



## Candidate Information

<b>Position:</b>	Research Fellow in SARS-CoV-2
<b>School/Department:</b>	Biological Sciences
<b>Reference:</b>	21/108643
<b>Closing Date:</b>	Monday 1 March 2021
<b>Salary:</b>	£33,797 per annum.
<b>Duration:</b>	This post is available until 2 July 2021.

### **JOB PURPOSE:**

To be an active member of a research team developing scFv antibodies against SARS-CoV-2. The post-holder will be in charge of constructing and panning of scFv-displaying phage libraries, characterizing enriched phage clones for interaction with SARS-CoV-2 proteins, sub-cloning and expressing scFv proteins in yeast cell, purifying the scFv proteins and test the activity of the purified scFv proteins in recognising SARS-CoV-2 proteins. The post-holder will also be involved in in vitro mutagenesis of scFv clones in order to further increase binding affinity of the antibodies to the SARS-CoV-2 proteins. The post-holder will be in charge of supply the scFv phage and purified scFv proteins to other labs of the team to test impact on SARS-CoV-2 virus. The post holders will be responsible for the planning and delivery of the research activity within this project so that the overall research objectives of the project are met.

### **MAJOR DUTIES:**

1. Develop, Plan and Undertake research within the area of scFv.
2. Maintain up-to-date knowledge in the field at the cutting edge and communicate same to the group.
3. Publish research in appropriate international quality journals etc. and present work at conferences.
4. Design, develop and refine protocols in order to obtain reliable and reproducible data from computer simulations.
5. Carry out analysis, critical evaluations and interpretations using methodologies and other techniques appropriate to area of research.
6. Construct scFv-displaying phage libraries and pan them, using SARS-CoV-2 proteins.
7. Characterize enriched phage clones by ELISA.
8. Sub clone and express scFv proteins in *Pichia pastoris* yeast.
9. Purify scFv proteins and characterize the proteins' interaction with SARS-CoV-2 proteins by ELISA.
10. Carry out in vitro mutagenesis of candidate scFv antibodies, express and purify the proteins, and test interaction with SARS-CoV-2 proteins.
11. To present regular progress reports to the research team and external audiences to publicise research findings.
12. Prepare, in consultation with the line manager, material for publication in high-impact journals and presentations at national/international conferences.
13. Assist grant holder in the preparation of funding proposals and applications to external bodies by generating preliminary data and applications as well as project progress reports.
14. Carry out routine administrative tasks associated with the research project to ensure that the project is completed on time.
15. To maintain links with collaborators, project mentors and commercial partners.
16. Read academic papers, journals and textbooks to keep abreast of developments in own specialism and related disciplines.
17. Any other reasonable duties within the general remit of the post.

### **Planning and Organising:**

1. Plan for specific aspects of research programmes and contribute to research group planning.
2. Plan for the use of research resources, and laboratories and workshops.
3. Plan own day-to day activity within framework of the agreed research programme.
4. Plan in advance to meet deadlines for reports, and to prepare presentations for partner meetings.
5. Coordinate and liaise with other members of the research group over work progress.

6. To attend and present at the meetings with project collaborators and advisers.

**Resource Management Responsibilities:**

1. Ensure research resources are used in an effective and efficient manner.
2. Provide guidance as required to support staff and any students who may be assisting with research.
3. To manage resources and time efficiently to ensure timely completion of the planned and agreed tasks.

**Internal and External Relationships:**

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

**ESSENTIAL CRITERIA:**

1. Have or be about to obtain a PhD in molecular biology, or related research area.
2. At least 3 years' relevant research experience.
3. Recent relevant experience in molecular biology including molecular cloning, qPCR and protein purification.
4. Experience in Molecular cloning and protein biochemistry.
5. Ability to manage own research project including working to deadlines and being accountable for deliverables.
6. Sufficient breadth and depth of specialist knowledge in the discipline and of research methods and techniques to work within established research programme.
7. Ability to communicate complex information clearly.
8. Ability to build contacts and participate in internal and external networks.
9. Demonstrable intellectual ability.
10. Ability to assess and organise resources.
11. Ability to work efficiently as a team member and be highly motivated.

**DESIRABLE CRITERIA:**

1. Experience in Phage display.