivariate geostatistical framework for combining multiple indices of abundance for disease vectors and reservoirs: A case study of rattiness in a low-income urban Brazilian community*. Journal of the Royal Society Interface. doi:10.1098/rsif.2020.0398
42. Deribe, K., Florence, L., Kelemework, A., Getaneh, T., Tsegay, G., Cano, J., **Giorgi, E.**, Newport, M. J., Davey, G. (2020) *Developing and validating a clinical algorithm for the diagnosis of podocytosis*. Transactions of the Royal Society of Tropical Medicine and Hygiene. doi:10.1093/trstmh/traa074
43. Stockdale, A. J., Kreuels, B., Henrion, M. Y. R., **Giorgi, E.**, Kyomuhangi, I., de Martel, C., Hutin, Y., Geretti, A. M. (2020). *The global prevalence of hepatitis D virus infection: systematic review and meta-analysis*. Journal of Hepatology. PMID: 32335166 DOI: 10.1016/j.jhep.2020.04.008
44. Kigozi, S. P., **Giorgi, E.**, Mpimbaza, A., Kigozi, R. N., Bousema, T., Arinaitwe, E., Nankabirwa, J. I., Sebuguzi, C. M., Kamya, M. R., Staedke, S. G., Dorsey, G., Pullan, R. L. (2020). *Practical implications of a relationship between Health Management Information System and community cohort-based malaria incidence rates*. American Journal of Tropical Medicine and Hygiene. doi: 10.4269/ajtmh.19-0950.
45. Johnson, O. O., Diggle, P. J., **Giorgi, E.**, (2020). *Dealing with spatial misalignment to model the relationship between deprivation and life expectancy: A model-based geostatistical approach*. International Journal of Health Geographics. DOI: 10.1186/s12942-020-00200-w
46. Kyomuhangi, I., Abeku, T. A., Kirby, M. J., Tesfaye, G., **Giorgi, E.** (2020). *Understanding the effects of dichotomization of continuous outcomes on geostatistical inference*. Spatial Statistics. 00424, <https://doi.org/10.1016/j.spasta.2020.100424>.
47. Runge, M., Snow, R. W., Molteni, F., Thawer, S., Mohamed, A., Mandike, R., **Giorgi, E.**, Macharia, P. M., Smith, T., Lengeler, C., Pothin, E., (2020). *Simulating the council-specific impact of anti-malaria interventions: a tool to support malaria strategic planning in Tanzania*. Malaria Journal. <https://doi.org/10.1371/journal.pone.0228469>
48. Ejigu, B. A., Wencheke, E., Moraga, P., **Giorgi, E.**, (2020). *Geostatistical methods for modelling non-stationary patterns in disease risk*. Spatial Statistics. doi:10.1016/j.spasta.2019.100397
49. Fronterre, C., Amoah, B., **Giorgi, E.**, Stanton, M., Diggle, P.J., *Design and analysis of elimination surveys for neglected tropical diseases*. (2020). Journal of Infectious Diseases. jiz554, <https://doi.org/10.1093/infdis/jiz554>
50. Neyens, T., Diggle, P. D., Faes, C., Beenaerts, N., Artois, T., **Giorgi, E.** (2020). *Mapping species richness using opportunistic samples: a case study on ground-floor bryophyte species richness in the Belgian province of Limburg*. Scientific Reports 9, 19122, doi:10.1038/s41598-019-55593-x
51. Hale, A. C., Sánchez-Vizcaíno, F., Rowlingson, B., Radford, A. D., **Giorgi, E.**, O'Brien, S. J., Diggle, P. J. (2019). *A real-time spatio-temporal syndromic surveillance system with application to small companion animals*. Scientific Reports 9, 17738, doi:10.1038/s41598-019-53352-6
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54. Amoah, B., Diggle, P. J., **Giorgi, E.** (2019). *A geostatistical framework for combining data from multiple diagnostic tests*. *Biometrics*. doi:10.1111/biom.13142
55. Diggle, P. J., **Giorgi, E.**, Atsame, J., Ella, S. N., Ogooussan, K., Gass, K. (2020). *A tale of two parasites: statistical modelling to support disease control programmes in Africa*. *Statistical Science*. 35:42-50, doi:10.1214/19-STS738
56. Johnson, O. O., Diggle, P. J., **Giorgi, E.** (2019). *A spatially discrete approximation to log-Gaussian Cox processes for modelling aggregated disease count data*. *Statistics in Medicine*. doi:10.1002/sim.8339
57. Flueckiger, R., **Giorgi, E.**, Cano, J., Abdala, M., Amiel, O. N., Baayenda, G., Bakhtiari, A., Batcho, W., Bennawi, K. H., Dejene, M., Elshafie, B. E., Elvis, A. A., Francois, M., Goepogui, A., Kalua, K., Kebede, B., Kiflu, G., Masika, M. P., Massangaie, M., Mpyet, C., Ndjemba, J., Ngondi, J. M., Olobio, N., Turyaguma, P., Willis, R., Yeo, S., Solomon, A., Pullan, R. (2019). *Understanding the spatial distribution of trichiasis and its association with trachomatous inflammation—follicular*. *BMC Infectious Diseases*, 19:364, doi:10.1186/s12879-019-3935-1
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67. Colborn, K., **Giorgi, E.**, Monaghan, A., Gudo, E., Candrinho, B., Marrufo, T., Colborn, J. (2018). *Spatio-temporal modelling of weekly malaria incidence in children under 5 for early epidemic detection in Mozambique*. *Scientific Reports*. 8, 9238, doi.org/10.1038/s41598-018-27537-4

