RESEARCH ASSISTANT OR RESEARCH FELLOW

LONDON SCHOOL of HYGIENE &TROPICAL MEDICINE

Job Title:	Research Assistant or Research Fellow
Department:	Infectious Disease Epidemiology
Faculty:	Epidemiology and Public Health
Location:	London with the possibility of remote working within the UK
FTE:	1 FTE
Grade:	Research Assistant Grade 5 or Research Fellow Grade 6
Accountable to:	Sebastian Funk
Job Summary:	A post is available for a researcher to join a team doing research on mathematical models to inform decision making during infectious disease outbreaks. The post will be based at the Centre for Mathematical Modelling of Infectious Diseases (CMMID) at the London School of Hygiene & Tropical Medicine (LSHTM). The post-holder will work on methods to make, assess and aggregate nowcasts and forecasts of the epidemiology of Covid-19 in the short, medium and long term. Part of the work will build on existing research in on real-time modelling of Covid-19 (see http://epiforecasts.io/covid and https://cmmid.github.io/topics/covid19/), and the post-holder will contribute to the development and refinement of methods to model the spread of SARS-CoV-2. Another, related part of the work will involve developing a European forecasting platform akin to the existing CDC forecast hub in the US (https://covid19forecasthub.org/) and analysing the performance of the forecasts generated. This position therefore provides an opportunity to have a tangible impact on improving real-time awareness and informing the response to this and future epidemics, with plenty of scope to contribute analyses topics of immediate policy relevance as they come up. The post holder will need demonstrable experience in R, familiarity with version control (e.g. git) and standard development practice tools and an ability to write modular, maintainable and testable code. The position can be appointed at the academic Research Fellow or Research Assistant level determined by the applicant's previous experience.

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 £180 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.
Our diverse research talents, skills and experience, underpin our position as a leader in public and global health. These range from the molecular to the global, the theoretical to the applied, the analytical to the political. Our staff are conducting research in more than 100 countries.

We have 3,300 staff based all around the world with core hubs in London and at the MRC Units in The Gambia and Uganda, which joined LSHTM in February 2018. Our outstanding, diverse and committed staff make an impact where it is most needed - deploying research in real time in response to crises, developing innovative programmes for major health threats, or training the next generations of public and global health leaders and researchers.

Working in partnership is central to achieving our mission. Our strategic collaborations in the UK and across high-, middle- and low-income countries deliver health and socioeconomic benefits across the world, especially in the most disadvantaged communities.

LSHTM is also a member of the M8 Alliance of Academic Health Centers, Universities and National Academies, the Association of Schools of Public Health in the European Region, and the Consortium of Universities for Global Health.

We deliver research-led educational programmes to future health leaders, managers and researchers across the world. We have more than 1,200 face-to-face Master's and Doctoral students, 3,000 studying by distance learning, and 1,000 each year on short courses and continuous professional development. Our free online courses are studied by more than 70,000 participants globally.

LSHTM performs strongly in various global university league tables. In the 2019 CWTS Leiden Ranking LSHTM is ranked the UK's top university for the proportion of academic research with women listed as authors, first in Europe for publishing open access research, and first in Europe and eighth in the world for research impact in sciences (for the proportion of its total publications ranking in the top 10% of most cited research).

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 27th for medicine in the 2019 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 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.

LSHTM is one of around 20 specialist institutions that receive institution specific funding from the Office for Students (OfS). This funding recognises the additional costs that LSHTM incurs because of its unique range of teaching, specialist facilities, and the scale of its contributions to national and international agencies.

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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 400 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 for Development (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, Clinical Trials and Demography in Health. The Faculty also has approximately 120 research students studying for an MPhil, PhD or DrPH degree.

The Dean of Faculty is Professor Liam Smeeth.

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 Heads are Professor Richard White and Professor Katherine Fielding.

