



## Candidate Information

<b>Position:</b>	Research Fellow
<b>School/Department:</b>	Centre for Experimental Medicine
<b>Reference:</b>	19/107599
<b>Closing Date:</b>	Wednesday 31 July 2019
<b>Salary:</b>	£33,199 to £38,460 per annum
<b>Anticipated Interview Date:</b>	Tuesday 10 September 2019
<b>Duration:</b>	Available until 30 November 2019

### JOB PURPOSE:

To be a highly productive, ambitious, creative and collaborative member of the research team led by Dr Karim Dib in the Centre for Experimental Medicine (CEM). The position will involve working as part of an MRC-funded research programme that seeks to characterise the role of the histamine four receptor (H4R) in neutrophil phagocytosis. The project is aimed at investigating whether bacteria-derived histamine impairs human neutrophil phagocytosis by engaging the H4R on these leukocytes. We aim at investigating whether H4R antagonists may be used to improve bacterial clearance in the lungs of mice with cystic fibrosis (CF) by blocking the ability of histamine to impair neutrophil phagocytosis. We will utilise in vitro (human and murine neutrophils) and in vivo models (CF mouse model) to prove the role of the H4R in bacterial clearance. The described work will be carried out in collaboration with the group of Prof Miguel Valvano (CEM). Successful applicants will have responsibilities in independent research, supervision, planning, day-to-day lab management, collaborations and outreach. The post is suited to a highly ambitious individual, and is available initially for 5 months. There is the possibility of extending the contract by 12 months by working on a related research project funded by Northern Ireland Chest Heart and Stroke (see for more details the job description of the Northern Ireland Chest Heart and Stroke grant, post 2). Ideally, the post should start on July 1st 2019 and could then be extended by 12 months (see below regarding the job description for the Northern Ireland Chest Heart and Stroke grant).

### MAJOR DUTIES:

1. Undertake research under supervision within a research programme aimed at uncovering a novel host-pathogen interaction involving bacteria-produced histamine and the H4R of neutrophils. Develop, plan and deliver an area of personal research and expertise to further extend this area of research. Techniques include cell culture, isolation of human and mouse neutrophils, in vitro phagocytosis assays, and in vivo experimental models, as well as Molecular Microbiology.
2. Develop and implement, with support, a highly ambitious personal career development plan in the course of the post.
3. Maintain up-to-date knowledge of the field of interest at the cutting edge and communicate same to the group.
4. Carry out analyses, critical evaluations and interpretations of experimental data and the literature using methodologies and other techniques appropriate to area of research.
5. Present regular progress reports on research to members of the research group, other groups within the Centre/University, to external audiences nationally and internationally to disseminate and publicise research findings.
6. Prepare, in consultation with supervisors, material for publication in peer-reviewed journals and presentations at national and overseas conferences.
7. Assist the grant holder in the preparation of funding proposals by generating preliminary data and applications as well as project progress reports to external bodies.
8. Carry out routine administrative tasks associated with the research projects/group to ensure that projects are completed on time and within budget and that the group functions efficiently. These might include organisation of project/group meetings and documentation, financial control, stock management/procurement, risk assessment of research activities and development of SOPs. Carry out routine administrative tasks associated with the day-to-day running of the research group in a communal lab setting.
9. Carry out school/undergraduate/post-graduate student and visiting researcher training and supervision, demonstrating, tutoring or lecturing duties within the post holder's area of expertise and under the guidance of a member of academic staff.

10. Participate, and in some cases lead outreach activities on behalf of the group/Centre.
11. Participate in local research-related activities such as journal clubs, training sessions, seminar series etc.
12. Assist in assessment of research communications and data, particularly within the group.

**Planning and Organising:**

1. Plan for specific aspects of research programme. Timescales range from 1-2 months in advance and may contribute to overall research group planning.
2. Plan for access to, and use of, research resources, laboratories and workshops where appropriate.
3. Plan own day-to-day activity within framework of the agreed research programme as well as communal activities (e.g. meetings) where appropriate.
4. Coordinate and liaise with other members of the research group and collaborative research groups regarding work progress and stock management.
5. Assist in training other group members on effective planning and organisation.

**Resource Management Responsibilities:**

1. Ensure research resources are used in an effective and efficient manner including liaising with vendors and collaborators.
2. Provide guidance as required to support staff and any post-graduate/under-graduate students and visiting researchers who may be assisting with work of the group.

**Internal and External Relationships:**

1. Liaise on a regular basis with supervisor, colleagues, students and collaborators.
2. Communicate appropriately and effectively with lab colleagues topics such as latest research findings/results within the group and field.
3. Build internal contacts and participate in internal networks for the exchange of information and to form relationships for future collaboration.
4. Travel to, and present at scientific meetings and work in collaborative laboratories when necessary.
5. Join external networks to share information and ideas and help develop and maintain external collaborations, as appropriate.
6. Contribute to the School's outreach programme by developing links with local community groups, industries etc.

**ESSENTIAL CRITERIA:**

1. Have a PhD in Immunology, or a closely related area.
2. At least 3 years recent research experience in Immunology or Molecular/Cellular Microbiology.
3. Recent extensive hands-on experience in at least two of the following:
  1. Neutrophil Biology
  2. Mouse models of lung infection
  3. Lung bacteriology and pathology

AND

Recent high-quality original research publications in peer-reviewed journals, commensurate with career stage.

4. Experience in teaching/supervising /mentoring postgraduate/undergraduate/ students and visiting researchers in the laboratory.
5. Methodical approach to project management and meticulous in regards to experimental procedures and record keeping.
6. Highly ambitious, motivated, efficient, organised and show a commitment to, and interest in, research topic.
7. Competent in maintaining knowledge of cutting-edge of field of expertise.
8. Competent in giving effective and informative oral and poster presentations.
9. Competent in communicating stipulated research skills essential to the post in CV/job application.
10. Strong ability to work from own initiative.
11. Excellent team working skills in multiple internal and external team settings.
12. Leadership qualities.
13. Excellent problem-solving skills.
14. Irregular hours including evening, weekend and other out-of-hours working will be a component of the research at times.
15. Must be willing to travel to national and overseas meetings and collaborative laboratories.
16. Animal (mice) work.

**DESIRABLE CRITERIA:**

1. Home Office personal licence (modules 1-4)
2. Experience in neutrophil isolation, general communal lab management, Molecular Microbiology and Biology, animal models of lung infection.
3. Experience in writing high quality grant proposals, manuscripts, Ethics, technical reports and abstracts
4. Publication record commensurate with career stage
5. Experience teaching lab members as well as undergraduate lectures/tutorials/practical classes
6. Classroom-based teaching such as lecturing, tutorials.
7. Research project management
8. Up-to-date knowledge of fields of neutrophil/macrophage biology and/or Cellular Microbiology
9. Experience working in outreach settings