Dr. Felipe J Colón-González

London School of Hygiene &Tropical Medicine

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Education and Qualifications

2013	**PhD in Environmental Sciences (Climate Change and Human Health),** University of East Anglia, UK
2008	**MSc in Environmental Sciences,** University of East Anglia, UK - Awarded 2008
1998	**BSc in Veterinary Medicine,** National Autonomous University of Mexico, Mexico

Work Experience

2020 –Present	**Assistant Professor,** London School of Hygiene & Tropical Medicine, UK
2019 – 2020	**Research Fellow in Dengue Modelling,** London School of Hygiene & Tropical Medicine, UK
2015 – 2019	**Senior Research Associate,** University of East Anglia, UK
	Health Protection Research Unit in Emergency Preparedness and Response (NIHR)
2012 – 2015	**Postdoctoral Fellow,** Abdus Salam International Centre for Theoretical Physics ICTP, Italy
2004 – 2007	**Full-time Teacher (Science),** Monterrey Institute of Technology and Higher Education ITESM, Mexico
1998 – 2007	**Veterinary Surgeon,** Multiple veterinary practices and one livestock committee, Mexico

Research Summary

- Outstanding cross-disciplinary research record including studies on climate impacts on vector-borne disease risk and geo-spatial analyses of infectious disease data.
- Multiple REF2021-returnable papers.
- Strong publication record with papers published in PLoS Medicine, Proceedings of the Natural Academy of Science USA, and PLoS Neglected Tropical Diseases. H-index of 10 (Scopus). Two papers cited 738 and 247 times.

Publications (n = 1321 Scopus citations)

Journal Articles

2021

- **Colón-González, FJ**.; Soares Bastos, L. ; Hofmann, B. ; Hopkin, A. ; Harpham, Q. ; Crocker, T. ; Amato, R. ; Ferrario, I. ; Moschini, F. ; James, S. ; Malde, S. ; Ainscoe, E. ; Sinh Nam, V. ; Quang Tan, D. ; Duc Khoa, N. ; Harrison, M. ; Tsarouchi, G. ; Lumbroso, D. ; Brady, OJ. ; Lowe, R. ; Probabilistic seasonal dengue forecasting in Vietnam: A modelling study using superensembles. *PLoS Medicine*, (2021).*18* (3), DOI: 10.1371/journal.pmed.1003542. (n = 0)

2020

- **Colón-González, FJ**; Soares Bastos, L. ; Hofmann, B. ; Hopkin, A. ; Harpham, Q. ; Crocker, T. ; Amato, R. ; Ferrario, I. ; Moschini, F. ; James, S. ; Malde, S. ; Ainscoe, E. ; Nam, VS. ; Tan, DQ. ; Khoa, ND. ; Harrison, M. ; Tsarouchi, G. ; Lumbroso, D. ; Brady, O. ; Lowe, R. ; Probabilistic seasonal dengue forecasting in Vietnam using superensembles. (2020).DOI: 10.1101/2020.05.20.20108019. Pre-print (n = 0)
- Ashmore, P. ; Lindahl, JF. ; **Colón-González, FJ**. ; Sinh Nam, V. ; Quang Tan, D. ; MEDLEY, GF. ; Spatiotemporal and Socioeconomic Risk Factors for Dengue at the Province Level in Vietnam, 2013-2015: Clustering Analysis and Regression Model. *Tropical medicine and infectious disease*, (2020).*5* (2), DOI: 10.3390/tropicalmed5020081. (n = 1)
- Hunter, P. ; **Colón-González, FJ.** ; Brainard, J. ; Rushton, S. ; Impact of non-pharmaceutical interventions against COVID-19 in Europe: A quasi-experimental study. (2020).DOI: 10.1101/2020.05.01.20088260. Pre-print (n = 0)
- Morrison, KE. ; **Colón-González, FJ**. ; Morbey, RA. ; Hunter, PR. ; Rutter, J. ; Stuttard, G. ; De Lusignan, S. ; Yeates, A. ;

Pebody, R. ; Smith, G. ; Elliot, AJ. ; Lake, IR. ; Demographic and socioeconomic patterns in healthcare-seeking behaviour for respiratory symptoms in England: a comparison with non-respiratory symptoms and between three healthcare services. *BMJ OPEN*, (2020).*10* (11), DOI: 10.1136/bmjopen-2020-038356. (n = 0)

