

Job Title:	Research Fellow
Department:	Pathogen Molecular Biology
Faculty:	Infectious and Tropical Diseases
Location:	Keppel Street
FTE:	1
Grade:	G6
Accountable to:	Principal Investigator (PI) Dr Christiaan Van Ooij
Job Summary:	Plan, direct and undertake research into natural phenomena within a research programme funded by the MRC, entitled "Formation and function of the parasitophorous vacuole membrane in <i>Plasmodium falciparum</i> -infected erythrocytes".

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

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 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 Pathogen Molecular Biology (Head: Professor David Conway)

Research in the Department of Pathogen Molecular Biology focuses on the molecular biology and genetics of pathogens and interaction with their hosts, to improve understanding and control of infectious diseases. This includes: (i) determining mechanisms of infection of globally important viral, bacterial and parasitic pathogens; (ii) deciphering the genetic diversity of disease agents in natural populations to understand epidemiological and functional processes, (iii) studying immune evasion mechanisms of particular disease agents, (iv) exploiting pathogens as model biological systems, and (v) developing practical applications including improved diagnostic tests and characterisation of vaccine candidates or drug targets.

Studies in the Department include analyses of malaria parasites (*Plasmodium* spp), Chagas disease (*Trypanosoma cruzi*), African sleeping sickness (*Trypanosoma brucei*), amoebic dysentery (*Entamoeba*), the Leishmania species, bacterial food borne pathogens (*Campylobacter jejuni* and *Yersinia enterocolitica*), gastric ulcers/cancer (*Helicobacter pylori*), pseudomembranous colitis (*Clostridium difficile*), plague (*Yersinia pestis*), paddy field melioidosis (*Burkholderia pseudomallei*), Tuberculosis (*Mycobacterium tuberculosis*), Pneumonia (*Streptococcus pneumoniae*), Bluetongue viral disease of livestock, Herpesviridae, SARS, hemorrhagic fever viruses, and enteric rotaviruses that cause significant diarrhoeal disease.

The overall aim of our research is 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 rational 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. Members of the Department are 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.

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. To investigate the interaction of malaria parasites with the host erythrocyte, with a focus on the role of parasitophorous vacuole proteins. This will be done using cutting-edge genetic techniques, novel metabolic labeling techniques and electron microscopy techniques;
6. Design and implement strategies to delete or genetically tag *P. falciparum* genes encoding proteins inserted into the PVM, design complementation strategies for conditional deletion mutants and develop new techniques and solutions for *P. falciparum* genome editing.
7. Design and develop novel assays for the phenotypic analysis of transgenic parasite lines using microscopy, flow cytometry and a range of other parasitological techniques.
8. Any other reasonable duties as requested by the Head of Department or Head of Faculty.

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. To assist in the training of junior members of staff, including PhD students and Master's students, in the relevant scientific techniques.
4. Assist with supervision of student projects within the MSc Courses (e.g. Immunology of Infectious Diseases, Control of Infectious Disease).

INTERNAL CONTRIBUTION

1. To undertake activities that support the Department, Faculty or the School;
2. To participate in the School's PDR process;
3. To undertake the tasks required to make the laboratory and the Department function efficiently and convivially.
4. Play an active part in the academic life of the School and participate in departmental and faculty activities including participation in seminar programmes and laboratory meetings.

EXTERNAL CONTRIBUTION

1. To demonstrate good external citizenship by contributing to learned society/conference events, journal and grant reviews etc.;
2. Disseminate research findings to sponsors and the malaria research community, through international meetings & conferences and peer-reviewed publications.
3. To maintain contact with the relevant research communities outside the School

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;
4. To seek out and apply newly developed techniques applicable to the research in the laboratory.

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.
6. Provide a friendly and welcoming work atmosphere to colleagues in the School.

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 (or recently submitted) in biological sciences
- A strong background in experimental genetic approaches
- Extensive experience in molecular biology
- Experience in molecular and cell biological techniques
- A record of high quality publications in peer-reviewed journals commensurate with experience
- Excellent time management, organisation and communication skills, including written and spoken English
- Innovative and creative thinker with experience in development of novel assays and tools
- Computer literate, e.g. Word, Excel, PowerPoint & statistical software
- Demonstrable ability to work independently and as part of a team
- Demonstrable ability and prior experience of working with people from diverse backgrounds in a multicultural environment
- Flexibility in terms of working practice, role and working hours
- Ambitious and self-motivating, with an enthusiasm for biology, in particular molecular cell biology

DESIRABLE CRITERIA

1. Experience with culturing of *Plasmodium* parasites
2. Experience in cellular imaging, especially electron tomography or super resolution fluorescence microscopy
3. Experience in protein expression, purification and proteomics
4. Experience with flow cytometry

SALARY AND CONDITIONS OF APPOINTMENT

The post is based in London and funded for 24 months, with the possibility of extension (funding permitting). The salary will be on the Academic grade 6 scale in the range £38,533 to £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 REF ITD-PMBD-2018-05

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 <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
<i>External contribution: Contribution beyond the School</i>

¹ Such RFs are expected to be registered for a doctorate

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