

ASSISTANT PROFESSOR



Job Title:	Assistant Professor in Spatial Statistics and Epidemiology
Department:	Disease Control
Faculty:	Infectious and Tropical Diseases
Location:	London
FTE:	Full time (1.0)
Grade:	AP7
Accountable to:	Dean of Faculty through the Head of Department
Job Summary:	Assistant Professor in Spatial Statistics and Epidemiology, working as part of a collaborative team conducting research on the epidemiology and control of neglected tropical diseases (NTDs) in sub-Saharan Africa. This work forms a core component of our collaboration with the NTD Modelling Consortium. The post holder will be responsible for leading the development and implementation of appropriate statistical methods to quantify the spatial distribution of NTDs, including helminthic diseases and trachoma, and for evaluating alternative sampling and surveillance strategies. They will also be required to: foster ongoing research collaborations, lead writing of publications, support the development of early-career researchers within the group, contribute to teaching/lecturing at LSHTM.

GENERAL INFORMATION

The London School of Hygiene & Tropical Medicine

The London School of Hygiene & Tropical Medicine is a world-leading centre for research and postgraduate education in public and global health. Our mission is to improve health and health equity in the UK and worldwide; working in partnership to achieve excellence in public and global health research, education and translation of knowledge into policy and practice.

Founded in 1899, the School has expanded in recent years at its two main sites on Keppel Street and Tavistock Place. Our staff, students and alumni work in more than 150 countries in government, academia, international agencies and health services. Research income has grown to more than £110 million per year from national and international funding sources including UK government and research councils, the European Union, the Wellcome Trust, Gates Foundation and other philanthropic sources. The School's multidisciplinary expertise includes clinicians, epidemiologists, statisticians, social scientists, molecular biologists and immunologists, and we work with partners worldwide to support the development of teaching and research capacity.

Our education provision has expanded to more than 1,000 London-based Master's and Research students, 3,000 studying postgraduate courses by distance learning, and 1,000 each year on short courses and continuous professional development. Our free online courses (MOOCs) are studied by more than 30,000 participants globally.

The School performs well in various global university league tables. In the US News Best Global Universities Ranking 2017, we are ranked sixth in the world (together with Oxford University) in the fields of social sciences and public health. In the 2016 CWTS Leiden Ranking, the School was ranked fifth in the world for research impact across all disciplines, based on the share of institutions' outputs within the top 1% of papers by citation in all areas of science and independent of size of output.

The School was named University of the Year 2016 by Times Higher Education, in recognition of our response to the Ebola epidemic. The School is a member of the M8 Alliance of Academic Health Centres, Universities and National Academies, the Association of Schools of Public Health

in the European Region, and the Consortium of Universities for Global Health.

FACULTY INFORMATION

The Faculty of Infectious and Tropical Diseases encompasses all of the laboratory-based research in the School as well as that on the clinical and epidemiological aspects of infectious and tropical diseases. It is headed by Brendan Wren, who is **Professor of Microbial Pathogenesis**. The range of disciplines represented in the faculty is very broad and inter-disciplinary research is a feature of much of our activity. The spectrum of diseases studied is wide and there are major research groups with a focus on malaria, tuberculosis, HIV/AIDS and other sexually transmitted diseases, vaccine development and evaluation, and vector biology and disease control. The Faculty is organised into four large research departments comprising: Pathogen Molecular Biology, Immunology and Infection, Disease Control, and Clinical Research. There is close interaction between scientists in different research teams. The Faculty has strong overseas links, which provide a basis for field studies and international collaborations in developed and developing countries. The teaching programme includes MSc courses, taught in-house and by

distance learning, which are modular in structure, a variety of short-courses and an active doctoral programme (PhD and DrPH). For further information on the Faculty see:

<http://www.lshtm.ac.uk/itd/index.html>.

Department of Disease Control (Head: Professor James Logan)

The Department of Disease Control is a multidisciplinary, cross-cutting department, operating in a global context and committed to excellence in research, innovation, learning and engagement. We have an outstanding reputation for internationally competitive research and teaching excellence, with demonstrable impact in the control of diseases, worldwide. Our diverse scientific staff comprises entomologists, epidemiologists, mathematical modellers, geographers, public health engineers, hygiene specialists, social scientists, engineers, statisticians and clinical scientists. We also have a strong team of project administrators, coordinators, managers, and communication specialists, who provide expert support to our research programmes in the UK and overseas. We are a highly collaborative Department, with extensive partnerships and collaborations with researchers from many countries and organisations around the world, as well as internally, with multiple School Departments. Our work cuts across several School Centres such as the Vaccine Centre, the Malaria Centre, Centre for Evaluation and the MARCH Centre.