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79. **Giorgi, E.**, Diggle, P. J. (2017). *PrevMap: an R package for prevalence mapping*. Journal of Statistical Software. 78:1-29, doi: 10.18637/jss.v078.i08
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83. Diggle, P. J., **Giorgi, E.** (2016). *Model-based geostatistics for prevalence mapping in low-resource settings (with discussion)*. Journal of the American Statistical Association. 111:1096-1120
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85. **Giorgi, E.**, Sesay, S. S., Terlouw, D. J., Diggle, P. J. (2015). *Combining data from multiple spatially referenced prevalence surveys using generalized linear geostatistical models*. Journal of the Royal Statistical Society, Series A. 178:445-464 arXiv:1308.2790
86. **Giorgi, E.**, McNeil, A. J. (2014). *On the computation of multivariate scenario sets for the skew-t and generalized hyperbolic families*. Computational Statistics and Data Analysis. 100:205-220 arXiv:1402.0686
87. Zoure, H. G. M., Noma, M., Tekle, A. H., Amazigo, U. V., Diggle, P. J., **Giorgi, E.**, Remme, J. H. F. (2014). *The Geographic Distribution of Onchocerciasis in the 20 Participating Countries of the African Programme for Onchocerciasis Control*. Parasites and Vectors. 7:326, doi:10.1186/1756-3305-7-326
88. Bosco, E., Marton, E., Feletti, A., Scarpa, B., Longatti, P., Zanatta, P., **Giorgi, E.**, Sorbara, C. (2011). *Dynamic monitors of brain function: a new target in neurointensive care unit*. Critical Care, 15:R170