- Todkill, D. ; **Colón-González, FJ**. ; Morbey, R. ; Charlett, A. ; HAJAT, S. ; KOVATS, S. ; Osborne, NJ. ; McInnes, R. ; Vardoulakis, S. ; Exley, K. ; Edeghere, O. ; Smith, G. ; Elliot, AJ. ; Environmental factors associated with general practitioner consultations for allergic rhinitis in London, England: a retrospective time series analysis. *BMJ OPEN*, (2020).*10* (12), DOI: 10.1136/bmjopen-2019-036724. (n = 0)

2019

- Djennad, A. ; Lo Iacono, G. ; Sarran, C. ; Lane, C. ; Elson, R. ; Höser, C. ; Lake, IR. ; **Colón-González, FJ.** ; Kovats, S. ; Semenza, JC. ; Bailey, TC. ; Kessel, A. ; Fleming, LE. ; Nichols, GL. ; Seasonality and the effects of weather on Campylobacter infections. *BMC Infectious Diseases*, (2019).*19* (1), DOI: 10.1186/s12879-019-3840-7. (n = 4)
- Hunter, PR. ; **Colón-González, FJ**. ; Brainard, J. ; Majuru, B. ; Pedrazzoli, D. ; Abubakar, I. ; Dinsa, G. ; Suhrcke, M. ; Stuckler, D. ; Lim, T-A. ; Semenza, JC. ; Can economic indicators predict infectious disease spread? A cross-country panel analysis of 13 European countries. *Scandinavian Journal of Public Health*, (2019).*48* (4), 351-361. DOI: 10.1177/1403494819852830. (n = 4)
- Jones, NR. ; Agnew, M. ; Banic, I. ; Grossi, CM. ; **Colón-González, FJ.** ; Plavec, D. ; Goodess, CM. ; Epstein, MM. ; Turkalj, M. ; Lake, IR. ; Ragweed pollen and allergic symptoms in children: Results from a three-year longitudinal study. *Science of the Total Environment*, (2019).*683*, 240-248. DOI: 10.1016/j.scitotenv.2019.05.284. (n = 3)
- Lake, IR. ; **Colón-González, FJ.** ; Barker, GC. ; Morbey, RA. ; Smith, GE. ; Elliot, AJ. ; Machine learning to refine decision making within a syndromic surveillance service. *BMC Public Health*, (2019).*19* (1), DOI: 10.1186/s12889-019-6916-9. (n = 2)
- Lake, IR. ; **Colón-González, FJ**. ; Takkinen, J. ; Rossi, M. ; Sudre, B. ; Dias, JG. ; Tavoschi, L. ; Joshi, A. ; Semenza, JC. ; Nichols, G. ; Exploring Campylobacter seasonality across Europe using The European Surveillance System (TESSy), 2008 to 2016. *Eurosurveillance*, (2019).*24* (13), DOI: 10.2807/1560-7917.ES.2019.24.13.180028. (n = 10)
- Noufaily, A. ; Morbey, RA. ; **Colón-González, FJ**. ; Elliot, AJ. ; Smith, GE. ; Lake, IR. ; McCarthy, N. ; Comparison of statistical algorithms for daily syndromic surveillance aberration detection. *Bioinformatics*, (2019).*35* (17), 3110-3118. DOI: 10.1093/bioinformatics/bty997. REF: Compliant
- Tompkins, AM. ; **Colón-González, FJ**. ; Di Giuseppe, F. ; Namanya, DB. ; Dynamical Malaria Forecasts Are Skillful at Regional and Local Scales in Uganda up to 4 Months Ahead. *GeoHealth*, (2019).*3* (3), 58-66. DOI: 10.1029/2018GH000157. (n = 3)