Our staff play influential roles as consultants and key advisors to organisations including the WHO, CDC, Malaria Consortium, Public Health England, Department of Health, DFID, Bill and Melinda Gates Foundation, the Royal Society, Research Councils, Academy of Medical Sciences, the World Bank, Governments and private sector manufacturers and innovators, amongst many others. Our range of expertise provides us with an impressive set of tools for addressing the control of diseases that are insect-borne, water-borne or associated with poor hygiene – mostly in low- and middle-income countries. Much of our research is directed at current health policy issues and addressing gaps between policy and practice.

Teaching

The School offers 18 one year full-time taught courses leading to the Master of Science (MSc) degree of the University of London and the Diploma of the London School of Hygiene and Tropical Medicine (DLSHTM). The Faculty of Infectious and Tropical Diseases runs or contributes substantially to ten of these courses and the “Immunology of Infectious Diseases” course is run from within the Department of Immunology and Infection. In addition, the Faculty is responsible for the three-month Diploma in Tropical Medicine and Hygiene (DTM&H), the Diploma in Tropical Nursing and offers a range of specialist short courses lasting usually one or two weeks. Six MSc courses are also offered by Distance Learning, including one on Infectious Diseases.

Research Training

The School offers two doctoral training programmes. The MPhil/PhD degrees are designed for those who wish to go on to a full time research career. The DrPH is directed towards those who expect their careers to be more in the practice of public health.

Project information

Neglected tropical diseases (NTDs) are a diverse group of tropical diseases that mostly affect the poor. In recent years real progress has been made in reducing the disease burden due to NTDs. Quantifying how the spatial patterns of NTDs have changed is important to understand how much of this change is due to specific interventions and how risks might change as strategies in control evolve in the future. Furthermore, as progress in control is made, it is important to identify the best approach to the monitoring and surveillance of NTDs. The successful applicant will help develop innovative techniques to analyse the changing spatial distribution of NTDs and develop simulation algorithms to evaluate alternative sampling and surveillance strategies.

The portfolio of duties outlined below will vary in accordance with the detailed expectations of the role and any additional role to which you are formally appointed (attached), all of which may be varied from time to time, and as agreed at your annual Performance and Development Review (PDR).

JOB DESCRIPTION

Main Activities and Responsibilities

1. Undertake innovative applied spatial analysis of disease distributions exploring geo-statistical and machine learning approaches, addressing issues such as sampling bias and diagnostic sensitivity/specificity.
2. Develop and implement new computational and statistical methods, including simulation algorithms to generate epidemiologically realistic data and evaluate alternative sampling and surveillance strategies.
3. To foster dynamic research collaborations with mathematical modellers from the NTD Modelling Consortium, providing inputs to spatial transmission models and using outputs from these activities to address further research questions.
4. Work with global and in-country end users of the research to better understand their technical requirements and programmatic needs.
5. Lead the writing of scientific reports aimed at multiple audiences as well as manuscripts for publication in peer-reviewed journals.
6. Provide high-level analytical support to the wider research group and mentorship of junior researchers
7. To contribute to curriculum development and teaching on the LSHTM MSc Module Spatial Epidemiology in Public Health

KNOWLEDGE GENERATION

1. To deliver high quality research & scholarship in your field of study, individually and in collaboration with others, by applying for external grants/fellowships from good¹ research funders, and publishing peer-reviewed outputs as lead and co-author;
2. To contribute to research degree student supervision;
3. To manage research grants and promote and ensure compliance with good practice in relation to the conduct of research, the ethics policy, and other relevant School policies;
4. To support the development of early-career researchers.

EDUCATION

1. To deliver high quality, research-informed teaching and assessment in relation to your specific subject and within the broader area covered by your department/disciplinary field,;
2. To contribute to the improvement of the quality of the School's education, by participating in the development of new and updated learning and, teaching materials or approaches, and/or improving assessment practices, and/or improving aspects of the student experience;

¹ Good research funders are: Research Councils; Government Departments; NIHR; National and overseas charities recognised by HEFCE for QR; Overseas research councils or equivalent including NIH; EU; other agencies (eg NGOs, commercial companies) supporting commissioned research that is consistent with School's mission and meets School's cost recovery targets

3. To support educational leadership and management by active participation in selected aspects of the curriculum, as appropriate, and by collaborating with professional services staff, centrally and in the Faculty, in carrying out relevant administrative processes.

