

RESEARCH ASSISTANT OR RESEARCH FELLOW



Job Title:	Research Assistant or Research Fellow
Department:	Infectious Disease Epidemiology
Faculty:	Epidemiology Population Health
Location:	Keppel Street
FTE:	1.0
Grade:	Research Assistant Grade 5 or Research Fellow Grade 6
Accountable to:	Dr. Rachel Lowe
Job Summary:	The post holder's primary role will be to provide dengue modelling technical support across numerous projects within the Centre for Mathematical Modelling of Infectious Diseases. The post holder will use statistical and mathematical modelling methods to assess the impact of meteorological and socioeconomic variables on the spatiotemporal distribution of dengue. They will also play a key role in supporting the development of a dengue early warning system for Vietnam.

GENERAL INFORMATION

The London School of Hygiene & Tropical Medicine⁴⁴⁶

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 £140 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 55,000 participants globally.

The School performs strongly in various global university league tables. In the 2018 Shanghai World Ranking we placed 151-200 overall, and ranked 3rd in public health, 40th in clinical medicine, and 76th in human biology. In the US News Best Global Universities Ranking 2019, we ranked ninth in the UK overall and 13th in the world in the fields of social sciences and public health. We ranked 21st for medicine in the 2018 QS World University Rankings.

In 2017, the inaugural Center for World University Rankings by Subject placed LSHTM first in the world for tropical medicine research, second for parasitology and seventh for infectious diseases, public, environment and occupational health, and social sciences and biomedical. LSHTM ranked first in Europe for research impact in sciences, based on its proportion of publications that belong to the top 1% most frequently cited publications, in the 2018 CWT Leiden Ranking.

LSHTM was named University of the Year 2016 by Times Higher Education and awarded a Queen's Anniversary Prize for Higher and Further Education in 2017 in recognition of our response to the 2014 Ebola epidemic in West Africa. (LSHTM does not appear in the Times Higher Education World University Rankings as universities are excluded if they do not teach undergraduates).

We seek to foster and sustain a creative and supportive working environment based upon an ethos of respect and rigorous scientific enquiry. We embrace and value the diversity of our staff and student population and seek to promote equality as an essential element in contribution to improving health worldwide.

FACULTY INFORMATION

The Faculty of Epidemiology & Population Health (EPH) houses a large group of epidemiologists, demographers, statisticians and nutritionists working on issues of major public health importance in the UK and globally. EPH has approximately 330 staff members organised into four research departments.

- Department of Infectious Disease Epidemiology
- Department of Medical Statistics
- Department of Non-communicable Disease Epidemiology
- Department of Population Health

The Faculty has a teaching programme consisting of ten MSc courses: Epidemiology, Demography and Health, Medical Statistics, Public Health in Developing Countries (run jointly with the Faculties of Infectious & Tropical Diseases and Public Health & Policy), Nutrition for Global Health, Reproductive & Sexual Health Research, Veterinary Epidemiology (run jointly with the Royal Veterinary College), Global Mental Health (run jointly with Kings College London - Institute of Psychiatry) and the Distance Learning courses in Epidemiology and Clinical Trials. The Faculty also has approximately 149 research students studying for an MPhil, PhD or DrPH degree.

The Dean of Faculty is Professor John Edmunds.

For further information on the Faculty see: <https://www.lshtm.ac.uk/research/faculties/eph>

THE DEPARTMENT

Department of Infectious Disease Epidemiology conducts research on the epidemiology and control of infectious diseases of public health importance. It also conducts research on maternal and neonatal health. Work is carried out in low, middle and high income countries, including the United Kingdom. Research ranges from ecological studies of variations in disease frequency in different populations, through observational case-control and cohort studies to define risk factors for disease, to randomized controlled trials to test the impact of specific preventive and curative interventions. The Department Head is Professor Veronique Filippi.

For further information on the Department see: <https://www.lshtm.ac.uk/research/faculties/eph/ide>

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

The main project associated with this post is a UK Space Agency funded project to use remotely sensed data to improve dengue early warning systems in Vietnam. The project aims to integrate satellite data on rainfall, temperature, etc with live data streams of reported dengue cases to improve seasonal and short-term predictions of the risk of dengue outbreaks. The project began in March 2018 with environmental and dengue data already available and a preliminary version of the system due to go live in March 2019. Our project is part of a larger consortium including HR Wallingford, the Met Office and the Vietnam government that will all collaborate to produce a final usable integrated dengue and water management warning system that will become an active component of the Vietnam governments response plan.

