

Job Title:	Research Fellow in Spatial Epidemiology
Department:	Department of Disease Control
Faculty:	Infectious and Tropical Diseases
Location:	London
FTE:	100%
Grade:	G6
Accountable to:	Head of Department through Principal Investigator (PI) – Professor Rachel Pullan
Job Summary:	The post-holder will undertake geospatial analysis of programmatic and epidemiological data to both improve current estimates of disease distribution and intervention coverage, and evaluate alternative targeting and surveillance strategies for NTDs, at both micro and macro scales. The post-holder will be supervised by Dr Rachel Pullan and will join a supportive, multi-disciplinary research group to work on research questions directly aligned to ESPEN-identified immediate priorities. The project will require a high degree of personal motivation, but provides considerable scope for the post-holder to develop their own research within this area.

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)

This multidisciplinary Department includes epidemiologists, entomologists, anthropologists and social scientists, clinical scientists, public health engineers and geographers. This range of expertise provides us with a battery of tools for focusing on the control of diseases that are insect-borne, water-borne or associated with poor hygiene – mostly in developing countries. Much of the research can be categorised as: evaluating disease control interventions; investigating implementation strategies - including working with the private sector; understanding the factors underlying household behaviour in relation to family health; or determining how control resources can be targeted most efficiently. Particular attention is paid to research directed at current health policy issues, including the gap between policy and practice.

The Department's Environmental Health Group plays a leadership role in research and operational support for hygiene behaviour change, household water supply and sanitation. Three key programmes which contribute to the work of the Group are the DFID funded consortium Sanitation and Hygiene Applied Research for Equity (SHARE), the Hygiene Centre (Unilever) and the improved sanitation randomised, controlled field trial jointly funded by the Bill & Melinda Gates Foundation and International Initiative for Impact Evaluation (3ie).

The Department houses the largest research group in LSHTM working on malaria control. Ongoing projects include: research capacity strengthening in Africa through the work of the Malaria Capacity Development Consortium (MCDC); novel approaches to combating malaria in pregnancy (MiP) in both Africa and India; a number of projects which develop and evaluate delivery mechanisms to improve ACT access, targeting, safety and quality, all funded by the ACT Consortium. In addition, staff are involved in studies of Seasonal Malaria Chemoprevention (SMC) in West Africa and are supporting work on the large Phase 3 clinical trial study of the RTS,S malaria vaccine in children.

The Department is world-leading in applied entomology and insect borne diseases, and has provided a testing service for control products for over 20 years. The Arthropod Control Product Test Centre Arctec provides access to the Department's valuable mosquito colonies and in-house facilities for testing of repellents, insecticides and after-bite treatments. Its entomological field sites in Tanzania, Benin, The Gambia and Kenya are involved in a variety of vector borne disease control trials. The PAMVERC alliance between LSHTM and African partners work in partnership with WHO and the manufacturing industry on product development and evaluation under laboratory and semi-field conditions and in community trials.

Staff from the Department lead on studies investigating how meningococcal meningitis is spread in Africa and the impact of a new serogroup meningococcal A vaccine on reducing transmission (MenAfriCar Consortium). Staff are also assisting in the evaluation of the impact of introduction of a pneumococcal conjugate vaccine into the routine EPI programme of The Gambia and in the initial testing of a new pneumococcal protein vaccine in the same area.

Also based with the Department is the IDEAS (Informed Decisions for Actions) project, which aims to improve the health and survival of mothers and babies through generating evidence to inform policy and practice. The Department also includes a major grouping of researchers using spatial analysis in public health.

Project information

London Applied and Spatial Epidemiology Research Group (LASER)

The London Applied & Spatial Epidemiology Research (LASER) group combines expertise in the fields of spatial statistics and GIS technology, quantitative epidemiology and operational research to build the evidence-base around diseases of poverty and the communities they affect

LASER's research portfolio focuses on community and school health, malaria and Neglected Tropical Diseases (NTDs) – in particular, soil transmitted helminths, schistosomiasis, lymphatic filariasis and trachoma. Generally affecting the very poor, these diseases are termed 'neglected' due to their lack of visibility and recognition. Yet they have a devastating impact on millions of people worldwide. LASER lead a number of projects, including the Global Atlas of Helminth Infection (GAHI), an open access resource mapping the geographical distribution of NTDs caused by helminthic worms.

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

JOB DESCRIPTION

Main Activities and Responsibilities

KNOWLEDGE GENERATION

1. To undertake high quality research & scholarship, including contributing to drafting major grant proposals and/or leading on drafting small grant proposals;
2. To contribute to peer-reviewed publications, including as lead author;
3. To make a contribution to research degree student supervision, as appropriate to qualifications and experience;
4. To manage small grants or elements of larger grants, ensuring compliance with good practice in relation to the conduct of research, the ethics policy and other relevant School policies.
5. Develop models to describe and predict spatial heterogeneity in disease distribution and intervention coverage for helminthic and filarial diseases in sub-Saharan Africa;
6. Use computer simulation to evaluate alternative sampling and surveillance strategies for helminthic and filarial diseases;
7. Generate efficient and shareable code;
8. Take responsibility for maintaining appropriate scientific collaborations within the School, with the Expanded Special Project for Elimination of NTDs (ESPEN) in the Africa Regional Office of the World Health Organisation, and other international partners;
9. Prepare journal articles and address conferences, seminars and the media to disseminate research findings.