2018

- **Colón-González, FJ**. ; Harris, I. ; Osborn, TJ. ; Steiner São Bernardo, C. ; Peres, CA. ; Hunter, PR. ; Lake, IR. ; Limiting global-mean temperature increase to 1.5-2 °C could reduce the incidence and spatial spread of dengue fever in Latin America. *Proceedings of the National Academy of Sciences of the United States of America*, (2018).*115* (24), 6243-6248. DOI: 10.1073/pnas.1718945115. (n = 13)
- **Colón-González, FJ**. ; Lake, IR. ; Morbey, RA. ; Elliot, AJ. ; Pebody, R. ; Smith, GE. ; A methodological framework for the evaluation of syndromic surveillance systems: a case study of England. *BMC Public Health*, (2018).*18* (1), DOI: 10.1186/s12889-018-5422-9. (n = 5)
- Hughes, HE. ; **Colón-González, FJ**. ; Fouillet, A. ; Elliot, AJ. ; Caserio-Schonemann, C. ; Hughes, TC. ; Gallagher, N. ; Morbey, RA. ; Smith, GE. ; Thomas, DR. ; Lake, IR. ; The influence of a major sporting event upon emergency department attendances; A retrospective cross-national European study. *PloS One*, (2018).*13* (6), DOI: 10.1371/journal.pone.0198665. (n = 6)

2017

- **Colón-González, FJ**. ; Peres, CA. ; Steiner São Bernardo, C. ; Hunter, PR. ; Lake, IR. ; After the epidemic: Zika virus projections for Latin America and the Caribbean. *PLoS Neglected Tropical Diseases*, (2017).*11* (11), DOI: 10.1371/journal.pntd.0006007. (n = 28)
- (19) Elliot, AJ. ; Morbey, R. ; Edeghere, O. ; Lake, IR. ; Colón-González, FJ. ; Vivancos, R. ; Rubin, GJ. ; O'Brien, SJ. ; Smith, GE. ; Developing a Multidisciplinary Syndromic Surveillance Academic Research Program in the United Kingdom: Benefits for Public Health Surveillance. *Public Health Reports*, (2017).*132* (1_supp), 111S-115S. DOI: 10.1177/0033354917706953. (n = 0)

2016

- **Colón-González, FJ**. ; Tompkins, AM. ; Biondi, R. ; Bizimana, JP. ; Namanya, DB. ; Assessing the effects of air temperature and rainfall on malaria incidence: an epidemiological study across Rwanda and Uganda. *Geospatial Health*, (2016).*11* (1 Suppl), DOI: 10.4081/gh.2016.379. (n = 20)

2014

- Bouzid, M. ; **Colón-González, FJ**. ; Lung, T. ; Lake, IR. ; Hunter, PR. ; Climate change and the emergence of vector-borne diseases in Europe: case study of dengue fever. *BMC Public Health*, (2014).*14*, DOI: 10.1186/1471-2458-14-781. (n = 68)
- Caminade, C. ; Kovats, S. ; Rocklov, J. ; Tompkins, AM. ; Morse, AP. ; Colón-González, FJ. ; Stenlund, H. ; Martens, P. ; LLOYD, SJ. ; Impact of climate change on global malaria distribution. *Proceedings of the National Academy of Sciences*, (2014).*111* (9), 3286-3291. DOI: 10.1073/pnas.1302089111. (n = 247)

2013

- **Colón-González, FJ.** ; Fezzi, C. ; Lake, IR. ; Hunter, PR. ; The effects of weather and climate change on dengue. *PLoS Neglected Tropical Diseases*, (2013).*7* (11), DOI: 10.1371/journal.pntd.0002503. (n = 91)
- Piontek, F. ; Müller, C. ; Pugh, TA M. ; Clark, DB. ; Deryng, D. ; Elliott, J. ; **Colón González, FJ**. ; Flörke, M. ; Folberth, C. ; Franssen, W. ; Frieler, K. ; Friend, AD. ; Gosling, SN. ; Hemming, D. ; Khabarov, N. ; Kim, H. ; Lomas, MR. ; Masaki, Y. ; Mengel, M. ; Morse, A. ; Neumann, K. ; Nishina, K. ; Ostberg, S. ; Pavlick, R. ; Ruane, AC. ; Schewe, J. ; Schmid, E. ; Stacke, T. ; Tang, Q. ; Tessler, ZD. ; Tompkins, AM. ; Warszawski, L. ; Wisser, D. ; Schellnhuber, HJ. ; Multisectoral climate impact hotspots in a warming world. *Proceedings of the National Academy of Sciences of the United States of America*, (2013).*111* (9), 3233-3238. DOI: 10.1073/pnas.1222471110. (n = 102)
- Schewe, J. ; Heinke, J. ; Gerten, D. ; Haddeland, I. ; Arnell, NW. ; Clark, DB. ; Dankers, R. ; Eisner, S. ; Fekete, BM. ; **Colón-González, FJ**. ; Gosling, SN. ; Kim, H. ; Liu, X. ; Masaki, Y. ; Portmann, FT. ; Satoh, Y. ; Stacke, T. ; Tang, Q. ; Wada, Y. ; Wisser, D. ; Albrecht, T. ; Frieler, K. ; Piontek, F. ; Warszawski, L. ; Kabat, P. ; Multimodel assessment of water scarcity under climate change. *Proceedings of the National Academy of Sciences of the United States of America*, (2013).*111* (9), 3245-3250. DOI: 10.1073/pnas.1222460110. (n = 738)