• Journal Articles - under review

1. Ruiz Cuenca, P., Souza, F. N., Nascimento, R. C. do, da Silva, A. G., Eyre, M. T., Cerqueira, J., dos Santos, D. O., Ribeiro de Souza, E. V., Read, J., Cremonese, C., Costa, F., **Giorgi, E.**, *Disentangling the effects of fine-scale human mobility on leptospiral infection using GPS telemetry data*. Journal of the Royal Society Interface.
2. Sasanami, M., Almou, I., Diori, A. N., Bakhtiari, A., Beidou, N., Bisanzio, D., Boyd, S., Burgert-Brucker, C. R., Amza, A., Gass, K., Kadri, B., Kebede, F., Masika, M. P., Olobio, N. P., Seife, F., Souley, A. S. Y., Tefera, A., Kello, A. B., Solomon, A. W., Harding-Esch, E. **Giorgi, E.**, *On the use of covariates for trachoma prevalence estimation using geostatistical methods: benefits and limitations*. BMC Public Health.
3. Ecke, F., Semenza, J.C., Buzan, E., Costa, F., **Giorgi, E.**, Guo, J., Kirkpatrick, L., Knauf, S., Meheretu, Y., Singh, N., Sjödin, H., Timperley, M., Treskova, M., Ulrich, R.G., Zeppelini, C.G., Rocklöv, J., *Mitigating Zoonotic Risks Through Ecosystem Restoration, One Earth*.
4. Purkiss, J., Pepe, P., Poplawski, N. A. K., Maurelli, M. P., Gualdieri, L., Rinaldi, L., **Giorgi, E.**, *Combining country indicators and individual variables to predict soil-transmitted helminth infections among migrant populations: a case study from southern Italy*. PLoS Neglected Tropical Diseases.
5. Mategula, D., Gichuki, J., Barnes, K. I., **Giorgi, E.**, Terlouw, D. J., *Advancing Early Warning Systems for Malaria: Progress, Challenges, and Future Directions - A Scoping Review*. PLoS Global Public Health.
6. Bun, K., Mode, B., Bjerum, C., Payne1, M., Tisch, D., Salo, J., Kovach, J., Susapu, M., Sekihara, M., **Giorgi, E.**, Diggle, P. J., Weil, G., Robinson, L., Laman, M., King, C. L., *Alternative Approaches for Monitoring and Evaluation of Lymphatic Filariasis Following Mass Drug Treatment with Ivermectin, Diethylcarbamazine and Albendazole in East New Britain Province, Papua New Guinea*. PLoS Neglected Tropical Diseases.
7. Khaki, J., Minnery, M., **Giorgi, E.**, *Using ESPEN Data for Evidence-Based Control of Neglected Tropical Diseases in sub-Saharan Africa: a Comprehensive Model-based Geostatistical Analysis on Soil-Transmitted Helminths*. PLoS Neglected Tropical Diseases.
8. Stoppa, G., Catelan, D., Michela, Z., Fin, G., Naike, S., Facciolo, F., Biggeri, A., **Giorgi, E.**, *Geostatistical analysis of geomasked PFAS food contamination data in Veneto Region*. Environmental Research.
9. Clark, F. N., da Silva Solca, M., Fraga, D. B. M., Brodskyn, C. I., **Giorgi, E.**, *Understanding the relationship between the presence of vegetation and the spread of canine visceral leishmaniasis in Camaçari, Bahia State, Northeastern Brazil*. Spatial and spatio-temporal epidemiology.
10. Fronterre, C., Johnson, O., **Giorgi, E.**, Montresor, A., Diggle, P. J., *Survey Design and Geospatial Analysis using Data on Baseline Prevalence, Environmental Risk-Factors and Treatment History Drastically Reduces the Cost of STH Impact Surveys*. PLoS Neglected Tropical Diseases.

- **Peer-reviewed conference articles**

1. **Giorgi, E.** (2018). *Using a problem-driven approach for teaching statistics at the African Institute of Mathematical Sciences (invited paper)*. Proceedings of the 10th International Conference on Teaching Statistics, Kyoto, Japan. Available at iase-web.org/icots/10/proceedings/pdfs/ICOTS10_3H3.pdf

- **Invited comments, book chapters and reviews**

1. Macharia, P.M., Odhiambo, J.N., Mumo, E., Maina, A., **Giorgi, E.**, Okiro, E.A. (2023). *Approaches to Defining Health Facility Catchment Areas in Sub-Saharan Africa*. Approaches to Defining Health Facility Catchment Areas in Sub-Saharan Africa. In: Adewoyin, Y. (eds) Health and Medical Geography in Africa. Global Perspectives on Health Geography. Springer, Cham. <https://doi.org/10.1007/978-3-031-41268-4-21>
2. Stockdale, A. J., Kreuels, B., Henrion, M., **Giorgi, E.**, Kyomuhangi, I., Geretti, A. M. (2018). *Hepatitis D prevalence: problems with extrapolation to global population estimates*. Gut. DOI:10.1136/gutjnl-2018-317874
3. Diggle, P. J., **Giorgi, E.**, Chipeta, M. G., MacFarlane, S. (2017). *Keeping track of health outcomes in space and time: an introduction to spatial and spatio-temporal methods*. In: The Palgrave Handbook on Global Health Data for Policy. Palgrave Macmillan.
4. **Giorgi, E.** (2017). *Review of "Spatial Point Patterns: Methodology and Applications with R"*. American Statistician. doi: 10.1080/00031305.2017.1322880
5. Diggle, P. J., **Giorgi, E.** (2017). *Preferential sampling of exposure levels*. In: *Handbook of Environmental and Ecological Statistics*. Chapman & Hall/CRC Handbooks of Modern Statistical Methods.
6. Diggle, P. J., **Giorgi, E.** (2014). *Geostatistical mapping of helminth infection rates*. The Lancet Infectious Diseases. 15:9-11

- **Other invited publications**

1. Purkiss, J., Clark, F., **Giorgi, E.** (2024). *Using geostatistics to fight neglected tropical diseases*. Significance. In press.
2. **Giorgi, E.** (2018). *Career Highlights: Emanuele Giorgi on teaching in Africa*. Significance, 15: 41. doi:10.1111/j.1740-9713.2018.01111.x
3. **Giorgi, E.**, Bisanzio, D. (2017). *Why malaria is unlikely to return to Italy – despite a recent death from the disease*. The Conversation UK.¹