THE CENTRE

The **Centre for the Mathematical Modelling of Infectious Diseases (CMMID)** is a multidisciplinary grouping of epidemiologists, mathematicians, economists, statisticians and clinicians from across all three faculties of the LSHTM. Research focuses on understanding and predicting the epidemiology of infectious diseases so that more effective control programmes can be devised. Researchers are developing and applying mathematical models to a range of infections including HIV and other sexually transmitted infections, HPV, tuberculosis, hepatitis C, influenza, rotavirus, measles, varicella, pneumococcal disease, Hib, malaria and sleeping sickness. More fundamental research includes developing methods to measure underlying contact patterns, sampling hard-to-reach populations (such as drug users), efficiently fitting complex mathematical models to data, and the integration of epidemiological models with economic analyses. CMMID is actively engaged in developing links with other modelling groups; members of the CMMID include mathematical modellers working at Public Health England (formerly the HPA) and the Royal Veterinary College. The Centre has had a leading role in modelling the spread and control of Covid-19 and is represented in national and international committees that inform the public health response.

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

Research Assistant

1. To undertake high quality research as directed by your line manager, including contributing to drafting grant proposals and peer-reviewed and other outputs;

2. To support the administration of projects linked to your employment, helping ensure compliance with good practice in relation to the conduct of research, the ethics policy, and other relevant School policies;

3. To evaluate real-time forecasts of Covid-19 and other infectious diseases;

4. To use and extend methods for real-time modelling and forecasting of Covid-19 and other infectious diseases.

Research Fellow

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. To analyse and evaluate real-time forecasts of Covid-19 and other infectious diseases;

6. To use and develop novel methods for real-time modelling and forecasting of Covid-19 and other infectious diseases.

EDUCATION

Research Assistant

1. To participate in some aspects of the School's Education Programme or educational outreach activities;

2. To contribute to the supervision of MSc projects.

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. To contribute to the supervision of MSc and PhD projects.

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;

Research Fellow

1. To undertake activities that support the Department, Faculty or the School;

2. To participate in the School's PDR process

3. To contribute to broader Covid-19 modelling efforts.

4. To occasionally support work at short timescales of turnaround in response to specific urgent policy issues

3. To contribute to broader Covid-19 modelling efforts.

4. To occasionally produce work at short timescales of turnaround in response to specific urgent policy issues

EXTERNAL CONTRIBUTION

Research Assistant

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

2. To contribute to developing a platform for collecting multi-model forecasts and scenarios;

3. To interact with collaborators at ECDC and support them in setting up a European forecast hub.

Research Fellow

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

2. To contribute to developing a platform for collecting multi-model forecasts and scenarios;

3. To interact with collaborators at ECDC and support them in setting up a European forecast hub.

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. For lab-based disciplines: where the length and nature of the position permits, to apply for and, if accepted, undertake a doctoral degree (if not already acquired);

3. 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. Where the length and nature of the position permits, to apply for and, if accepted, undertake 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.

[FEB 2020]

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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:

Research Assistant	**Research Fellow**
1. MSc degree, ideally a doctoral degree in a quantitative subject (e.g. Biostatistics, Bioinformatics, Mathematics of Physics) or a related discipline (e.g. Epidemiology or Biology) with a strong quantitative element either awarded or imminent or equivalent training	1. A postgraduate degree, ideally a doctoral degree in a quantitative subject (e.g. Biostatistics, Bioinformatics, Mathematics of Physics) or a related discipline (e.g. Epidemiology or Biology) with a strong quantitative element either awarded or imminent or equivalent training.
2. Some experience in infectious disease modelling	2. Experience in infectious disease modelling.
3. Evidence of good organisational skills, including effective time management.	3. Contributions to written output, preferably peer-reviewed, as expected by the subject area/discipline in terms of types and volume of outputs.
4. Proven ability to work independently, as well as collaboratively as part of a research team.	4. Proven ability to work independently, as well as collaboratively as part of a research team, and proven ability to meet research deadlines.
5. Evidence of excellent interpersonal skills, including the ability to communicate effectively both orally and in writing.	5. Evidence of excellent interpersonal skills, including the ability to communicate effectively both orally and in writing
	6. Evidence of good organizational skills, including effective time management
6. Strong experience in R programming.	7. Strong experience in R programming.
7. Proven commitment to conducting science openly and reproducibly.	8. Proven commitment to conducting science openly and reproducibly.

