

# RESEARCH FELLOW



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| <b>Job Title:</b>      | <b>Research Fellow - Malaria Molecular Biology</b>   |
| <b>Department:</b>     | Infection Biology  |
| <b>Faculty:</b>        | Infectious and Tropical Diseases   |
| <b>Location:</b>       | LSHTM, Keppel Street London  |
| <b>FTE:</b>            | 1 FTE  |
| <b>Grade:</b>          | G6   |
| <b>Accountable to:</b> | Head of Department through Principal Investigator (PI) David Baker   |
| <b>Job Summary:</b>    | <p>We are seeking to appoint a postdoctoral malaria parasite molecular biologist research fellow to work in the laboratory of Professor David Baker within the Faculty of Infectious Diseases at the London School of Hygiene &amp; Tropical Medicine.</p> <p>The appointee will be responsible for carrying out research on the cGMP- and cAMP-regulated signalling pathways that control life cycle transitions in the human malaria parasite <i>Plasmodium falciparum</i>. The work will have a particular focus on the mechanisms that control invasion of red blood cells and release (egress) of parasites from infected red blood cells. The programme is supported by a joint Wellcome Trust Investigator Award and carried out in partnership with Professor Mike Blackman at the Francis Crick Institute. The candidate will join other postdoctoral fellows working on this Wellcome Trust-funded joint research programme.</p> <p>The successful applicant will work on dissecting the activation and regulation of cyclic nucleotide signalling pathways and how the cGMP-dependent protein kinase mediates malaria parasite egress and how the cAMP-dependent protein kinase mediates invasion (see PLoS Biol. 17:e3000264, 2019; PNAS 116:14164-14173, 2019; mBio. 13:e0163522, 2022; Sci Adv. 7:eabe5396, 2022). The work will involve molecular biology, biochemistry, cell biology and microscopy.</p> |

## General Information

The London School of Hygiene & Tropical Medicine (LSHTM) is renowned for its research, postgraduate studies and continuing 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.

We embrace and value the diversity of our staff and student population and seek to promote equity, diversity and inclusion as essential elements in contribution to improving 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

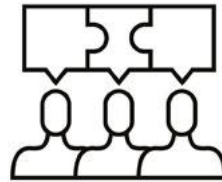
Our values establish how we aspire to achieve our mission both now and in the future - demonstrating what it means to work and study at LSHTM. Please visit our [LSHTM Values page](#) for further information.



**Act with  
integrity**



**Embrace  
difference**



**Work  
together**



**Create  
impact**

# Faculty Information

## Faculty of Infectious and Tropical Diseases

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 Alison Grant, who is **Professor of International Health**. 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 three large research departments comprising: Clinical Research, Disease Control, and Infection Biology. 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 Infection Biology (Head: Professor Martin Hibberd)***

The Department of Infection Biology brings together pathogen molecular biology and immunology and infection research across the School. The Department benefits from state of the art facilities and strong collaborations, many of which are with partners in disease endemic countries.

We study the molecular biology and genetics of pathogens and interaction with their hosts, to improve understanding and control of infectious diseases and to understand the complex and dynamic ways by which pathogens modulate virulence and interact with the human host. Such a holistic approach will vastly increase the scope for the rationale of design of long-term intervention strategies to reduce the burden of infectious disease. In recent years such a mission has been significantly enhanced by the availability of whole genome sequences. The Department is involved in several pathogen genome projects, and post genome studies which facilitate understanding of complex parasites. The interpretation and exploitation of this basic information is the platform for numerous new avenues of research on pathogenesis, epidemiology and the evolution of virulence.

Our research in immunology and infection centres on analysis of the host response to infection at the molecular, cellular and population levels. The goals are to develop a greater understanding of basic mechanisms of immunological protection versus pathology, and to apply this knowledge to the development of immunological interventions and the identification of correlates of immune status. Our work involves application of state of the art cellular and molecular approaches to the in vitro analysis of pathogen-host cell interactions, to in vivo studies in models, and to the study of immunity at the population level in disease endemic areas. We also conduct translational research for the development and evaluation of diagnostic approaches to identify disease foci and monitor drug resistance.

### ***Department of Clinical Research (Head: Professor Shunmay Yeung)***

The Department of Clinical Research addresses infectious diseases of major public health importance in developing countries. Activities include trials of new therapies, vaccines and educational interventions; the development of new diagnostic tests; studies to elucidate the immunological and molecular correlates of pathogenesis and protective immunity, and to identify genetic polymorphisms conferring protection or susceptibility to infectious diseases; health services research which aims to identify the most efficient and cost-effective way to deliver health care; and health policy analysis. In addition to our many overseas collaborations, we have close links with the Hospital for Tropical Diseases, in purpose-built accommodation on the main UCL Hospital campus, five minutes' walk from the School. The Wellcome Trust Bloomsbury Centre for Global Health Research is based in the Department, and supports Clinical Fellows at all levels, most of whom are based overseas.

The Department's main research interests include HIV and related infections; in particular, the interaction between HIV infection and tuberculosis, and other sexually transmitted diseases; malaria; trachoma; leprosy; diagnostic tests for resource limited settings; eye health; disability; and travel medicine.

***Department of Disease Control (Head: Professor Jayne Webster)***

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

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. -Construction and design of plasmid vectors and the development and use of transgenic *Plasmodium falciparum* lines and phenotype analysis;
2. -Responsible for designing, performing, analysing and interpreting genetic, biochemical and cell biological experiments to examine the essentiality, function and regulation of specific enzymes involved in cyclic nucleotide signalling in the human malaria parasite *Plasmodium falciparum*.
3. -Cultivation and purification of asexual and sexual parasite stages in derogated category 3 containment conditions;
4. -Expression of recombinant proteins in *E. coli* and other heterologous systems;
5. -Biochemical analysis such as enzyme activity assays, protein fractionation, immunoprecipitation/pull-down assays, immunofluorescence assays and confocal microscopy;
6. -Contribution to supervision of junior staff in the team and visitors;
7. -Analysis of research data and preparation for presentation and publication;
8. -Keeping meticulous records of experimental details and analysis of results;
9. -Contribution to weekly laboratory meetings, journal clubs, department seminars, conferences and other academic gatherings.
10. Contribution to day-to-day running of the research laboratories and grant related issues as directed;

#### 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.

#### 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.

## 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 PhD in molecular biology, cell biology, biochemistry or a closely related field;
2. In-depth experience with *P. falciparum* cultivation and transfection;
3. A significant amount of postdoctoral laboratory experience;
4. In-depth skills in molecular techniques (e.g. plasmid construction, manipulation and DNA cloning), cell biology, cell culture and biochemical techniques;
5. A good working knowledge of protein purification and immunochemical techniques;
6. A strong background and excellent publication record compatible with experience;
7. Proven ability to work independently, as well as collaboratively as part of a research team, and proven ability to meet research deadlines.
8. Evidence of excellent interpersonal skills, including the ability to communicate effectively both orally and in writing
9. Evidence of good organizational skills, including effective time management.

### Desirable Criteria

1. Experience with a range of biochemical assays
2. Some experience of contributing to research grant applications.
3. Some experience of teaching and assessment.
4. Some experience of supervising and supporting junior researchers and/or research degree students, and non-academic staff.

## Salary and Conditions of Appointment

The post is fixed term until 30<sup>th</sup> June 2025 and full-time 1 FTE. The post is funded by the Wellcome Trust and is available to start as soon as possible. The salary will be on the Academic scale, Grade 6 scale in the range £ 43,947 - £ 49,908 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 "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](mailto: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: Sept 2023