Editorial activity

- Associate Editor for the **Journal of the Royal Statistical Society, Series A** (Jan 2025 - Dec 2029).
- I am an Academic Editor (AE) for **PLoS ONE** (IF: 3.240) (journals.plos.org/plosone/) and a member of the Editorial Board for **Spatial Statistics** (IF: 2.06) (www.journals.elsevier.com/spatial-statistics) and **PeerJ** (<https://peerj.com/>) (IF: 2.98). As part of these roles, oversee the peer review process for the journals on research article submissions in the field of spatial epidemiology. I also evaluate the quality of submissions, select reviewers, assess their comments and make editorial decisions. I handle about 1 or 2 research article submissions per month.
- I am member of the **Statistical Reviewers (SR) group of the Journal of the American Medical Association Open Network** (IF 5.032) an international, peer-reviewed, open access journal that publishes research on general medical science. The SR is a group of internationally selected statisticians who are committed to review at least 1 paper per month for the journal and who focus their review on the statistical aspects of submitted manuscripts.

¹Available at <https://theconversation.com/why-malaria-is-unlikely-to-return-to-italy-despite-a-recent-death-from-the-disease-83663>

- I have been a guest editor for the special issue “Current Research on Serological Analyses of Infectious Diseases”² for the journal *Frontiers in Medicine* (IF 3.9).

Conferences and Seminars

• Invited sessions at international conferences

1. “Spatial statistics for global health”, Royal Statistical Society Annual Conference, September 2024, Brighton, UK.
2. “Spatial statistics for global health”, GEOMED2024, September 2024, Hasselt, Belgium.
3. “Statistical methods for the analysis of electronic health records”, Computational and Methodological Statistics, King’s College London, December 2020
4. “Using electronic health records for understanding spatial variation in disease risk”, Royal Statistical Society 2019 International Conference, September 2019, Belfast, UK.
5. “Geostatistical methods for global health”, GEOMED 2019, August 2019, Glasgow University, Glasgow, UK.
6. “Geo-spatial methods for global health applications”, Royal Statistical Society 2018 International Conference, September 2018, Cardiff University, Cardiff UK.

• Keynote plenary talks at international conferences

1. “11th International Conference on Spatio-Temporal Modelling”, Lancaster University, Lancaster, UK
2. “Conference on Health and Environmental Change: Modelling the association of environmental changes and health indicators”, Leuven, Belgium, September 2023.
3. “Geostatistical modelling of spatially structured zero-inflation with applications to tropical disease mapping”, Spatial Statistics 2019, Sitges, Spain, 10-13 July 2019

• Invited talks at international conferences and workshops

1. “Assessing the impact of spatial covariates in the use of model-based geostatistical models for trachoma prevalence surveys”, WHO Trachoma Scientific Meeting, Hammamet, Tunisia, May 14, 2024
2. “Using model-based geostatistics to inform trachoma elimination”, The Twentieth Annual Trachoma Control Program Review, The Carter Center, Atlanta, USA, April 2024
3. “International Workshop of Statistical Modelling”, Durham University, Durham, UK, July 2024.
4. Carter Center Annual Meeting 2024, Emory University, Atlanta, April 2024.
5. “64th World Statistics Congress”, Ottawa, Canada, July 2023.
6. GRASPA-TIES European 2021 Workshop, Rome, Italy 7-9 June 2021.
7. Climate Change and Infectious Diseases Spatio-Temporal Statistical Modelling and Implementation Research, School of Public Health and Community Medicine, Institute of Medicine, Sahlgrenska Academy, University of Gothenburg, Sweden, 14-16 April 2021
8. Annual Meeting of the Coalition for Operational Research on Neglected Tropical Diseases, November 12-14 2020. (Virtual conference originally scheduled to take place in Toronto, Canada)
9. 12th International Conference on Methodological and Computational Statistics, Senate House, University of London, 14-16 December 2019.
10. 3rd International EcoStat Conference, June 2019, National Ching Hsing University, Taiwan.
11. Royal Statistical Society, 2018 International Conference, September 2018, Cardiff University, Cardiff, UK.
12. 10th International Conference on Teaching Statistics, Kyoto, Japan. July 2018.