EDUCATION

1. To contribute to the delivery of high quality, research-informed teaching and assessment in relation to your specific subject and within the broader area covered by your department and 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.
3. Contribute towards i. the development and delivery of short technical courses in NTD-endemic countries aimed at disease control programmes, and ii. the LSHTM MSc module Spatial Epidemiology and Public Health.

INTERNAL CONTRIBUTION

1. To undertake activities that support the Department, Faculty or the School;
2. To participate in the School's PDR process.

EXTERNAL CONTRIBUTION

1. To demonstrate good external citizenship by contributing to learned society/conference events, journal and grant reviews etc;
2. To contribute to a mentorship and training programme for ESPEN-identified consultant led by the Global Atlas of Helminth Infection team.

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. Where the length and nature of the position permits, to register for and complete a doctoral degree (if not already acquired);
3. 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.

[JAN 2017]

PERSON SPECIFICATION

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

ESSENTIAL CRITERIA:

- PhD-level qualification in statistics, mathematical ecology, statistical epidemiology or relevant quantitative subject
- Experience in statistical modelling and computer simulation, including modelling spatial processes using geostatistical and/or machine learning approaches
- Demonstrable experience in epidemiological and / or ecological analysis
- Strong programming skills in R and demonstrable ability to learn new programming tools quickly
- Ability to work independently and as a member of a multi-disciplinary scientific team, with excellent attention to detail and time management skills
- Excellent written and verbal communication skills, including good publication record

DESIRABLE CRITERIA

- Experience in GIS, including demonstrated experience in handling and analyzing spatial data sets
- A theoretical and practical understanding of neglected tropical disease epidemiology and control

SALARY AND CONDITIONS OF APPOINTMENT

This full-time post is based in London and funded until 31st December 2020. The salary will be on the Academic Grade 6 scale in the range £38,533 - £43,759 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 online 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 **ITD-DCD-2018-01-R**.

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 bring their passport (and visa if applicable) to interview so that it can be copied and verified.

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: March 2017

Academic Expectations: Research Fellow

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 contributions and a clear trajectory towards excellence as an academic researcher</i>
<i>Research and scholarship</i> <ul style="list-style-type: none">• Undertaking research• Working with PIs to draft grant proposals and/or leading writing of small grants, work packages or sections of larger proposals or personal fellowship applications• Contributing to peer-reviewed outputs, including as first author, as expected by the subject area/discipline in terms of types of output• Poster/oral presentations at relevant conferences, translation of research findings into educational materials• Social media contributions such as twitter, blogs, web-based media or webinars <i>Doctoral degree supervision</i> <ul style="list-style-type: none">• For RFs with Doctorate, some contribution to doctoral degree supervision is encouraged (eg specialist skills training; ad hoc advice; advisory committees). RFs without a Doctorate may also advise in areas of specialist knowledge¹ <i>Research management, leadership and support</i> <ul style="list-style-type: none">• Effective management of own time and activities• Management of small research grants or elements of larger grants, including management of data collection and relationships with research collaborators, support to grants management <i>Professional development</i> <ul style="list-style-type: none">• Courses and other professional development activities, referenced to RDF• To register for and complete a doctoral degree (if not already acquired), if contract and funding source permit;
<i>Education: Basic competence in teaching and assessment</i>
<i>Teaching and assessment</i> <ul style="list-style-type: none">• Research-informed teaching and assessment contributions (e.g. contributions to modules, MSc project supervision) <i>Educational development and innovation</i> <ul style="list-style-type: none">• Contributing to the development of new educational materials, learning opportunities or assessments approaches <i>Education leadership and management</i> <ul style="list-style-type: none">• None expected <i>Professional development</i> <ul style="list-style-type: none">• Participation in professional development activities referenced to UKPSF (e.g. HEA, PGCILt, preparation for doctoral degree supervision, shadowing more experienced colleagues)
<i>Internal contribution: Contributions to School functioning and development</i>
<i>Internal citizenship</i> <ul style="list-style-type: none">• Contributing to at least one Department, Faculty, School, or Centre event or special interest group in any one year;• Supporting external School collaborations/partnerships (beyond own research or education role) where relevant <i>School leadership and management roles</i> <ul style="list-style-type: none">• None expected

¹ Such RFs are expected to be registered for a doctorate

<i>External contribution: Contribution beyond the School</i>
<i>External citizenship</i> <ul style="list-style-type: none">• Contributing to learned society/conference events, journal and grant reviews etc <i>Knowledge translation and enterprise: not expected but options include:</i> <ul style="list-style-type: none">• Collecting evidence of research impact for impact case studies (e.g. policy records, correspondence with policy makers, media highlights)• Engaging with policy/practice/industry/NGO communities and the general public• Supporting MOOCs/OERs or other (e.g. educational) outreach