



## Candidate Information

<b>Position:</b>	Research Fellow - Infection Biology
<b>School/Department:</b>	Wellcome-Wolfson Inst for Experimental Medicine
<b>Reference:</b>	21/108760
<b>Closing Date:</b>	Monday 10 May 2021
<b>Salary:</b>	£33,797 - £34,804 per annum
<b>Anticipated Interview Date:</b>	Tuesday 1 June 2021
<b>Duration:</b>	48 months or until 31 July 2025 (whichever is sooner)

### JOB PURPOSE:

To be a highly productive, ambitious and collaborative member of the Infection Biology research team led by Prof Jose Bengoechea located at the Wellcome-Wolfson institute for Experimental Medicine. The position will involve working as part of a BBSRC-funded research programme that seeks to characterise the antimicrobial function of the type VI secretion system (T6SS) of the human pathogen *Klebsiella pneumoniae*. The project focuses on characterizing the antibacterial and antifungi function of the T6SS effectors, dissecting the assemblies needed for the delivery of these effectors, and on uncovering how the T6SS is coordinated with other envelope structures, chiefly the lipopolysaccharide. The project will utilise single cell approaches, and functional genomics (TraDIS), and it is based in a highly collaborative international team. 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.

### 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 the T6SS. Techniques include extensive molecular microbiology, single cell microscopy, and functional genomics (TraDIS).
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 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 Institute/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 national and 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 laboratory 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/Institute.
12. Participate in local research-related activities such as journal clubs, training sessions, Institute's 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 laboratory 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 Molecular Microbiology, or a closely related area.
2. At least 3 years recent research experience in molecular microbiology.
3. Recent extensive hands-on experience in at least two of the following:
  1. Molecular bacteriology (specifically construction of mutants)
  2. Assessing bacterial gene transcription
  3. Transposon mutagenesis
  4. Bacterial protein purification
  5. Bacteria two-hybrid system
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 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. Strong 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. Animal (mice) work.

**DESIRABLE CRITERIA:**

1. Home Office personal licence (modules 1-4).
2. Experience in TraDIS, and bacterial genomics, general communal lab management.
3. High quality grant, manuscript, ethics application, report and abstract writing experience.
4. Productive PhD/postdoctoral experience as evidenced by a strong publication record commensurate with career stage.
5. Experience teaching laboratory members as well as undergraduate lectures/tutorials/practicals.
6. Classroom-based teaching such as lecturing, tutorials.
7. Research project management.
8. Up-to-date knowledge of fields of bacterial secretion systems, and antibacterial effectors.
9. Experience working in outreach settings.