²Link: www.frontiersin.org/research-topics/29838/current-research-on-serological-analyses-of-infectious-diseases

13. "Geospatial Child Health and Epidemiology Workshop", Sheffield Hallam University, Sheffield, UK, June 2018.
14. International Workshop on "Geospatial methods for closing the global mortality data divide", Centre for Global Health Research, Toronto, Canada. June 2018.
15. Workshop on "Model-based geostatistics: methods and applications in low-resource settings", Kenya Medical Research Institute, Nairobi. February 2018.
16. Spatial Statistics Conference. July 2017, Lancaster University, Lancaster, UK.
17. Royal Statistical Society, 2017 International Conference. September 2017, Strathclyde University, Glasgow, UK.
18. Royal Statistical Society 2016 International Conference, September 2016, University of Manchester, Manchester, UK.
19. International Workshop on Spatio-Temporal Statistics, April 2016, Imperial College London, London, UK.
20. International Biometric Conference. July 2014, Florence, Italy.
21. Workshop on Non-Gaussian Multivariate Statistical Models and their Applications, May 2013, Banff International Research Station, Banff, Canada.
22. 7th CSDA International Conference on Computational and Financial Econometrics, December 2013, Senate House, University of London, London, UK.

• **Invited talks at external seminars**

1. Seminar on "Combining school-catchment area models with geostatistical models for analysing school survey data from low-resource settings: inferential benefits and limitations" at Department of Geography and Environmental Science, University of Southampton, April 2022.
 2. Seminar on "Combining school-catchment area models with geostatistical models for analysing school survey data from low-resource settings: inferential benefits and limitations" at Department of Statistics, Toronto University, April 2022.
 3. Seminar on "Geostatistical analysis of school malaria data with missing locations", Waterloo University, Canada, 25 November 2021.
 4. Seminar on "Introduction to spatial statistics and modelling ideas on historical data on causes of death in Amsterdam", Roudboud University, The Netherlands, 12 June 2020.
 5. Seminar on "Geostatistical methods for combining multiple indices of animal abundance", University of Sussex, December 2019.
 6. Seminar on "A geostatistical framework for combining spatially referenced disease prevalence data from multiple diagnostics". 7 December 2018, Padua, Italy.
 7. Seminar on "A geostatistical framework for combining spatially referenced disease prevalence data from multiple diagnostics". 27 November 2018, Turin, Italy.
 8. Seminar on "Disease mapping and visualization using spatio-temporally referenced prevalence data". May 2017, Strathclyde University, Glasgow, UK.
 9. Seminar on "Geostatistical methods for prevalence mapping", Colorado University, Denver, USA. February 2017.
 10. Seminar on "Malaria, river-blindness and plague: three case-studies in spatial modelling of tropical diseases". April 2015, London School of Hygiene and Tropical Medicine, London, UK.
- 8 – 10. Seminars on "Combining data from multiple spatially referenced surveys using generalized linear geostatistical models", at: Heriot-Watt University, Edinburgh, UK (October 2013); University of Leeds, Leeds, UK (November 2013); Warwick University, Coventry, UK (June 2014).

• **Contributed talks at international conferences**

1. American Society of Tropical Medicine and Hygiene, November 2014, New Orleans, USA.
2. GEOMED2013, September 2013, The University of Sheffield, Sheffield, UK.