2011

- **Colón-González, FJ**. ; Lake, IR. ; Bentham, G. ; Climate variability and dengue fever in warm and humid Mexico. *The American journal of tropical medicine and hygiene*, (2011).*84* (5), 757-763. DOI: 10.4269/ajtmh.2011.10-0609. (n = 69)

Conference Proceedings

2019

- Tompkins AM, **Colón-González FJ**, Di Giuseppe F, Namanya D (2019). Malaria Early Warning in Uganda using ECMWF S2S and Seasonal Climate Forecasts. European Geosciences Union General Assembly 2019. Geophysical Research Abstracts, 21:13635.

2016

- **Colón-González FJ,** Lake I, Barker G, Smith GE, Elliot AJ, Morbey R (2016). Using Bayesian Networks to Assist Decision-Making in Syndromic Surveillance. ISDS 2015 Conference. Online Journal of Public Health Informatics. 8:6415.
- Lake I, **Colón-González FJ**, Morbey R, Elliot AJ, Smith GE, Pebody R (2016). Evaluating Syndromic Surveillance Systems. ISDS 2015 Conference. Online Journal of Public Health Informatics. 8:6547.
- Morbey RA, Elliot AJ, Smith GE, Lake IR, **Colón-González FJ** (2016). Using Scenarios and Simulations to Validate Syndromic Surveillance Systems. ISDS 2015 Conference. Online Journal of Public Health Informatics. 8:6558.

2014

- Tompkins AM, Di Giuseppe F, **Colón-González FJ**, Chirombo J, Bizimana JP, Namanya D (2014). A dynamical climate-driven malaria early warning system evaluated in Uganda, Rwanda and Malawi. European Geosciences Union General Assembly 2014. Malaria Journal. 13:P99.
- Tompkins AM, Caporaso L, **Colón-González FJ** (2014). Assessing the potential impact and uncertainty of climate, land use change and demographic trends on malaria transmission in Africa by 2050. EGU General Assembly 2014, Vienna, Austria. Geophysical Research Abstracts. 16:5592.
- Tompkins AM, Di Giuseppe F, **Colón-González FJ**, Namanya DB, Friday A (2014). Potential for malaria seasonal forecasting in Africa. EGU General Assembly 2014. Geophysical Research Abstracts. 16:5523.

Technical Reports

- Tompkins AM, Di Giuseppe F, **Colón-González FJ**, Namanya DB (2016). Forecasting malaria transmission: Finding the basis

for making district-scale predictions in Uganda: Case Study 5.J. In: Climate Services For Health: Improving public health decision-making in a new climate. 130-131. WMO-WHO Joint Office for Climate and Health. Geneva. Published 9 Jun 2016. ISBN Pending.

Professional Development in Research

- **EPH Grants Application Programme,** London School of Hygiene & Tropical Medicine (2020-2021)
- **Science Communication School,** Island of Meetings and the Abdus Salam International Centre for Theoretical Physics, Trieste, Italy (2019)
- **Copernicus European Health Workshop,** European Centre for Medium Range Weather Forecasts and Vito, Brussels (2019)
- **Writing Targeted Grant Proposals,** LSHTM (2019)
- **Quality Papers,** LSHTM (2019)
- **BigML,** LSHTM (2019)
- **ISI-MIP Health Sector Workshop,** Potsdam Institute for Climate Impact Research (PIK), Barcelona, Spain (2018).
- **Introduction to the Tidyverse,** DataCamp, (2019).
- **Generalised Additive Models in R,** DataCamp (2019).
- **Python for Environmental Research,** University of East Anglia, Norwich, UK (2018)
- **Statistical methods and programming skills in R** - Stanford Lagunita (2017-2018).
- **Writing grant proposals,** University of East Anglia (2016).
- **Data Science specialization**, John Hopkins University - Coursera (2015-2017).

