

Candidate Information

Position:	Postdoctoral Research Fellow
School/Department:	Centre for Experimental Medicine
Reference:	19/107469
Closing Date:	Wednesday 12 June 2019
Salary:	£33,199 to £36,261 per annum
Duration:	2 years

JOB PURPOSE:

A 2-year Medical Research Council UK funded position is available for a highly-motivated candidate with strong interest in host-pathogen interaction in the research team of Dr. Gunnar Schroeder from the 1st of August 2019.

The successful candidate will drive an exciting research programme and use microbiological, cell biological and biochemical methods combined with imaging and proteomics analysis to elucidate new molecular mechanisms of host subversion by the facultative intracellular human pathogen *Legionella pneumophila*.

The Schroeder Team is based in the brand-new Wellcome-Wolfson Building providing state-of-the-art labs and research facilities. The successful candidate will be part of a dynamic and collaborative team, a vibrant, international postdoc community and have access to personal development opportunities.

The post is a senior role in the team and as such, successful applicants will have responsibilities in research, supervision, planning, lab management and collaborations. The post is suited to an organised, productive and communicative individual, preferably with postdoctoral experience in studying host-pathogen interactions.

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 cell culture, cell signalling analysis, infection models, proteomics, microscopy as well as extensive 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. Design, develop and refine experimental models in order to obtain reliable and reproducible data in models of cell signalling, cellular 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 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 a PhD in Cellular Microbiology, Molecular Microbiology, Cell biology or Biochemistry or a closely related area.
2. At least 3 years recent relevant research experience to include experience in cellular/molecular microbiology, or related field with proficiency in general tissue culture methods.
3. Recent extensive hands-on experience in Molecular biology (construction of plasmids etc.) and at least three of the following:
 1. Cell infections
 2. Transfections and/or transductions
 3. Gene knock down/out by siRNA, shRNA and/or CRISPR-Cas
 4. Protein purification and characterisation
 5. Epifluorescence/confocal and/or super-resolution microscopy
 6. Proteomics sample preparation and data analysis
4. Recent high-quality original 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 & data management and meticulous in regards to experimental and safety 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. Excellent verbal and written communication skills.
10. Competent in giving effective and informative oral and poster presentations.

11. Competent in communicating stipulated research.
12. Strong ability to work from own initiative.
13. Excellent team working skills in multiple internal and external team settings.
14. Leadership qualities.
15. Excellent problem-solving skills.
16. Irregular hours including evening, weekend and other out-of-hours working will be a component of the research at times.
17. Must be willing to travel to national and international meetings and collaborative laboratories.

DESIRABLE CRITERIA:

1. Experience in tissue culture (macrophage), infections, siRNA and/or shRNA and/or CRISPR-Cas approaches, generation of stable cell lines.
2. Experience in the functional characterisation of proteins.
3. Experience with protease biology.
4. Experience in epifluorescence/confocal or super-resolution microscopy and quantitative image analysis.
5. Experience in proteomics sample preparation and data analysis (interactomes or N-terminal labelling or SILAC).
6. General communal lab management.
7. High quality grant, manuscript, ethics application, report and abstract writing experience.
8. Productive PhD/postdoctoral experience as evidenced by a strong publication record commensurate with career stage.
9. Experience teaching lab members as well as undergraduate lectures/tutorials/practicals.
10. Classroom-based teaching such as lecturing, tutorials.
11. Research project management skills.
12. Up-to-date knowledge of fields of cellular microbiology and macrophage biology.
13. Experience working in outreach settings.