

Candidate Information

Position:	Research Fellow
School/Department:	Centre for Experimental Medicine
Reference:	19/107607
Closing Date:	Wednesday 31 July 2019
Salary:	£33,199 to £36,261 per annum
Anticipated Interview Date:	Thursday 5 September 2019
Duration:	Until 31 August 2021

JOB PURPOSE:

To be an active member of the Halo Research Group working as part of the iABC-consortium (inhaled Antibiotics in Bronchiectasis and Cystic fibrosis: <https://www.imi.europa.eu/projects-results/project-factsheets/iabc>) which is developing new antibiotic treatment options for people with Cystic Fibrosis and Bronchiectasis. To develop molecular metagenomic methods for evaluating development of antimicrobial resistance following antibiotic treatment and determining activity of novel compounds against respiratory pathogens. To assist in the planning and delivery of this research so that the overall research objectives of the project are met.

MAJOR DUTIES:

1. Develop real-time PCR assays to detect and quantify genes encoding for known antimicrobial resistance determinants.
2. Develop metagenomic methods for evaluating global development of antimicrobial resistance within clinical samples.
3. Develop methods to test activity of novel antimicrobial compounds against a range of respiratory pathogens including non-tuberculous mycobacteria (NTMs).
4. To present regular progress reports on research to members of the research group, external audiences and to disseminate research findings.
5. Prepare, in consultation with supervisor, material for publication in national and international journals. If appropriate present at national/international conferences.
6. Carry out routine administrative tasks associated with the research project/s to ensure that projects are completed on time and within budget. These might include organisation of project meetings and documentation, financial control, risk assessment of research activities.
7. Carry out occasional undergraduate supervision, demonstrating or lecturing duties within the post holder's area of expertise and under the direct guidance of a member of academic staff.
8. Read academic papers, journals and textbooks to keep abreast of developments in own specialism and related disciplines.

Planning and Organising:

1. Plan for specific aspects of research programmes. Timescales range from 1-3 months in advance and contribute to research group planning.
2. Plan for the use of research resources, laboratories and workshops where appropriate.
3. Plan own day-to day activity within framework of the agreed research programme.
4. Plan up to 6 months in advance to meet deadlines for journal publications and to prepare posters, presentations and/or papers for conferences.
5. Coordinate and liaise with other members of the research group over work progress.

Resource Management Responsibilities:

1. Ensure research resources are used in the most effective and efficient manner.
2. Provide guidance as required to support staff and any students who may be assisting with research.

Internal and External Relationships:

1. Liaise on a regular basis with colleagues and students. Build internal contacts and participate in internal networks for the exchange of information and to form relationships for future collaboration. Join external networks to share information and ideas.
2. Contribute to the School's outreach programme by establishing links with local community groups, industries etc.

ESSENTIAL CRITERIA:

1. Primary Degree
2. Hold or shortly expect to obtain to obtain a PhD in Microbiology, Microbial Ecology, Molecular Microbiology, Bioinformatics, Biochemistry or related discipline.
3. At least 3 years relevant research experience (including PhD training) to include experience the following:
 - Bacterial culture techniques
 - Molecular biology including development of quantitative PCR assays
 - Statistical analysis of data
 - Involvement in publication preparation and presentation of scientific data at regional and international meetings.
 - Publications commensurate with stage of career
4. Ability to carry out routine administrative tasks associated with the research project.
5. Ability to communicate effectively, both verbally and in writing.
6. Practical problem-solving skills, and independence of thought are required.
7. Ability to present scientific arguments and data in a clear, concise and confident manner.
8. Ability to present regular progress reports on research to members of the research group or to external audiences to disseminate and publicise research findings.
9. A calm and conscientious scientist, able to work in a disciplined manner within a team environment.
10. Willing to handle samples, which may contain potentially harmful pathogens and the culture of pathogenic bacteria.
11. Willing to work outside office hours as the need dictates.

DESIRABLE CRITERIA:

1. Experience of microbiome related studies, DNA extraction, next generation sequencing, functional metagenomics, and bioinformatics.
2. UNIX and programming skills, including sequence analysis, functional annotation from metagenomes, genome assembly, data analysis and visualisation in R.
3. Antimicrobial susceptibility testing.
4. Culture of non-tuberculous mycobacteria.