RESEARCH FELLOW

Job Title:	**Research Fellow in Artificial Intelligence**
Department:	Infectious Disease Epidemiology & Dynamics
Faculty:	Epidemiology and Population Health
Location:	Keppel Street, London
FTE:	1.0
Grade:	G6
Accountable to:	Carlos Wong
Job Summary:	We are seeking an Artificial Intelligence (AI) Specialist to join the Department of Infectious Disease Epidemiology and Dynamics. This individual will spearhead collaborative efforts with the University of Hong Kong (HKU) in the development and deployment of generative AI tools in public health and clinical settings. This role presents a unique opportunity to explore cutting-edge AI technologies and their practical applications in healthcare, enhancing patient-doctor communication, shared decision-making, and patient outcomes. The successful candidate will work with multidisciplinary teams at LSHTM, HKU, and partner institutions to drive the construction and training processes of Large Language Models (LLMs), design AI system architectures, analyze data related to LLM capabilities, and integrate physiological measurements within the infrastructure. Additionally, they will evaluate the impact of these technologies on operational efficiency and patient care in real-world settings.

General Information

The London School of Hygiene & Tropical Medicine (LSHTM) is one of the world's leading public health universities.

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.

Staff and students are committed to helping create a more healthy, sustainable and equitable world for everyone, because we believe our shared future depends on our shared health.

We embrace and value the diversity of our staff and student population and seek to promote equity, diversity and inclusion as essential elements to improve health worldwide. We believe that when people feel respected and included, they can be more creative, successful, and happier at work. While we have more work to do, we are committed to building an inclusive workplace, a community that everyone feels a part of, which is safe, respectful, supportive and enables all to reach their full potential.

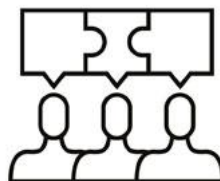To find out more please visit our Introducing LSHTM page.

Our Values

Our values establish how we aspire to achieve our mission both now and in the future - demonstrating what it means to work and study at LSHTM. Please visit our LSHTM Values page for further information.

Faculty Information

The Faculty of Epidemiology & Population Health (EPH) houses a large group of epidemiologists, demographers, statisticians and nutritionists working on major issues of importance to public health provision in the UK and globally. EPH employs approximately 560 people in five research departments.

- Department of Infectious Disease Epidemiology & Dynamics
- Department of Infectious Disease Epidemiology & International Health
- Department of Medical Statistics, which includes the Clinical Trials Unit
- Department of Non-communicable Disease Epidemiology
- Department of Population Health

The Faculty has a postgraduate teaching programme including eleven intensive MSc courses: Epidemiology, Demography and Health, Medical Statistics, Health Data Science, Public Health for Development (jointly with Faculties of Infectious & Tropical Diseases and Public Health & Policy), Nutrition for Global Health, Global Mental Health (jointly with Kings College London, Institute of Psychiatry), Reproductive & Sexual Health Research, Sexual & Reproductive Health Policy and Practice (online), Veterinary Epidemiology (run jointly with the Royal Veterinary College) and Climate Change and Planetary Health. There are also two Distance Learning MSc courses: Epidemiology and Clinical Trials. The Faculty also has approximately 220 research students studying for an MPhil, PhD or DrPH degree.

The Dean of Faculty is Professor Elizabeth Allen.

Department of Infectious Disease Epidemiology & Dynamics (IDED)

The Department of Infectious Disease Epidemiology & Dynamics conducts research on the epidemiology and control of infectious diseases of public health importance. Work is carried out in low-, middle- and high-income countries, including the United Kingdom, in close collaboration with partners in each country. The Department has three groups:

- The infectious disease modelling group, which comprises the majority of the Centre for Mathematical Modelling of Infectious Diseases (CMMID), and develops and applies the latest mathematical and statistical modelling methods to understand the dynamics of infectious pathogens to inform their control.
- The UK Public Health Rapid Support Team, a specialist multidisciplinary team across LSHTM and the UK Health Security Agency (UKHSA) that offers low and middle income countries around the world support to prepare for and respond to disease outbreaks, through field collaboration, research and capacity-strengthening activities.
- The Vaccine Confidence Project, which conducts global research, investigating the roots, trends over time and impacts of vaccine confidence at regional, national and sub-national levels.

The Department works closely with the Department of Infectious Disease Epidemiology & International Health.

The Department Heads are Professor Gwenda Hughes and Dr Oliver Brady.

Relevant Centres at LSHTM

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 recently, CMMID has been one of the leading groups involved in responding to modelling needs in the UK and globally around the COVID-19 pandemic. 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 the UK Health Security Agency and the Royal Veterinary College.

The portfolio of duties outlined below will vary in accordance with the academic expectations of the role, 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, and evaluating teaching practice;

2. To contribute to peer-reviewed publications and other outputs, including as lead author;

3. To make a contribution to doctoral 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 LSHTM policies.

Education

1. To contribute to the delivery of high quality, inclusive, 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 LSHTM's education, by participating in the development of new and updated learning and teaching materials or approaches.

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Internal Contribution

1. To undertake activities that support the Department, Faculty, MRC Unit or LSHTM;
2. To reflect LSHTM's EDI goals in your work and behaviour;
3. To participate in LSHTM's PDR process.

External Contribution

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

Professional Development and Training

1. To keep up to date with the latest research/thinking in your academic field and with changes to pedagogic practice within LSHTM 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 LSHTM as 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 LSHTM 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 LSHTM's best interests;
2. Treat staff, students and visitors with courtesy and respect at all times;
3. Comply fully with LSHTM 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 LSHTM's values (as set out in the LSHTM Strategy);
5. Act as ambassadors for LSHTM when hosting visitors or attending external events.

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Academic Expectations

All academic roles have a statement of academic expectations attached to each level. Please ensure that these have been read and understood. For further information please refer to the Academic Expectations page.

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.

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

Essential criteria:

1. A postgraduate degree, ideally a doctoral degree, in a relevant topic.
2. Relevant experience in LLM construction and training processes, AI system architecture design, development, deployment, testing, and integration.
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, and proven ability to meet research deadlines.
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.
7. Proven ability to write scripting or programming languages, including Python.
8. Proven experience in cloud/edge-computing technologies for developing and deploying enterprise-grade AI systems.
9. Proven experience in system architecture, as well as designing, developing, and deploying enterprise-grade systems.
10. Proven experience in managing enterprise-grade projects, utilizing project management frameworks such as PRINCE2 and Agile.

Desirable Criteria

1. Some experience of contributing to research grant applications.
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.
4. Relevant experience of research in AI and LLM.
5. Proven experience in collaborating with cross-disciplinary teams on AI research and development.

Salary and Conditions of Appointment

The post is fixed term until 31 October 2025 and full-time 35 hours per week, 1.0 FTE. The post is funded by the Laboratory of Data Discovery for Health and is available immediately. The salary will be on the Academic scale, Grade 6 scale in the range £44,847 - £50,808 per annum pro rata (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 "Wellbeing Days". Membership of the Pension Scheme is available.

LSHTM has a Hybrid Working Framework, which alongside agreed service requirements, enables teams to work more flexibly (if the role allows), promoting a greater wellbeing and work/life balance.

Application Process

Applications should be made on-line via our [jobs website](). Applications should also include the names and email contacts of 2 referees who can be contacted immediately if appointed. Online applications will be accepted by the automated system until 10pm of the closing date. We regret that late applications cannot be accepted. 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", "Yes" or "No" will not be considered acceptable and will not be scored.

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

LSHTM 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 on the government immigration rules page.
Date amended: Jan 2024