

Candidate Information

Position: Research Fellow
School/Department: Patrick G Johnston Centre for Cancer Research
Reference: 21/108835
Closing Date: Tuesday 8 June 2021
Salary: £33,797 per annum
Anticipated Interview Date: Friday 18 June 2021
Duration: Available until Monday 14 June 2023

JOB PURPOSE:

To undertake original research in the area of structural bioinformatics for vaccine design. This post involves close working with an industrial partner for discovery of new vaccines and to produce optimisations for existing vaccine designs. The post-holder will also develop structural bioinformatics resources and produce journal publications.

MAJOR DUTIES:

1. Undertake analyses of protein sequence, structure and function to inform vaccine design.
2. Design and implementation of structural bioinformatics workflows.
3. Consolidate and produce computational code for integration and analysis of relevant datasets, to enable effective research progress.
4. Engage proactively with the industrial partner to ensure translation of results, maintaining appropriate confidentiality around intellectual property.
5. To develop and continuously update knowledge of literature relevant to the areas of research, including awareness of new tools and approaches.
6. Supervise and provide technical advice to others in the group as appropriate (e.g. students).
7. To work as part of a team and have excellent communication with colleagues.
8. Produce data for publications in reputable international peer-reviewed journals.
9. Contribute to the development of ideas for future research work and to the writing of funding applications, if requested.
10. Any other reasonable duties within the general scope of the post and competence of post-holder.

Planning and Organising:

1. To ensure the design and implementation of his/her research work, making effective use of shared resources including the Kelvin compute cluster and filesystem.
2. Close collaboration with other members of the Data Intensive Biomedicine group will be important in order to generate and collate data, avoid duplication of effort and report on results.
3. Approaches to address specific research aims will be designed in discussion with Dr Overton and collaborators, as appropriate.
4. Overall timelines, changes of direction, response to serious/unexpected events, identification of the best way forward and interpretation of complex data will be determined by Dr Overton in discussion with the post-holder.
5. Creativity, initiative and knowledge will be required to identify areas for research, to develop new approaches, and to diversify the research parameters. Initiative and experience will be applied to analyse and interpret research data, and to draw appropriate conclusions.

Resource Management Responsibilities:

1. To ensure research resources are used in an effective and efficient manner.
2. To contribute to computing software maintenance and troubleshooting.
3. To provide guidance as required to support staff and any students who may be assisting with research.

Internal and External Relationships:

1. Dissemination of results to collaborators and the wider scientific community. For example, to write and contribute to the preparation of scientific manuscripts, reports, presentations, records of experimental plans and records of results obtained.
2. Collegiate interaction with other members of the Overton group and collaborators, including employees of the industrial partner.
3. Active participation in critical discussion at relevant meetings.
4. To build internal contacts and participate in internal networks for the exchange of information and to form relationships for future collaboration.
5. To contribute to public engagement with science as part of the School of Medicine Dentistry and Biomedical Science's outreach programme.

ESSENTIAL CRITERIA:

1. Hold (or be about to attain) a PhD in a relevant area.
2. Hold an undergraduate or postgraduate degree (or equivalent) in a relevant subject (e.g. Computer Science, Biology, Physics, Biochemistry, Bioinformatics).
3. At least 3 years relevant research experience to include:
 - Demonstrated ability to learn and apply new computational tools and techniques
 - Proven track record of research success.
 - Experience in at least one of Perl, Python, Java, R or C/C++
4. Good oral and written communication.
5. Ability to plan, organise & prioritise work and meet deadlines.
6. Excellent attention to detail.
7. Ability to communicate complex information clearly and efficiently.
8. Self-motivated and able to work well as part of a group. Including to keep colleagues informed of developments and research progress. Also to maintain positive and productive working relationships.
9. To show initiative and work independently when required.
10. Willing to communicate research results to the scientific community both within the UK and abroad, as appropriate.

DESIRABLE CRITERIA:

1. Doctoral degree in the area of computational biology or bioinformatics.
2. First class undergraduate degree.
3. Successful completion of research with a strong computational element.
4. Leading the writing of scientific peer-reviewed journal publications.
5. Strong publication track record.
6. Experience contributing to applications for peer reviewed research funding.
7. Familiarity with standard computational biology tools and resources.
8. Fluent in biochemistry and structural biology.
9. Expertise in one or more of: machine learning, protein structural modelling, homology modelling, protein sequence alignment and analysis, protein structure prediction, epitope prediction, bioinformatics workflows.
10. Multiple programming languages.
11. SQL database design and administration.
12. Website development.
13. Ability to learn new techniques quickly and work to a very high standard.