Research Associate in Molecular Parasitology
Department of Biology

Closing date: 4 March 2019
Interview date: To be confirmed
Vacancy reference: 7388
INTRODUCTION

A vacancy exists for a fixed term full time position in molecular parasitology in the group of Professor Jeremy Mottram. The post is available from 1 April 2019 for 36 months, to support Professor Mottram’s research program during his secondment as Founding Director of the York Biomedical Research Institute.

For ~75% of your time you will be engaged in a research project on Leishmania biology. The Mottram group conducts research on the molecular basis of Leishmania virulence and on the identification and validation of drug targets. Applicants with interests in any appropriate area of molecular and cellular parasitology are encouraged to apply. Details of the research project will be finalised with the successful candidate. We are particularly interested, however, in using CRISPR/Cas9 generated mutant parasites to identify novel virulence factors. For ~25% you will support the research environment, including research project management, supervision and tutorials.

You should be ambitious, and have a demonstrated track record of competitive research and the capacity to work as part of a team. As appropriate, you will be encouraged to develop your own research ideas over the course of the funding period, to support future independent fellowship applications.
Main purpose of the role

- To conduct research under the supervision of Jeremy Mottram and to contribute to the production of research.
- To assist in the identification and development of potential areas of research and the development of proposals for independent or collaborative research projects.
- To participate actively in the planning and management of research projects, including supervising the work (including undergraduate / Masters projects) of others and providing expert advice and guidance.

Key responsibilities

(Role holders will be required to undertake some or all of the duties below)

- To conduct individual and collaborative research projects, duties to include: analysis and interpretation of research data; use of appropriate research techniques and methods; writing up of research results and dissemination through publications, seminar and conference presentations and public engagement and outreach activities; contributing to the identification of possible new areas of research.
- To contribute to the preparation of research proposals and applications to external bodies.
- To undertake appropriate organisational and administrative activities connected to the research project, including conference organisation, and the development of promotional or educational material including website maintenance and development.
- To develop and initiate collaborative working internally and externally, duties to include: the building of internal contacts and participation in internal networks; collaboration with colleagues on joint projects as required; participation in and identification of external networks in order to share information and identify potential opportunities for collaboration and possible sources of funding; attendance at and contribution to relevant meetings.
- To provide guidance to other staff and students, as required, as well as coordinating the work of small research teams.
- To assist with undergraduate teaching in own area of expertise.

Departmental specific responsibilities

You will be responsible for studying the role of virulence factors in the Leishmania: host interaction. You will be using one or more of the following approaches in advanced molecular parasitology research; CRISPR-Cas9 genome editing, parasite culture, confocal and 2-photon imaging, flow cytometry, qRT-PCR, transcriptomics, bioinformatics, other parasite genetic manipulation. Other techniques and approaches may be developed within the course of the project. You will work in close collaboration with other investigators involved with the project, including those working on in vivo models. You will assist in supervision and training of research and undergraduate students in research methods in molecular parasitology.
# PERSON SPECIFICATION

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<tr>
<th>Qualifications</th>
<th>Essential / Desirable</th>
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<tr>
<td>First degree in biochemistry/molecular biology or related science</td>
<td>Essential</td>
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<td>PhD in molecular genetics, molecular parasitology or equivalent experience</td>
<td>Essential</td>
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<tr>
<th>Knowledge</th>
<th>Essential / Desirable</th>
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<tr>
<td>Knowledge in molecular biology to engage in high quality research</td>
<td>Essential</td>
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<td>Knowledge of a range of research techniques and methodologies</td>
<td>Essential</td>
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<td>Knowledge of genetic manipulation of Leishmania or other parasitic protozoa</td>
<td>Essential</td>
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<tr>
<td>Has research expertise in an area that will complement and enhance the department’s research strategy and goals</td>
<td>Essential</td>
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<td>Knowledge of working with human infective pathogens</td>
<td>Desirable</td>
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<td>Knowledge of working under pathogen containment regulations</td>
<td>Desirable</td>
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<tr>
<td>Knowledge of Home Office regulations and experimental design in animal studies</td>
<td>Desirable</td>
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<th>Skills, abilities and competencies</th>
<th>Essential / Desirable</th>
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<td>Highly developed communication skills to engage effectively with a wide ranging audience, both orally and in writing, using a range of media</td>
<td>Essential</td>
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<td>Ability to write up research work for publication in high profile journals and engage in public dissemination</td>
<td>Essential</td>
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<td>Ability to develop research objectives, projects and proposals for own and joint research, with the assistance of a mentor if required</td>
<td>Essential</td>
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<td>Competency to conduct individual and collaborative research projects</td>
<td>Essential</td>
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<td>Ability to identify sources of funding and contribute to the process of securing funds, with collaborators if required</td>
<td>Essential</td>
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<td>Competency to make presentations at conferences or exhibit work in other appropriate events</td>
<td>Essential</td>
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<tr>
<td>Excellent skills in parasitology</td>
<td>Desirable</td>
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<td>Excellent research skills</td>
<td>Essential</td>
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<tr>
<td>Creativity in experimental design</td>
<td>Essential</td>
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<td>Competency in genetic manipulation of parasites</td>
<td>Desirable</td>
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<td>Willingness to learn and apply new techniques</td>
<td>Essential</td>
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<td>Current Home Office personal licence holder (or equivalent) or willingness to hold such</td>
<td>Desirable</td>
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#### Experience

