Candidate Information

Position:	Research Fellow
School/Department:	Wellcome-Wolfson Inst for Experimental Medicine
Reference:	22/110034
Closing Date:	Monday 5 September 2022
Salary:	£35,333 - £42,155 per annum
Anticipated Interview Date:	Thursday 15 September 2022
Duration:	Fixed Term 12 months

JOB PURPOSE:

To provide genomics support for the QUB SARS-CoV-2 sequencing team, which was created to deliver large-scale and rapid whole-genome virus sequencing as part of the COVID-19 Genomics UK Consortium, and now supports the local NHS. The University, with Dr David Simpson from the Wellcome-Wolfson Institute for Experimental Medicine as PI, is working closely with a team in the Belfast Health and Social Care Trust led by Dr Derek Fairley (Regional Virus Laboratory).

The primary role will be to prepare libraries from amplified SARS-CoV-2 genomes for next generation sequencing. This will involve working closely with the Genomics CTU who will provide access to the required technology platforms including an Echo liquid handler and Illumina, Oxford nanopore and PacBio sequencers.

The successful applicant will be responsible for sample handling and day-to-day planning and prioritisation to facilitate processing of samples according to varying demand and deadlines. In addition to gaining experience with cutting-edge molecular genetic techniques there will be the opportunity for innovation and development of more effective protocols. You will also be involved in handling of the sequence data and bioinformatic analysis of the ever-growing number of virus sequences locally and nationally.

MAJOR DUTIES:

1. Complete all training required to work embedded within the Genomics CTU, including competence with robotic systems, the Echo liquid handler and Illumina MiSeq and Oxford nanopore GridION sequencers.
2. Preparation of libraries from amplified SARS-CoV-2 genomes for next generation sequencing. This will include using protocols developed by the ARTIC consortium for sequencing on the Oxford Nanopore minION or GridION systems. Also, application of a miniaturised NexteraXT Illumina protocol implemented on the Echo liquid handler. Development of improved protocols.
3. Maintain quality control throughout pipelines, supported by meticulous records.
4. Carry out analyses, critical evaluations and interpretations of experimental data and the literature using methodologies and other techniques appropriate to area.
5. Maintain up-to-date knowledge of the SARS-CoV2 genomic analyses and communicate same to the group.
6. Present regular progress reports on samples processed to members of the research group, Prepare, often in consultation with supervisor, reports for use by the local public health agency and material for publication in national and international journals and presentations at international conference.
7. Rapid sequencing of samples from live outbreak and preparation of reports.
8. Assist with sequence data analysis and reporting using COG-UK and other software tools on the COG-UK CLIMB servers.
9. Assist grant holder in the preparation of funding proposals and applications as well as project progress reports to external bodies.
10. Carry out routine administrative tasks associated with the activities of the QUB SARS-CoV-2 sequencing team to ensure that samples are processed 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 team in a communal lab setting.

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. Additional research and/or laboratory related duties including outreach activities, within the general range of the post and competence of post holder.

ESSENTIAL CRITERIA:

1. Have or about to obtain a PhD in a subject involving molecular biology.
2. 3 years relevant work experience to include basic molecular biology techniques such as nucleic acid extraction, RT-PCR, and DNA sequencing. Some experience with bioinformatics.
3. Methodical approach to project management and meticulous in regards to experimental procedures and record keeping.
4. Highly ambitious, motivated, efficient, organised.
5. Commitment to, and interest in, the research topic.
6. Competent in maintaining knowledge of cutting-edge of field of expertise.
7. Competent in giving effective and informative oral and poster presentations.
8. Competent in communicating stipulated research skills essential to the post.
9. Ability to work from own initiative.
10. Excellent team working skills in multiple internal and external team settings.
11. Leadership qualities.
12. Excellent problem-solving skills.
13. Irregular hours including evening, weekend and other out-of-hours working will be a component of the work at times.

DESIRABLE CRITERIA:

1. Hands-on experience with high throughput genomics technologies.
2. Advanced bioinformatics skills, including sequence alignment and command-line work on remote computer systems.
3. Up-to-date knowledge in the field of genome sequencing and virology.
4. Experience in Research project management.