Selected Research dissemination

- **ASHTM Annual Meeting.** Probabilistic dengue forecasting using Earth observations and seasonal climate models: A case study in Vietnam, Maryland USA (Virtual meeting) (2020)
- **Centre for the Mathematical Modelling of Infectious Diseases** Using Remote Sensing to Forecast Dengue Risk in Vietnam, LSHTM, London, UK (2019)
- **Centre for the Mathematical Modelling of Infectious Diseases** Using Remote Sensing to Forecast *Aedes* presence in the USA, LSHTM, London, UK (2019)
- **Royal Entomological Society Ento'19** Using Remote Sensing to Forecast Dengue Risk, London, UK (2019)
- **Stakeholder Workshop on Seasonal Forecasting of Dengue Risk in Vietnam** Forecast Dengue Risk in Vietnam, Dak Lac and Nha Trang, Vietnam (2019)
- **XVII Symposium of Mexican Studies and Students in the UK** Health Benefits of Limiting Climate Change. Cambridge, UK (2019)
- **2nd Conference on Impact of Environmental Changes on Infectious Diseases** What next? Statistical projections of post-epidemic Zika virus infection in Latin America and the Caribbean, Trieste, Italy (2017)
- **17 International Medical Geography Symposium** High-resolution projections of the geographical distribution, health and economic burden of post-epidemic Zika virus infection across Latin America, Angers, France (2017).
- **Workshop on Mathematical Models of Climate Variability, Environmental Change and Infectious Diseases** Using Mathematical Models for the Evaluation of Syndromic Surveillance Systems in England, Trieste, Italy (2017).
- **Tyndall Centre for Climate Change Research - Brownbag Session** Statistical projections of post-epidemic Zika virus infection in Latin America and the Caribbean, Norwich, UK (2017).
- **International Society for Disease Surveillance** Using Bayesian networks to assist decision-making in syndromic surveillance, Denver, USA (2015)
- **1st Conference on Impact of Environmental Change on Infectious Diseases** The potential emergence of dengue in Europe: risk estimation under increasing greenhouse gas concentration scenarios. Sitges, Spain (2015)

Professional development in research

- **EPH Grants Application Programme,** London School of Hygiene & Tropical Medicine (2020-2021)
- **Science Communication School,** Island of Meetings and the Abdus Salam International Centre for Theoretical Physics, Trieste, Italy (2019)
- **Copernicus European Health Workshop,** European Centre for Medium Range Weather Forecasts and Vito, Brussels (2019)
- **Writing Targeted Grant Proposals,** LSHTM (2019)
- **Quality Papers,** LSHTM (2019)
- **BigML,** LSHTM (2019)
- **ISI-MIP Health Sector Workshop,** Potsdam Institute for Climate Impact Research (PIK), Barcelona, Spain (2018).
- **Introduction to the Tidyverse,** DataCamp, (2019).
- **Generalised Additive Models in R,** DataCamp (2019).
- **Python for Environmental Research,** University of East Anglia, Norwich, UK (2018)

- **Statistical methods and programming skills in R** - Stanford Lagunita (2017-2018).
- **Writing grant proposals,** University of East Anglia (2016).
- **Data Science specialization**, John Hopkins University - Coursera (2015-2017).

Teaching and Assessment

LSHTM – (Taught)

- Principles of Biostatistics and Epidemiology, (2019-Present), Level 7, Tutor DL, Examiner
- Introduction to Spatial Analysis in R (Short course), (2019) Level 8, Facilitator

LSHTM – (Content prepared but delivery postponed due to COVID-19)

- Spatial Epidemiology in Public Health, (2020), Level 7, Lecturer and Seminar Facilitator
- Epidemiology & Control of Communicable Diseases, (2020) Level 7, Facilitator

University of East Anglia

- Introduction to R for non-programmers, (2016, 2017, 2018) Level 8, Lecturer
- Reproducible Research with R, (2016, 2017) Level 8, Lecturer