| Experience of carrying out both independent and collaborative research | Essential |
| Experience of writing up research work for publication                | Essential |
| Ability to work as part of a team and also to work independently using own initiative | Essential |
| Experience of working with parasites                                  | Desirable |
| Experience of working under pathogen containment regulations          | Desirable |
| Experience of working with models of experimental leishmaniasis       | Desirable |
| Experience of advanced genetic manipulation methods                    | Essential |
| Experience in supervising junior members of a team                     | Essential |
| Experience in contributing to general lab duties                       | Essential |
| Experience of imaging techniques                                       | Desirable |

#### Personal attributes

| Attention to detail and commitment to high quality | Essential |
| Collaborative ethos                                 | Essential |
| Interest in and enthusiasm for the subject matter of the project(s) | Essential |
| Positive attitude to colleagues and students        | Essential |
| Willingness to work proactively with colleagues in other work areas/institutions | Essential |
| Ability to plan and prioritise own work in order to meet deadlines, including using initiative to plan research programmes | Essential |
| Commitment to personal development and updating of knowledge and skills | Essential |
The York Biomedical Research Institute

The York Biomedical Research Institute is a recently created virtual institute that brings together researchers across the biomedical research spectrum. Research is consolidated into three themes, Immunology, Haematology and Infection (IHI), Neurosciences and Molecular and Cellular Medicine. IHI represents an evolution of the work of the previous Centre for Immunology and Infection, which was established in 2010 to forge greater links between the Hull York Medical School and the Department of Biology at the University of York. Research within IHI ranges from fundamental studies on immunology, haematology, microbiology and parasitology through to first-in-human and other early phase clinical research. Our aim is to develop a greater understanding of the processes underlying chronic infectious and non-infectious disease, and thus to develop new approaches to prevention and treatment.

Within the current 2000m2 of research and office space, IHI has excellent laboratory facilities for research on ACDP HG3 organisms. Proximity to the Biosciences Technology Facility and Biological Services Facility of the Dept. of Biology ensure ready access to state of the art and well-supported cutting edge technology platforms (http://www.york.ac.uk/biology/technology-facility/) and animal facilities (to CL3). Clinical research is often a joint venture, utilising the expertise and resources of the University of York and York Teaching Hospital NHS Trust as well as overseas partners. We aim to provide an environment that can deliver early phase trials (phase 1 and phase 2) and support basic scientific research, which will result in high impact results (https://www.york.ac.uk/cii/clinicaltranslationalresearch/). The University of York also holds a Human Tissue Authority research license, managed via the York Tissue Bank. This initiative aims to develop networks with clinical care teams and help provide researchers from both the Hospital and University with access to human tissue for basic and translational research.