INTERNAL CONTRIBUTION

1. To undertake activities that support the Department, Faculty or School, including Committee membership;
2. To participate in own PDR and undertake those of others.

EXTERNAL CONTRIBUTION

1. To demonstrate good external citizenship by contributing to the external academic community;
2. To promote knowledge translation and enterprise by participating in networks and activities that disseminate research-based knowledge beyond academia.

PROFESSIONAL DEVELOPMENT & TRAINING

1. To keep up-to-date with the latest research/thinking in your academic field and with changes to pedagogic practice within the School and more generally;
2. To undertake and successfully complete the mandatory training required by the School appropriate to the role.

GENERAL

All academic staff are free within the law to question and test received wisdom, and put forward new ideas and controversial or unpopular opinions, to enable the School to engage in research and promote learning to the highest possible standards.

All staff at LSHTM are also expected to:

1. Act at all times in the School's best interests;
2. Treat School staff, students and visitors with courtesy and respect at all times;
3. Comply fully with School policies, procedures and administrative processes relevant to the role including when acting as Principal Investigator, accepting academic, managerial, financing and ethical responsibility for a project;
4. Uphold and support the School's values (as set out in the School Strategy document);
5. Act as ambassadors for the School when hosting visitors or attending external events.

The above list of duties is not exclusive or exhaustive and the role holder will be required to undertake such tasks as may reasonably be expected within the scope and grading of the role.

Role descriptions should be regularly reviewed to ensure they are an accurate representation of the role.

[SEPTEMBER 2018]

PERSON SPECIFICATION

This form lists the essential and desirable requirements needed by the post holder to be able to perform the job effectively.

Applicants will be shortlisted solely on the extent to which they meet these requirements.

ESSENTIAL CRITERIA:

1. PhD-level qualification in statistics, mathematical modelling, statistical epidemiology, quantitative ecology or relevant quantitative subject
2. Post-graduate training in spatial statistical methods
3. Outstanding research track record, with a focus on infectious disease epidemiology and excellent publication record commensurate with experience
4. Demonstrable experience in developing and implementing complex epidemiological and / or ecological analysis
5. Strong programming skills in R
6. Experience of teaching or delivering professional training at post-graduate level
7. Strong managerial and communication skills (written and verbal) and experience of effective working in a multi-disciplinary environment

DESIRABLE CRITERIA:

1. A theoretical and practical understanding of neglected tropical disease epidemiology and control
2. Success in raising research funding

SALARY AND CONDITIONS OF APPOINTMENT

The post is funded by The Bill & Melinda Gates Foundation and will be available for two years. The salary will be on the Academic scale, Grade 7 scale in the range £45,878 to £52,520 per annum (inclusive of London Weighting). The post will be subject to the LSHTM terms and conditions of service. Annual leave entitlement is 30 working days per year, pro rata for part time staff. In addition to this there are discretionary "Director's Days". Membership of the Pension Scheme is available.

Applications should be made on-line via our website at <http://jobs.lshtm.ac.uk>. Applications should also include the names and email contacts of 2 referees who can be contacted immediately if shortlisted. Online applications will be accepted by the automated system until 10pm of the closing date. Any queries regarding the application process may be addressed to jobs@lshtm.ac.uk. Please quote reference REF ITD-DCD-2018-24

The supporting statement section should set out how your qualifications, experience and training meet each of the selection criteria. Please provide one or more paragraphs addressing each criterion. The supporting statement is an essential part of the selection process and thus a failure to provide this information will mean that the application will not be considered. An answer to any of the criteria such as "Please see attached CV" will not be considered acceptable. Please note that if you are shortlisted and are unable to attend on the interview date it may not be possible to offer you an alternative date.

ASYLUM AND IMMIGRATION STATEMENT

The School will comply with the Immigration, Asylum and Nationality Act 2006, which requires all employees to provide documentary evidence of their legal right to work in this country prior to commencing employment. Candidates will be required to email a copy of their passport (and visa if applicable) to HR prior to their interview and if appointed will be asked to bring the original documents in to be copied and verified before their start date.

Applications from candidates who require sponsorship to work in the UK will be considered alongside other applications. Applicants who do not currently have the right to work in the UK will have to satisfy UK Visas & Immigration regulations before they can be appointed.