We would expect the post holder to also contribute to a number of other ongoing projects led by Dr. Oliver Brady and Dr. Rachel Lowe as needed. These projects include a range of vector borne disease modelling and mapping applications such as burden estimation, risk mapping and using models to understand how environmental factors determine transmission dynamics.

We are seeking a quantitatively minded person with an interest in epidemiology to integrate with a diverse team with existing expertise in infectious disease dynamics, model fitting and application of modelling for public health policy. The successful candidate will be a self-motivated, independent, self-starter who is keen to see their outputs applied in practical public health contexts. The post-holder will also be able to develop collaborations both within and beyond LSHTM to apply developed modelling methods to other priority contexts.

Main Activities and Responsibilities

KNOWLEDGE GENERATION

Research Assistant

1. Investigating reported dengue case data from Vietnam to characterise key trends, biases in the surveillance system and understand reporting delays once the early warning system goes live.
2. Implement a statistical predictive model and assess its performance
3. Design experiments to test the predictive power of various meteorological, hydrological and sociodemographic covariates for dengue forecasting and summarise outputs for a range of stakeholders
4. Contribute to the writing of publications detailing both the methodological advances as well as public health relevance of this new early warning system.
5. Take the lead in communicating with other members of the consortium, including regular progress reports and in-person meetings in the UK and Vietnam

Research Fellow

1. Investigating reported dengue case data from Vietnam to characterise key trends, biases in the surveillance system and understand reporting delays once the early warning system goes live.
2. Implement a statistical predictive model, assess its performance and make suitable modifications when required
3. Design experiments to test the predictive power of various meteorological, hydrological and sociodemographic covariates for dengue forecasting and summarise outputs for a range of stakeholders
4. Contribute to and lead the writing of publications detailing both the methodological advances as well as public health relevance of this new early warning system.
5. Take the lead in communicating with other members of the consortium, including regular progress reports and in-person meetings in the UK and Vietnam.

6. To make a contribution to research degree student supervision, as appropriate to qualifications and experience;
7. Contribute to future grant applications
8. Take the lead in communicating with other members of the consortium, including regular progress reports and in-person meetings in the UK and Vietnam

EDUCATION

Research Assistant

1. To participate in some aspects of the School's Education Programme or educational outreach activities;
2. Contribute to training activities in Vietnam to promote ongoing usage of the dengue early warning system

Research Fellow

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 to training activities in Vietnam to promote ongoing usage of the dengue early warning system.

INTERNAL CONTRIBUTION

Research Assistant

1. To undertake activities that support the Department, Faculty or the School;
2. To participate in the School's PDR process;
3. Participation in the vector-borne diseases research theme including training new group members

Research Fellow

1. To undertake activities that support the Department, Faculty or the School;
2. To participate in the School's PDR process
3. Participation in the vector-borne diseases research theme including training new group members

EXTERNAL CONTRIBUTION

Research Assistant

1. To demonstrate good external citizenship by supporting the external academic and practice communities;

Research Fellow

1. To demonstrate good external citizenship by contributing to learned society/conference events, journal and grant reviews etc

PROFESSIONAL DEVELOPMENT & TRAINING

Research Assistant

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 as appropriate to the role;

Research Fellow

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.

PERSON SPECIFICATION

This form lists the essential and desirable requirements needed by the post holder to be able to perform the job effectively. Expectations for the research assistant role are indicated with the RA abbreviation and for the research fellow grade with RF.

ESSENTIAL CRITERIA:

Research Assistant	Research Fellow
<ol style="list-style-type: none">1. MSc in epidemiology or another quantitative science with applications to infectious disease epidemiology.2. Some experience coding models in at least one computing coding language, preferably R.3. Demonstrated understanding of how to design and implement models, preferably to infectious disease data.4. Evidence of ability to write clearly and produce high quality written reports with intuitive figures.5. Demonstrated ability to work successfully in a team environment.6. Experience in understanding and analysing epidemiological data, ideally with timeseries data.	<ol style="list-style-type: none">1. A PhD completed or submitted in mathematical modelling, statistics, medical geography or computational biology with applications to infectious disease epidemiology.2. Extensive experience coding models in at least one computing coding language, preferably R.3. Demonstrated understanding of how to design, implement and fit models, preferably to infectious disease data.4. A publication record in modelling of infectious diseases.5. Evidence of ability to write clearly and produce high quality written reports with intuitive figures.6. Demonstrated ability to work successfully in a team environment.7. Experience in understanding and analysing epidemiological data, ideally with timeseries data.