Funding

• Successful grant applications

1. **PI:** Approximating optimal survey designs in low prevalence environments (Porject extension), 2024-2025, EvidenceAction, £68,461
2. **PI:** Geostatistical methods for neglected tropical diseases, TaskForce for Global Health, October 2024 - September 2025, £83,071
3. **PI:** Assessing the impacts of declining vaccination rates on the occurrence of measles in the UK using epidemic models, NHIR, 2024-2026 £103,670.50
4. **PI:** Model-based geostatistics for persistent and recrudescant trachoma, 2023-2024, USAID, £149,187
5. **PI:** Approximating optimal survey designs in low prevalence environments, 2023-2024, Evidence-Action, £90,071
6. **PI:** Spatio-temporal geostatistical methods for malaria mapping in North-East Uganda, 2023-2024, Pilgrim Africa, £15,274 (II Phase)
7. **PI:** "Spatio-temporal modelling of soil transmitted helminths infections", National Institute of Health Research, £98,217, October 2022 - September 2024.
8. **CI:** "Identification of best practices for biodiversity recovery and public health interventions to prevent future epidemics and pandemics", European Commission HORIZON2020, £371,233, September 2022 - December 2026.
9. **PI:** "Model-based geostatistics for global public health", £4,015, Butterfly Awards, Sasakawa Foundation, September 2022.
10. **CI:** "Predicting STH prevalence with minimal re-mapping", Task-Force For Global Health, £126,395, October 2021 - March 2023.
11. **CI:** "Diagnostic algorithms for tuberculosis", Medical Research Council, £31,543, October 2021 - March 2023.
12. **PI:** "Spatio-temporal modelling of leptospirosis infections in slums settlements in Salvador, Brazil", National Institute of Health Research, £97,304, October 2021 - September 2023.
13. **PI:** "Optimizing NTD diagnostics and sampling strategies for low-prevalence settings", TaskForce for Global Health, September 2021 - August 2022, £109,326
14. **PI:** "Geostatistical analysis and design of STH and trachoma prevalence surveys", World Health Organization, April 2021 - December 2022. £55,000
15. **CI:** "Geostatistical inference using spatially misaligned and aggregated data: a novel framework for disease mapping in low-resource settings", Royal Society Interface Newton International Fellowship, March 2021 - March 2024, £103,106
16. **PI:** Spatio-temporal geostatistical methods for malaria mapping in North-East Uganda, 2020-2022, PilgrimAfrica, 66,678
17. **CI:** Mosquito-Borne Disease Prevention in Africa- Network (MosquitoNET), 2019, EPSRC, £3,390
18. **PI:** "A capacity-building platform for advancing biostatistics in Ethiopia, Kenya and Malawi", April 2020-April 2021, Engineering and Physical Science Research Council, £147,885.
19. **CI:** "Predictive Personalized Public Health (P3H): A Novel Paradigm to Treat Infectious Disease", National Institutes of Health, \$96,099 (£71,344), September 2019 - September 2021
20. **PI:** "Spatio-temporal variation of malaria transmission in Africa: modelling, capacity-building and translating research into practice", Academy of Medical Sciences, £57,826 , 2019-2021
21. **CI:** "Loa loa geospatial and post-validation surveillance modelling", 2019, The Taskforce for Global Health, \$142,871.3, 2019-2023
22. **CI:** "NTD Modelling Consortium: moving towards elimination", Bill and Melinda Gates Foundation, \$447,364, 2017-2021
23. **PI:** "Geostatistical methods for disease risk mapping", Medical Research Council Strategic Skills Fellowship in Biostatistics, £256,631 (MR/M015297/1), 2015-2018.

- **Consultancy**

1. "Geostatistical modelling of lymphatic filariasis in Beitung, Indonesia", Whashington University (United States), \$10,000
2. "Geostatistical analysis and survey design for LF control in Papua New Guinea", Case Reserve University (United States), \$10,000
3. "Geo-statistical support and training in the analysis of trachoma data", Sight Savers, £12,942, March - July 2022
4. "Development and implementation of early warning system for malaria in Mozambique". November 2019 - April 2021, Clinton Health Access Initiative, \$15,000
5. "Geostatistical design of soil-transmitted-helminths surveys using", Evidence in Action, 2020, £7,425
6. "Development of an early warning system for dengue in South-East Asia", HR Wallingford, 2019-2021. (Private consultancy for mentoring and training of research staff)
7. "Development of mathematical algorithms and software models for the KoalaBASE dataset", 2018, University of Queensland, £4,500
8. "Technical support to provide malaria risk maps (continuous and by administrative areas) for Tanzania and Mali ", 2018, Department for International Development UK, £10,000
9. "Case-control study on household air pollution and pneumonia in Malawian adults", 2017, Liverpool School of Tropical Medicine, £2,000

Teaching

- **MSc courses**

1. I am an external lecturer for the MPhil in Population Health Sciences delivered at Cambridge University. I have designed the module "Model-based geostatistics" (4-day course) which I delivered in the academic years 2021-22 (April), 2022-23 (March) and 2023-24 (April).
2. I give an annual three-day course (about 16 students) on "Model-based geostatistics for global health" for the MSc in Modelling for Global Health at Oxford University (delivered in March 2023, March 2024).
3. **Geostatistical models** at Lancaster University (2017-18, 2018-19, 2019-20, 2020-21, 2021-22, 2022-23, 2023-24): I have designed and delivered a new two-weeks course (20 hours including lectures and lab sessions) for the Master of Research in Global Health at Lancaster University (15 credits course).
4. **Model-based geostatistics for public health** at Lancaster University (2021-22): I have designed and delivered a new two-weeks course (20 hours including lectures and lab sessions) for the MSc in Health Data Science.
5. **Time-series analysis in epidemiology** at Lancaster University (2021-22, 2022-23, 2023-24): I have designed and delivered a new two-weeks course (20 hours including lectures and lab sessions) for the MSc in Health Data Science at Lancaster University (15 credits course).