Educational Development and Innovation

- **Organised and delivered** tutorials on the use of Bash scripting and shell language for code automation. Planetary Health and Infectious Disease Group (PHID), London School of Hygiene & Tropical Medicine, UK (March 2021) – 8 attendees. Organiser and Facilitator.
- **Organised and delivered** tutorials on the use of Climate Data Operators (CDO), a specialised software to manipulate and analyse geospatial data. Planetary Health and Infectious Disease Group (PHID), London School of Hygiene & Tropical Medicine, UK (November 2020) – 8 attendees. Organiser and Facilitator.
- **Co-organised** a massive open online course (MOOC) on Climate Informed Decision Support Tools for Public Health. World Health Organization and Panamerican Health Organization. (2020) – estimated 100 attendees. Co-organiser and Lecturer. The course will introduce learners to multiple resources and analytic tools to investigate the effects of climate and environmental change on human health.
- **Organised and delivered** courses on R programming for Postgraduate Researchers and Staff using blended learning methods. University of East Anglia, UK (2016, 2017, 2018) – 35 attendees per course. Organiser and Lecturer. The course provided with a hands-on experience to learners to facilitate their first steps towards programming with R.
- **Organised and delivered** courses on Reproducible Research with R using digital technology and problem-based learning methods. University of East Anglia, UK (2016, 2017) – 15 attendees per course. Organiser and Lecturer. The course used problem-based learning to introduce learners to the importance of reproducibility in research. Peer-review was used to evaluate the reproducibility of the code developed by each attendant during the course.
- **Co-organised, developed learning materials, and lectured** for two workshops on mathematical models of climate, environmental change and infectious diseases. Abdus Salam International Centre for Theoretical Physics, Trieste, Italy (2013 and 2017) – 30 attendees mainly from LMICs. Co-organiser, Lecturer and Facilitator. Developed materials using a blended learning approach. Learners had to work in teams and use their new skills and knowledge in a project to model the spatial, temporal or spatiotemporal patterns of an infectious disease.
- **Co-organised, developed learning materials, and lectured** for the School on Modelling Tools and Capacity Building in Climate and Public Health. Abdus Salam International Centre for Theoretical Physics (2013) – 30 attendees. Co-organiser, Lecturer and Facilitator. Learners had to work in teams and use the newly acquired skills to investigate the effects of environmental change on real-world health data sets.

Education Leadership

LSHTM

- **Co-organiser** of the LSHTM short-course on modelling of infectious disease risk in a changing climate with Rachel Lowe and Leonardo Soares Bastos using blended learning methods (https://www.lshtm.ac.uk/study/courses/short-courses/modelling-infectious-diseases-climate-change). LSHTM (2020) – estimated 30 attendees. Co-organiser, Lecturer and Facilitator. (Postponed to 2022 due to COVID-19)

World Health Organization

- **Co-organiser** of a massive open online course (MOOC) on Climate Informed Decision Support Tools for Public Health for WHO and PAHO. WHO (2020-2021) – Expected over 100 attendees. Co-organiser and Lecturer.

Professional Development in Education

- **Postgraduate Certificate in Learning and Teaching (PGCILT),** LSHTM (Mach 2020 cohort)
- **Introduction to Learning and Teaching at a Distance,** LSHTM, (2020)

- **Introduction to Marking and Feedback,** LSHTM (2020)
- **Doctoral Supervision Training,** LSHTM (2019)
- **Teaching skills**, University of East Anglia, Norwich, UK (2015)

Internal Contribution within LSHTM

- **Bullying and Harassment Advisor** (2020 to present)
- **Learning Mentor** (2020-present)
- **Member of the Planetary Health and Infectious Disease group** (2019-Present)
- **R user group** (2019-Present)

External Contributions

- **Topical Editor**, Tropical Medicine and Infectious Disease Journal (2020-present).
- **Reviewer** for a range of journals including PLoS Neglected Tropical Diseases, PLoS One, PLoS Computational Biology, EcoHealth, Tropical Medicine and Infectious Disease, Climatic Change, Journal of Water and Health, and BMC Public Health (2014-present).
- **Member of the WHO Expert Group on Using Climate and Weather Information for Predicting and Preparing for Cholera and VBD**, Geneva, Switzerland (2019-Present).
- **Advisor** to the Health Protection Research Unit (HPRU) in Emergency Preparedness and Response, NIHR, UK (2020-present)
- **Contributor** to the Inter-Sectoral Impact Model Intercomparison Project, modelling the potential impacts of climate change on vector-borne disease risk, Potsdam, Germany (2012-2015, 2020-present)
- **Honorary Contractor for Academic Public Health Non-Medical Staff**, Public Health England on modelling syndromic surveillance data for early warning (2016-2019).