

Candidate Information

Position:	Research Fellow in high-throughput sequencing viromics
School/Department:	Biological Sciences
Reference:	23/111159
Closing Date:	Monday 18 September 2023
Salary:	£37,099 - £40,521 per annum
Anticipated Interview Date:	Thursday 28 September 2023
Duration:	Fixed term for 18 months or until 30 June 2025, whichever is sooner

JOB PURPOSE:

An experienced and motivated postdoctoral with experience in molecular biology and bioinformatics techniques is sought to join the Understanding Health and Disease Theme at the School of Biological Sciences of Queen's University Belfast (QUB).

The cross-disciplinary group consists of members with skills in veterinary and animal science, bioinformatics, computer sciences, and microbiology and virology. The successful candidate will undertake a senior role in the planning and delivery of research activities focused on the identification of putative viral agents involved in the aetiology and pathogenesis of the Runting Stunting Syndrome (RSS) in broiler chickens through application of cutting edge high-throughput sequencing approaches. The project is joint between QUB and the Virology Branch of the Agri-Food and Biosciences Institute (AFBI), based at Stormont, and is funded by the Biotechnology and Biological Sciences Research Council of the UK. It also involves partners from the major UK broiler integrator and avian veterinary services.

RSS is a major issue in modern broiler production systems. It results in poor bird performance, including slow growth and poor feed utilisation, and results in increased within flock performance variation. The syndrome potentially involves co-infection of endemic poultry viruses, which are yet to be fully determined and, against the majority of which, treatments or controls are not available. In the UK the syndrome has a prevalence of 10-20% and it has been associated with several million pound losses annually, due to culling and the discard of carcasses (<https://www.thepoultrysite.com/articles/runtingstunting-syndrome-in-broilers>). The overall aim of the project is to identify viruses associated with stunting disease, and to determine their potential role in the aetiology of the RSS syndrome.

The successful candidate will have a demonstrable track record in molecular biology and bioinformatics as applied to complex microbial communities; experience in the analysis of high-throughput sequencing data associated with viral communities is desirable. The successful applicants should have (or about to obtain) an PhD degree in a related area and strong publication record. They will have responsibilities in independent research, supervision, planning, day-to-day lab management, collaborations and outreach.

MAJOR DUTIES:

1. Undertake and advise on the day-to-day research necessary to achieve Queen's University objectives within the project. More specifically, lead research that aims to identify the putative causal agents in RSS through the use of viral metatranscriptomic sequencing data. Laboratory work will include laser microdissection of gut lesions from poultry, sample preparation and the extraction of high quality viral nucleic acids suitable for meta-transcriptomics some of which will take place on AFBI premises.
2. Work closely with virologists, bioinformaticians, and animal and veterinary scientists, focusing on the deliverables of the activities of the Project.
3. Participate in group project meetings (QUB/AFBI) and external project meetings, including the development of progress reports describing and reflecting on the outcomes of the project.
4. Input in the formal reporting to the project funders.
5. Assist with the planning, development, and publication of research work within the project – taking a lead where appropriate.

6. Participate in national and international conferences and workshops to present the results of the project to a wider audience and to learn about current advances in the field. Prepare and present talks, posters and reports to disseminate the results of the research.
7. Assist with the preparation of (potentially collaborative) journal papers for publication of project findings.
8. Contribute to the supervision and training of post-graduate/undergraduate students and visiting researchers.
9. Participate in writing new research proposals that build on the expertise developed in this project; through this, start to develop an independent research profile.
10. Carry out routine administrative tasks associated with the day-to-day running of the research group in a communal lab setting.
11. Any other duties appropriate to the grade and position as directed by Professors Kyriazakis and Creevey, and other senior members of the project team.

ESSENTIAL CRITERIA:

1. Have or about to obtain a PhD in Bioinformatics, molecular biology, virology or a related discipline.
2. At least 3 years' recent relevant research experience in molecular techniques, bioinformatic analysis etc as related to high-throughput sequencing data.
3. Peer reviewed publications or preprints demonstrating experience/skills in virology, molecular biology and/or bioinformatics.
4. Ability to contribute to broader management and administrative processes.
5. Methodical approach to project management and meticulous in regard to experimental procedures and record keeping.
6. Sufficient breadth and depth of specialist knowledge in the discipline and of research methods and techniques to work within established research programmes.
7. Competent in giving effective and informative oral and poster presentations.
8. Ability to communicate complex information clearly.
9. Ability to build contacts and participate in internal and external networks.
10. Strong ability to work from own initiative and to work independently within the context of a research team.
11. Commitment to high quality research.
12. Demonstrable intellectual ability.
13. Ability to assess and organise resources.
14. Irregular hours including evening, weekend and other out-of-hours work may be a component of the research at times.
15. Willingness to travel to national and international meetings and collaborative partner facilities as required on an ad-hoc basis.

DESIRABLE CRITERIA:

1. Experience in laboratory techniques associated with the extraction and isolation of viral RNA for high-throughput sequencing.
2. Experience of handling viral metatranscriptomic sequencing data.
3. Experience with command line high-throughput sequencing analysis tools and workflow managers for creating re-useable analysis pipelines.
4. Interest to input into lesion excision through a variety of techniques.
5. Experience in applying best-practice approaches to data management.
6. Strong publication record in peer reviewed journals.
7. Experience in research project reporting.
8. Evidence of having presented at conferences (poster and/or oral presentations).
9. Driving Licence to enable travel within N Ireland for project objectives.