- **CPD courses**

1. **Introduction to Model-based Geostatistics for Global Public Health**, Online Workshop, 20-21 April 2021. Teaching material and description of the event available at mbgworkshop2021.netlify.app/
2. **Workshop on Geostatistical Methods for Disease Mapping**, Lancaster University, 3-5 June 2019. I have designed, organized and delivered a three-day training workshop which brought together 28 early career researchers working on disease mapping.

- **Invited lectures and courses**

1. **Invited course on "Geospatial methods for public health and veterinary scientists"** attended by 15 researchers across Australia and Honk Kong, Toowoomba, University of Queensland, 22-25 November 2019.

2. **Introduction to model-based geostatistics for public health applications:** an invited lecture for research staff based at Servizio Sanitario Italiano and the Environmental Protection Agency of the Piedmont Region at the Unit of Cancer Epidemiology in Turin, Italy on 27 November 2018.
 3. **Lectures on Monte Carlo maximum likelihood:** a two-day workshop for MSc and PhD students in the Department of Statistics at the University of Hasselt, Belgium, on 25-26 October 2018.
 4. **Geospatial methods for public health:** invited courses for the European Programme in Epidemiological Education (www.eepe.org/courses) delivered in Florence, Italy, in the following years: 11-12 June 2018; 8-11 July 2019; 4-7 July 2022.
 5. **Invited lecture on geostatistics** for the Doctoral Programme in Statistics, University of Florence Italy, March 2018.
 6. **Geostatistical methods for public health scientists:** Invited short course for the duration of one week in October 2015 at the Malawi-Liverpool Wellcome Trust in Blantyre, Malawi.
 7. **Workshop on geostatistical methods for population health scientists:** Invited course at the International Society for Veterinary Epidemiology and Economics 2014 conference held in November 2015 in Merida, Mexico.
 8. **Geospatial methods for public health applications:** I have co-taught this course with Prof. Peter Diggle at the African Institute for Mathematical Sciences in Tanzania for the academic years 2015-16 and 2016-17.
 9. **Introduction to Statistical Modelling:** Course delivered at the African Institute for Mathematical Sciences in Ghana for the academic year 2016-17.
- **Special study module, Medicine and Surgery MBChB, 2018-19,** "Understanding of risk factors for obesity in south-east Asia". Students: Aaisha Ahmed, Narut Pakunwanich.

Supervision and line management

- **Line management of academic staff**
 1. Dr Jonathan Read, Senior Lecturer (Associate Professor), August 2021 - Now.
 2. Dr Claudio Fronterre, Lecturer (Assistant Professor), August 2021 - Now.
 3. Barry Rowlingson, Senior Research Assistant, August 2021 - Now.
 4. Dr Sam Moore, Lecturer (Assistant professor), April 2023 - Now.
 5. Dr Rihannon Edge, Lecturer (Assistant professor), August 2021 - April 2023.
- **Primary supervision and line management of Research Associates**
 1. Freya Clarke, October 2021 - Now.
 2. Jana Ranchovsky, October 2022 - Now.
 3. Dr Dileepa Ediriweera, September 2022 - Now.
 4. Tom Nicholls, April 2023 - Now
 5. Dr Matthew Timperly, April 2023 - Now
 6. Misaki Sasanami, August 2022 - Now
 7. Dr Amita Puranik, March 2022 - June 2023
 8. Dr Lucinda Hadley, February 2022 - Now
 9. Dr Max Eyre, May 2022 - December 2022.
 10. Jack Woodmansey, January 2020 - June 2020
 11. Dr Benjamin Amoah, October 2018 - August 2021
 12. Dr Claudio Fronterre, March 2019 - June 2021
 13. Dr Olatunji Johnson, October 2019 - August 2021
- **Lancaster Medical School PhD students**

1. Richard Kamwezi, Main Supervisor, 2022-Now.
2. Nirali Soni, Main supervisor, 2022-Now
3. Pablo Ruiz Cueva, Main supervisor, 2022-Now
4. Rachel Mountain, Secondary supervisor, 2020-2024
5. Jessie Khaki, Main supervisor, 2020 - Now.
6. Max Eyre, Main supervisor, 2018-2021
7. Benjamin Amoah, Main supervisor, 2015-2018.
8. Olatunji Johnson, Main supervisor, 2017-2019.
9. Irene Kyomuhangi, Main supervisor, 2017-2021.
10. Beate Ringwald, Secondary supervisor, 2018-2022.
11. Maddy French, Secondary supervisor, 2018-2021