Research in the IHI has a focus on chronic diseases of infectious, autoimmune and haematological origin. Details of specific research projects can be found at our staff pages (https://www.york.ac.uk/cii/staff/). This is an exciting time to join the IHI with major new investments in academic posts, partly funded by expansion of the Medical School. Investment in immunology over the next two years will see the appointment of two clinical academic Chairs, one clinical SL, a non-clinical Assistant / Associate Professor and a Research Fellowship. A further non-clinical academic Associate Professor in Haematology and a Chair in Microbiology are also being appointed.
THE DEPARTMENT

Department of Biology

The Department of Biology welcomes staff and students from around the world. We celebrate excellence, breadth and diversity across the spectrum of modern biology. We are proud to foster a supportive culture that allows all staff and students to reach their full potential.

The Department of Biology has a research portfolio that spans ecology to structural biology, and the Department’s research has been judged world leading in biochemistry, chronic disease, microbiology, plant biology and ecology. Departmental research is focused around fundamental science research foci, which are Cell and Developmental Biology, Molecular and Cellular Medicine, Bioinformatics and Mathematical Biology, Infection and Immunity, Ecology and Evolution, Microbiology, Biochemistry and Biophysics and Plant Biology.

Following the 2014 REF the Department of Biology at York was again placed in the Top 10 in the UK. It is 1st for impact outside academia - our research has had major influence on environmental policy, industry and health. This demonstrates our strengths across the biological sciences: from ecology to biochemistry, biotechnology and biomedical sciences.

The Department has successfully continued to establish new laboratory space and refurbish our existing space and a new teaching building opened in Autumn 2016. A further major £25M development included the establishment of the Technology Facility, which provides ready access to a wide range of cutting-edge equipment, technology and associated expertise. The Bioscience Technology Facility is a unique resource providing a purpose-built facility for our world-class scientists and technologists working across six bioscience research capabilities. Collectively it brings together a unique range of expertise and equipment, and is recognised as a leading example of how to provide research support in the 21st Century.

The focus is on six core areas: Bioinformatics, Genomics, Imaging & Cytometry, Molecular Interactions, Protein Production, and Proteomics. The Department has a dedicated bioinformatics support team within the Technology Facility who can provide help and assistance with a wide range of bioinformatics software. Most analyses are performed on the YARCC, the University’s High Performance Research Compute cluster, which is about to undergo a major upgrade to hugely increase the computing resources available and will include a number of high memory nodes which are particularly suited to large bioinformatics analyses. The Department has a HPC Team Leader support available.
Within Imaging and Cytometry, facilities exist for flow sorting (MoFlo Astrios), flow analysis (2x 3-laser, 11 detector CyAn cytometers; 1 x 4 laser, 16 detector BD Fortessa X-20; 1x Apogee A40), confocal microscopy (Zeiss LSM 880 + Airyscan; LSM 780 multiphoton invert with 2NDDDs and 2 GaAsP NDDs and upright convertor equipped for live animal imaging; LSM 710 upright and LSM 510 Meta invert; Andor Revolution XD spinning disc), electron microscopy (FEI Technai 12 TEM, JOEL JSM-7600F field SEM, JOEL JSM-6490LV cryoEM), ptychography (Phase Focus VL20, VL 21 and LiveCyte), laser dissection (PALM) and high throughput slide scanning (Zeiss Axioscan Z1). A Nanostring Digital Spatial Profiling system will be installed in early 2019, allowing highly multiplexed analysis of tissue sections using antibodies or RNA probes.

The Department of Biology operates a set of family-friendly policies and welcomes applications that are made on a part-time and job share basis. We will do our best to accommodate such requests where possible. Staff working patterns are flexible and a formal flexitime system is also in operation. We provide support and advice for staff taking maternity, paternity, adoption and parental leave, and the University has a nursery and a Child Care voucher scheme. The Department strives to address gender inequalities and ensure that there is a culture that supports equality and encourages better representation throughout the department. Support for women at all stages of their career is recognised as being extremely important. The Biology Department at York holds a Gold Athena SWAN award and was the first Biology Department in Britain to have received a Gold award.
THE UNIVERSITY

Founded on principles of excellence, equality and opportunity for all, the University of York opened in 1963 with just 230 students. In 2018 it is the home of more than 17,000 students across more than 30 academic departments and research centres. Since opening over fifty years ago, we have become one of the world's leading universities and a member of the prestigious Russell Group.

We are consistently recognised as one of the leading Higher Education Institutes and are ranked 16th in the Times & Sunday Times league table (2017). The University of York has won six Times Higher Education (THE) Awards and five Queen’s Anniversary Prizes.

