

Candidate Information

Position:	Research Fellow
School/Department:	Centre for Experimental Medicine
Reference:	19/107141
Closing Date:	Wednesday 6 March 2019
Salary:	£33,199 - £39,610 per annum (potential to progress to £43,266 per annum through sustained exceptional contribution)
Duration:	24 Months

JOB PURPOSE:

This 2 year postdoctoral position seeks an enthusiastic, ambitious and productive individual to join the highly collaborative Mucosal Immunometabolism & Microbial Symbiosis research team led by Dr Eric Campbell in the Wellcome-Wolfson Institute for Experimental Medicine.

The position will involve working on elucidating the influence of mucosal metabolism on host-microbiota interactions in the gut, with a view to characterising dysbiosis in disease states and promoting restoration of host-microbial symbiosis. The project is at the interface of microbiology, mucosal immunology and stem cell differentiation and will utilise cutting-edge in vitro, ex vivo and in vivo models of infection and inflammation. Candidates should have a strong research background in Immunology, Microbiology, Developmental/Stem cell biology or a related discipline. The post is a senior role in the team and as such, 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, preferably with previous postdoctoral experience, and is available for 2 years.

MAJOR DUTIES:

1. Develop, plan and deliver an area of personal research and expertise, and/or undertake research under supervision within a research programme aimed at uncovering fundamental biology of host-pathogen interactions. Techniques may include primary cell isolation and culture, in vivo experimental models, molecular microbiology, as well as assisting in the design and development of new models.
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. Design, develop and refine experimental models in order to obtain reliable and reproducible data in models of immune cell activity, cellular microbiology and molecular microbiology.
5. Carry out analyses, critical evaluations and interpretations of experimental data and the literature using methodologies and other techniques appropriate to area of research.
6. 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.
7. Prepare, always in consultation with supervisor, material for publication in national and international journals and presentations at international conferences.
8. Assist grant holder in the preparation of funding proposals by generating preliminary data and applications as well as project progress reports to external bodies.
9. 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.
10. 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.

11. Participate, and in some cases lead outreach activities on behalf of the group/Centre
12. Participate in local research-related activities such as journal clubs, training sessions, seminar series etc.
13. Assist in assessment of research communications and data, particularly within the group.
14. Additional research and/or laboratory related duties including outreach activities, within the general range of the post and competence of post holder

Planning and Organising:

1. Plan for specific aspects of research programme. Timescales range from 1-18 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. Plan up to 1.5 years in advance to meet deadlines for grant applications, journal publications and to prepare presentations and papers for conferences and meetings.
5. Coordinate and liaise with other members of the research group and collaborative research groups regarding work progress and stock management.
6. 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 or about to obtain a PhD in Immunology, Stem cell/Developmental Biology, Microbiology, or a closely related area.
2. At least 3 years recent relevant research experience in immunology, stem cell/developmental biology, molecular/cellular microbiology or relevant discipline.
3. Recent extensive hands-on experience in at least six of the following areas:
 - primary cell isolation and culture.
 - organoids/enteroids/iPSC/MSC culture
 - microinjection and/or micromanipulation
 - In vivo mouse models of disease (gut, lung, CNS or cancer/xenograft models)
 - CRISPR gene editing
 - molecular biology techniques (Single cell transcriptomics, RNA-seq, ChIP, cloning etc.)
 - multi-colour flow cytometry, characterization of immune cells (or FACS)
 - molecular bacteriology (generating bacterial mutants)
 - confocal microscopy
 - immunohistochemistry or in-situ hybridization
4. Recent high-quality research publications in reputable peer-reviewed journals, commensurate with career stage.
5. Experience teaching/supervising/mentoring postgraduate/undergraduate/school students and visiting researchers in the laboratory
6. Methodical approach to project management and meticulous in regards to experimental procedures and record keeping.
7. Highly ambitious, motivated, efficient, organised and show a commitment to, and interest in, research topic.
8. Competent in maintaining knowledge of cutting-edge of field of expertise
9. Competent in giving effective and informative oral and poster presentations

10. Competent in communicating stipulated research skills essential to the post in CV/job application
11. Ability to work from own initiative.
12. Excellent team working skills in multiple internal and external team settings
13. Leadership qualities
14. Excellent problem-solving skills
15. Irregular hours including evening, weekend and other out-of-hours working will be a component of the research at times.
16. Must be willing to travel to national and international meetings and collaborative laboratories.
17. This role will include Animal work (mice)

DESIRABLE CRITERIA:

1. UK Home Office personal licence (modules 1-4)
2. Human Tissue Act trained.
3. Experience in four of the following:
 - fecal microbial transplantation into mice
 - analysis of 16S rDNA sequencing of gut microbial populations
 - mouse colony maintenance
 - bone marrow chimeras
 - bacterial infection mouse models
 - physiology/electrophysiology techniques (e.g. Ussing chamber; Patch clamping etc.)
 - metabolomics (Seahorse, HPLC, mass spec etc.)
 - western blotting/gradient gels
 - migration/invasion assays
 - TaqMan/SYBR green quantitative PCR
4. High quality grant, manuscript, ethics application, report and abstract writing experience
5. Experience teaching lab members as well as undergraduate lectures/tutorials/practicals
6. Classroom-based teaching such as lecturing, tutorials.
7. Research project management training
8. Up-to-date knowledge of fields of mucosal immunology and/or cellular microbiology
9. Experience working in outreach settings