- **Supervision of Lancaster Medical School Visiting PhD students**

1. Patrick K. Kalonde, Liverpool School of Tropical Medicine, April-May, 2024
2. Rachele Vada, University of Turin, April-May, 2024
3. Giorgia Stoppa, University of Padua, April-May, 2023
4. Alejandro Poza, Hasselt University: April-June, 2023; May-June 2024
5. Giovenale Moirano, University of Turin, March-April, 2019
6. Mohammad Moinudding, University of Padua, May-July, 2019
7. Berta Pujol, The Barcelona Institute for Global Health (ISGlobal), April-June, 2019

- **Supervision Lancaster Medical School Visiting Master students**

1. Agnes Nguku, Hasselt University, May-June 2019 (ERASMUS Programme)

- **Supervision External PhD students**

1. Bedilu Alamirrie, Addis Ababa University (Ethiopia), Secondary supervisor, 2018-2021.
2. Yonas Shuke Kitawa, Hawassa University (Ethiopia), Secondary supervisor, 2018-2022.
3. Rebecca Nightingale, Liverpool School of Tropical Medicine, Co-supervisor, 2016-2020.

- **Supervision Lancaster University Master students**

- Master of Research in Global Health: 2019/20 Anna Trett; 2017/18 Max Eyre, Joshua Longbottom, Remy Hoek Spaans, Melodie Samarro, Wanjiku Kagima.
- MSc in Data Science: Luis Bardon-Barnett (2019/20)
- MSc in Statistics: Freya Clarke (2021-22)
- MSc in Health Data Science: Mahi Chowdhury (2021-22), Catherine Ojo (2021-22), Jana Rancovski (2022-23), Prika Huang (2022-23).

- **External Master students**

1. Guy Tsafack (African Institute for Mathematical Sciences - Cameroon), 2019.
2. Grace Ndukukyule (African Institute for Mathematical Sciences - Ghana), 2016.
3. Susan Nabusamba (African Institute for Mathematical Sciences - Ghana), 2016.
4. Mawazo Mtafya (African Institute for Mathematical Sciences - Tanzania), 2016.
5. Olatunji Johnson (African Institute for Mathematical Sciences - Tanzania), 2015.
6. Edwin Moyo (African Institute for Mathematical Sciences - Tanzania), 2015.

Other activities

- **Organizer of the WHO Collaborating Centre Technical Meeting on Geostatistical methods for trachoma elimination** (Lancaster University, 5-6 March 2024). The meeting brought together 38 participants consisting of statisticians, epidemiologists, stakeholders and policy makers from low middle income countries to discuss issues around the application of geostatistical methods to inform trachoma elimination.
- **Organizer of the International Workshop on Disease Mapping in Low-resource Settings**, Lancaster University (14-15 September 2017): I have organized a two-days workshop to bring together internationally leading experts in spatial epidemiology and statistics to discuss public health challenges in Sub-Saharan Africa.
- **Member of the scientific committees** for the following conferences: Spatial Statistics 2017 (Lancaster University, September 2017), UK; 7th Channel Network Conference (Rothamsted Research, July 2019); 29th International Environmetrics Society (TIES) Conference, September 2020, Imperial College London, UK; GEOMED2024, Hasselt, September 2024, University, Belgium.
- I have acted as an **External PhD examiner** for the following theses.
 1. "Efficient Spatial and Temporal Learning with Sparse Spectral Gaussian Processes", Jeremy Selier, University College London. (February, 2024)
 2. "Statistical Modelling with Additive Gaussian Process Priors" by Sahoko Ishida, London School of Economics, London, UK (November, 2023)
 3. "A statistical framework to adapt traditional spatial and temporal methods to non-standard specialized large databases" by Oana Petrof, Hasselt University, Belgium. (November, 2022)
 4. "Statistical Computing With Graphics Processing Units" by Ruoyong Xu, University of Toronto, Canada. (December, 2022)
 5. "Modelling the Spatio-temporal Heterogeneity of Malaria in Sub-Saharan Africa" submitted to the Open University by Polycarp Kambona Mogeni, The Open University, UK. (September, 2017)
- **Internal examiner:** Poppy Miller (PhD in Statistics and Epidemiology), Lisa Koeppel (PhD in Statistics and Epidemiology), Alison Hale (MSc in Statistics), Jude Kum (MSc in Data Science), Thomas Ian Lidgard (MSc in Statistics).
- I am frequently invited to carry out peer-review of manuscripts submitted to high-impact journals, including Nature, Proceedings of the National Academy of Science, eLife, Journal of the Royal Statistical Society and Biometrics.
- Organizer of the seminars for the CHICAS research group (2016 - now).