DESIRABLE CRITERIA

Research Assistant	**Research Fellow**
	1. Some experience of contributing to research grant applications.
1. Some experience of teaching	2. Some experience of teaching and assessment.
	3. Some experience of supervising and supporting junior researchers and/or research degree students, and non-academic staff
2. Experience in real-time modelling and forecasting of infectious disease dynamics.	4. Experience in real-time modelling and forecasting of infectious disease dynamics
3. Experience in combining the results of multiple models.	5. Experience in combining the results of multiple models
4. Experience in analysing Covid-19	6. Experience in analysing Covid-19

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epidemiological data.

5. Experience in using Stan or another probabilistic programming language

epidemiological data

7. Experience in using Stan or another probabilistic programming language

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 for 24 months and is available immediately. The salary will be on the Academic scale, for appointment at Research Assistant Grade 5 scale in the range £34,854 - £40,011 per annum (inclusive of London Weighting), and for Research Fellow Grade 6 scale in the range £40,011 - £45,437 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.

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 current UKVI legislation, 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 Sponsorship and eligibility to work in the UK, can be found at: https://www.gov.uk/guidance/immigration-rules/immigration-rules-appendix-skilled-worker

Date amended: AUG 2020

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.

Knowledge generation: High quality support for, and contribution to, research
Research and scholarship • 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 *Doctoral degree supervision* • None expected though involvement in advisory activities/roles or provision of practical skills training is encouraged where relevant *Research management, leadership and support* • Effective management of own time and activities • Supporting the administration of projects he/she is employed on, eg taking meeting minutes *Professional development* • Appropriate courses and other development activities, referenced to RDF • Especially for lab-based disciplines: where the length, nature and funding source of the position permit, to apply for and, if accepted, undertake a doctoral degree (if not already acquired).
Education: Participation in educational activities[1]
Teaching and assessment • 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 *Educational development and innovation* • Limited contributions to educational innovations or developments, e.g. helping to update the content or delivery of a course or module *Educational leadership and management* • None expected *Professional development* • Formal study/training and/or other activities that develop educational knowledge and expertise, referenced to UKPSF
Internal contribution: Support to the academic environment in the Department or beyond
Internal citizenship • 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 *General leadership and management roles* • None expected but credit can be given if undertaken
External contribution: Support to the external academic community

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[1] it 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

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External citizenship
- 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)

Knowledge translation and enterprise: not expected but options include
- 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

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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.

.**Knowledge generation:** *Independent contributions and a clear trajectory towards excellence as an academic researcher*
Research and scholarship   • 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   *Doctoral degree supervision*   • 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 knowledge[2]   *Research management, leadership and support*   • 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   *Professional development*   • Courses and other professional development activities, referenced to RDF   • Where the length, nature and funding source of the position permit, to apply for and, if accepted, undertake a doctoral degree (if not already acquired)

Education: *Basic competence in teaching and assessment*
Teaching and assessment   • Research-informed teaching and assessment contributions (e.g. contributions to modules, MSc project supervision)   *Educational development and innovation*   • Contributing to the development of new educational materials, learning opportunities or assessments approaches   *Education leadership and management*   • None expected   *Professional development*   • Participation in professional development activities referenced to UKPSF (e.g. HEA, PGCILT, preparation for doctoral degree supervision, shadowing more experienced colleagues)

Internal contribution: *Contributions to School functioning and development*
Internal citizenship   • 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   *School leadership and management roles*   • None expected but credit can be given if undertaken

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[2] Such RFs are expected to be registered for a doctorate

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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

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