Further information about Certificate of Sponsorship and eligibility to work in the UK, can be found at: www.ukba.homeoffice.gov.uk/employers/points

Date compiled: September 2018

Academic Expectations: Assistant Professor

Examples of expected types of activities are listed; the selection of activities will vary from year to year and not all activities in each category would necessarily be done in any one year. The statement in each shaded heading summarises the general expectations for contributions in each category.

<i>Knowledge generation: Independent researcher with excellent contributions, supporting less experienced researchers and with growing leadership skills</i>
<i>Research and scholarship</i> <ul style="list-style-type: none">• Undertaking research individually and as part of a team• Applying for external grants and/or fellowships primarily from 'good'² research funders; contributing to work packages or elements within a large proposal• Contributing to financial sustainability of research group including exploring opportunities for industry funding for laboratory research• Contributing as lead and co-author in peer-reviewed outputs, as expected by the subject area/discipline in terms of types and volume of output; significant contributions to at least four outputs within the most recent 3 years which are at least internationally excellent³• Engaging in other research dissemination including competitively selected oral and poster presentations at leading conferences, invited seminars and talks, and social media contributions such as twitter, blogs, webinars <i>Doctoral degree supervision</i> <ul style="list-style-type: none">• Contributing to doctoral degree supervision⁴ of at least one student, working within supervision team(s), supporting timely completions and peer-reviewed outputs• Contributing to summative assessment processes (e.g. upgrade assessments, pre- and post-viva support for students) <i>Research management, leadership and support</i> <ul style="list-style-type: none">• Management of entire research process or significant parts of it, including line and team management, grants management, management of research partner relationships• Supporting career development of research team members (eg informal mentoring, reviewing draft papers, advising on specific issues e.g. statistical issues, methodology) <i>Professional development referenced to RDF</i> <ul style="list-style-type: none">• Courses and other development activities, including mid-level management and leadership development
<i>Education: Undertaking teaching and assessment, and developing as a research-informed educator within higher education</i>
<i>Teaching and assessment</i> <ul style="list-style-type: none">• Research-informed teaching, supervision and assessment• Contributions to personal tutoring and/or development of less experienced educators (e.g. as peer-observer for PGCILT; as mentor; through leading staff development activities)• Participation in programme committees and/or exam boards <i>Educational development and innovation</i> <ul style="list-style-type: none">• Contributions to research-informed educational developments and innovations• Activities aimed at improving some aspect(s) of the student experience, or quality of education programme(s). <i>Education leadership and management</i> <ul style="list-style-type: none">• Leadership and/or management of selected aspects of the curriculum (e.g. as module organiser/deputy, or responsibility for another aspect of the student experience)• Supporting others to provide an excellent student experience and solve significant problems• Contributions to Education Task & Finish Group or similar

² Good research funders are: Research Councils; Government Departments; NIHR; National and overseas charities recognised by HEFCE for QR; Overseas research councils or equivalent including NIH; EU; other agencies (eg NGOs, commercial companies) supporting commissioned research that is consistent with School's mission and meets School's cost recovery targets

³ i.e. of a quality that would be rated highly in assessments of research quality such as those done by UK government, and in peer review processes used by funders

⁴ Students registered external to the School can be included (subject to agreement of DDDC/FDDD) where these fulfil capacity-building aims, support important research collaborations, or are a result of a recent move to the School.

Professional development referenced to UKPSF

- Activities which lead to PGCILT or equivalent and Fellow of HEA or equivalent; thereafter continuing professional development.
Activities that support professional development as an educator (e.g. training/educational studies, work-shadowing, use of feedback from students/colleagues)

Internal contribution: Contributions to School functioning and development

Internal citizenship

- Engagement in any one year of at least one of: Senate or Senate subcommittee, Ethics Committees, MRC Unit, Faculty and Departmental committees; MRC Unit Department, Faculty, School, Centre events or special interest groups; support to external collaborations/partnerships (beyond own research or education role); involvement in mentoring scheme

School leadership and management roles

- Not expected

External contribution: Contribution beyond the School

External citizenship

- Membership of society/conference committees
- Journal, book and/or grant reviews
- Invited presentations

Knowledge translation and enterprise: options include:

- Exploiting research-based knowledge beyond academia, e.g. through IP exploitation, consultancies
- Participation in and development of external networks for the School's benefit, such as identifying sources of funding, contributing to student recruitment, securing student placements, marketing the institution, facilitating outreach work, or building relationships for future activities
- Collecting evidence of research impact for impact case studies
- Supporting public engagement including MOOCs/OERs or other educational outreach