DESIRABLE CRITERIA

Research Assistant	Research Fellow
<ol style="list-style-type: none">1. Understanding of vector-borne disease epidemiology including entomological expertise.2. Working with remotely sensed data3. Spatial modelling.4. Experience with time series forecasting.5. Working with ministries of health or other government departments.6. Ability to travel internationally to attend meetings with stakeholders and collaborators.	<ol style="list-style-type: none">1. Understanding of vector-borne disease epidemiology including entomological expertise.2. Working with remotely sensed data3. Spatial modelling.4. Experience with time series forecasting.5. Working with ministries of health or other government departments.6. Ability to travel internationally to attend meetings with stakeholders and collaborators.

E-Essential: Requirement without which the job could not be done

D-Desirable: Requirements that would enable the candidate to perform the job well

SALARY AND CONDITIONS OF APPOINTMENT

The post is funded until 21 February 2021. The appointment will be made on LSHTM's Research Assistant Grade 5 (with a starting salary of £34,238-£39,304 per annum) or Research Fellow scale, Grade 6 (with a starting salary of £39,304-£44,634 per annum). 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 EPH-IDE-2019-02.

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

(Research Fellow level applicants)

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

Academic Expectations: Research Assistant

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. Given the nature of employment as a Research Assistant, it is expected that most activity will focus on knowledge generation, but some activity in other areas is desirable and will be required for career progression.

<i>Knowledge generation: High quality support for, and contribution to, research</i>
<i>Research and scholarship</i> <ul style="list-style-type: none">• Undertaking research, as directed by line manager• Contributions to funding applications including supporting more senior staff in completing applications• Contributing to peer-reviewed outputs as expected by the subject area/discipline in terms of types of output• Poster/oral presentations at conferences• Social media contributions such as twitter, blogs, web-based media or webinars <i>Doctoral degree supervision</i> <ul style="list-style-type: none">• None expected though involvement in advisory activities/roles or provision of practical skills training is encouraged where relevant <i>Research management, leadership and support</i> <ul style="list-style-type: none">• Effective management of own time and activities• Supporting the administration of projects he/she is employed on, eg taking meeting minutes <i>Professional development</i> <ul style="list-style-type: none">• Appropriate courses and other development activities, referenced to RDF• Especially for or lab-based disciplines: to apply for and undertake a doctoral degree (if not already acquired), if contract and funding source permit.
<i>Education: Participation in educational activities¹</i>
<i>Teaching and assessment</i> <ul style="list-style-type: none">• Limited participation in some aspects of the School's Education Programme or education outreach activities e.g. contributions to taught courses, research methods training, mentoring school pupils on outreach programmes <i>Educational development and innovation</i> <ul style="list-style-type: none">• Limited contributions to educational innovations or developments, e.g. helping to update the content or delivery of a course or module <i>Educational leadership and management</i> <ul style="list-style-type: none">• None expected <i>Professional development</i> <ul style="list-style-type: none">• Formal study/training and/or other activities that develop educational knowledge and expertise, referenced to UKPSF
<i>Internal contribution: Support to the academic environment in the Department or beyond</i>
<i>Internal citizenship</i> <ul style="list-style-type: none">• Supporting Department/Faculty/Centre/School events or special interest groups; organising seminars/lab meetings/journal clubs; group or departmental social organising; support to Athena Swan activities; support to external partnerships <i>General leadership and management roles</i> <ul style="list-style-type: none">• None expected

¹it is accepted that some RA roles and/or funding make it difficult to give time to Educational activities, but some degree of engagement is encouraged

<i>External contribution: Support to the external academic community</i>
<i>External citizenship</i> <ul style="list-style-type: none">• Involvement in journal or book reviews, if opportunities arise• Sharing examples of good practice (e.g. contributing to discipline-specific interest group or professional bodies) <i>Knowledge translation and enterprise: not expected but options include</i> <ul style="list-style-type: none">• Collection of evidence of research impact for impact case studies (e.g. policy records, correspondence with policy makers, media highlights)• Engagement with policy/practice/industry/NGO communities and with the general public

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. Given the nature of employment as a Research Fellow, it is expected that most activity will focus on knowledge generation, but some activity in other areas is required and will support career progression.

<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 (e.g. specialist skills training; ad hoc advice; advisory committees). RFs without a Doctorate may also advise in areas of specialist knowledge² <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 apply for and undertake 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;

² Such RFs are expected where the length and nature of the position permits, to apply for and, if accepted, undertake a doctoral degree (if not already acquired)

- Supporting external School collaborations/partnerships (beyond own research or education role) where relevant

School leadership and management roles

- None expected

External contribution: Contribution beyond the School

External citizenship

- Contributing to learned society/conference events, journal and grant reviews etc

Knowledge translation and enterprise: not expected but options include:

- 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