The University is proud of its association with Athena SWAN, holding 12 awards in support of gender equality, representation and success for all, with gold awards for Chemistry and Biology and a University-wide bronze award.

Of 154 universities that took part in the Research Excellence Framework (REF) in 2014, The University of York ranked 14th overall and 10th for the impact of our research. The University is consistently in the top ten UK research universities and attracts over £60m a year of funding from research alone.

Our vision is to make the University of York a world leader in the creation of knowledge through fundamental and applied research, the sharing of knowledge by teaching students from varied backgrounds and the application of knowledge for the health, prosperity and well-being of people and society.
Attractive workplace

Centred around the picturesque village of Heslington on the edge of the city of York, our colleges are set in an attractive landscaped campus. York enjoys a safe, friendly atmosphere with facilities including bars, shops, theatres and concert halls all within easy walking distance.

The University has undergone an unprecedented period of expansion and renewal since 2000. We have invested in twenty new buildings on the original campus and have completed the first and second phases of a £750m campus expansion. Our investment in new colleges, teaching and learning spaces, laboratories, research facilities and a new sports village mean there has never been a better time to join us.

During this period of change we’ve worked hard to retain our friendly, informal and collegiate atmosphere, which is important to our core values of inclusivity and interdisciplinarity.

We have a thriving international community and are committed to providing staff moving to York with as much support as possible through our Relocation Package and Welcome Officers.

The University is committed to promoting a diverse and inclusive community - a place where we can all be ourselves and succeed on merit. We offer a range of family friendly, inclusive employment policies, flexible working arrangements, staff engagement forums, campus facilities and services to support staff from different backgrounds.

For further information please visit our employee benefit pages
THE CITY AND THE REGION

The City of York

Internationally acclaimed for its rich heritage and historic architecture, York's bustling streets are filled with visitors from all over the world. Within its medieval walls you will find the iconic gothic Minster, Clifford's Tower and the Shambles - just a few of the many attractions.

But York isn’t just a great place to visit - it’s also a great place to live and work. While nourishing a vibrant cosmopolitan atmosphere, York still maintains the friendly sense of community unique to a small city.

Visit www.visityork.org for more information on the city of York

Shopping, culture and entertainment

York boasts specialist and unique boutiques but also all the high street stores on its busy shopping streets. Alongside them you will find cinemas, theatres, an opera house, art galleries, a vast range of restaurants, live music venues and clubs. York is particularly renowned for its multitude of pubs and bars, from the modern to the medieval.

Housing and schools

Whether you choose to live close to the city, in one of the surrounding villages or further afield, you will find a wide range of housing within comfortable distance of York and the University. For families, the area has a range of excellent schools both in the state and independent sector.

Great location

York is one of Britain’s best-connected cities. Halfway between London and Edinburgh on the East Coast mainline, on intercity trains you can reach London King’s Cross in less than two hours and Edinburgh in two and a half hours. York is also well served by road links, and it is easily accessible from the A1, M1 and the M62.

For those travelling from overseas, Manchester Airport is two hours away and Heathrow Airport just three and a half. Flights from nearby Leeds Bradford Airport provide easy access to mainland Europe. By Eurostar from London St Pancras, Paris is just over six hours away.

Yorkshire

The Lonely Planet guide recently declared Yorkshire the third best region in the world to visit. There is something to cater to every taste, whether it be the rugged landscapes of the Moors or the Dales, the picturesque seaside towns of Scarborough and Robin Hoods Bay, the gothic architecture of Whitby or the vibrancy of cosmopolitan Leeds.
Apply online

- Go to https://jobs.york.ac.uk
- Find this job using reference 7388
- Complete the online application form

You will need to submit your completed application by midnight (local UK time) on 4 March 2019

What will I need?

You will need to upload:
- your CV
- a letter describing how you meet the requirements of the job

You will also need details of 2 referees.

Help and assistance

Direct any informal queries to Professor Jeremy Mottram at jeremy.mottram@york.ac.uk or alternatively contact the Department of Biology at boil-dmthub@york.ac.uk

If you have any questions about your application, contact the HR Services team:

recruitment@york.ac.uk

+44 (0)1904 324835