



Candidate Information

Position:	Research Fellow
School/Department:	Centre for Cancer Research and Cell Biology
Reference:	20/108243
Closing Date:	Monday 27 July 2020
Salary:	£33,797 to £36,914
Anticipated Interview Date:	Wednesday 12 August 2020
Duration:	This is a fixed term contract for 4 years

JOB PURPOSE:

To develop new computational models of the sensitivity of different cell types to radiation, based on their underlying genetic and physiological characteristics. This research fellow will work as part of an interdisciplinary team funded through Dr McMahon's UKRI Future Leaders Fellowship to develop novel predictive models of intrinsic sensitivity to radiation therapy.

New models of the genetic pathways involved in radiation response will be developed, to enable the prediction of key factors governing radiation sensitivity from genetic and phenotypic data about cell lines. These models will be benchmarked both as independent predictive tools, as well as used in combination with an integrated biophysical model of radiation response developed within QUB. These model predictions will be benchmarked against in vitro datasets as part of development towards future validation in clinical cohorts.

The research fellow will work in collaboration with other members of the team involved in acquisition of new radiation response data to support the interpretation of results and the identification of key experimental studies needed to further refine models. They will also be expected to contribute to the supervision of junior members of the team, including undergraduate and postgraduate students as appropriate.

MAJOR DUTIES:

1. To develop new computational models of radiation response as part of the wider research programme under the supervision of Dr McMahon (PI), Dr Ian Overton (Co-I) and other senior investigators. Work with team members involved in experimental studies to design experiments to effectively refine model predictions.
2. To present regular progress reports on research to members of the research project team and, as appropriate, to other internal or external audiences to disseminate and publicise research findings.
3. To work as part of a collaborative team of cell biologists, physicists, and bioinformaticians to ensure optimal progression of the project at all times and to contribute to the achievement of project milestones.
4. To write up results in a timely manner and take a leadership role in writing research manuscripts for publication in high quality journals. To maintain data files appropriate for Institutional Data Repository.
5. The appointed individual will be encouraged to formulate, write and submit grants for fellowship awards, project and travel support.
6. To attend and present new experimental data at national and international meetings as appropriate.
7. To assist with the supervision of postgraduate students, honours or summer students on mini-projects, to develop their supervisory skills.
8. To carry out routine administrative tasks associated with the research project/s to ensure that project/s are completed on time and within budget.
9. To read academic papers, journals and textbooks and keep up to date with developments in own specialism and related disciplines and to maintain awareness of the context of the research project.
10. Any other reasonable duties including public engagement and outreach activities, within the general ambit of the post and competence of post holder.

Planning and Organising:

1. Planning of various aspects of the research project including: Independent day-to day planning of work and 1-3 months (short term) planning of research goals; 6-12 months (long term) organisation of the wider research direction/targets as well as contingency planning in collaboration with PI and Co-I(s).
2. Prioritise and reprioritisation of research in order to meet deadlines and targets.
3. Contribution to organisation of informal project group meetings.
4. Assess and review developments and formulate research and development strategic plans for consideration within multi-disciplinary teams.

Resource Management Responsibilities:

1. Support the development and training of support staff and students by making available their research experience and expertise.

Internal and External Relationships:

1. To help to establish and maintain collaborations with scientific and clinical departments in healthcare organisations nationally and internationally, including Universities and commercial companies.
2. To maintain awareness of current and future developments within radiation biology and computational biology by detailed study and review of scientific and clinical literature and attendance at scientific conferences.
3. Communicate openly with lab colleagues latest research findings and exciting results.
4. Develop contacts with other labs within the research community at Queen's and look to identify potential cross-discipline collaborations.
5. Apply the same philosophy to external collaborations and network at conferences and meetings.
6. Join national and international scientifically relevant societies.

ESSENTIAL CRITERIA:

1. Have or be about to obtain a PhD in radiation biology, bioinformatics, computational biology or a related subject.
2. Three years relevant research experience.
3. Demonstrated ability to learn and apply new computational tools and techniques
4. Experience in at least one of Perl, Python, Java, R or C/C++
5. Evidence of proactive organisational capabilities.
6. Sufficient breadth and depth of specialist knowledge in the discipline and of research methods and techniques to work within established research programmes.
7. Evidence of communication skills.
8. Ability to communicate complex information clearly.
9. Ability to build contacts and participate in internal and external networks and research presentations.
10. Team worker, highly motivated, supportive of junior colleagues within the group.
11. Ability to assess and organise resources.
12. Ability to work hours required of the research

DESIRABLE CRITERIA:

1. 1st Class undergraduate degree.
2. Previous track record of high quality research in the field of cancer research and/or radiation biology.
3. Expertise in one or more of: machine learning, network biology, cancer biology, survival analysis, executable modelling, analysis of large biological datasets, systems medicine.
4. Evidence of scientific writing skills.
5. Evidence of experience working in interdisciplinary team.
6. Publication of paper(s) in quality journals to a level commensurate with research experience.
7. Evidence of participation in training/mentoring of students or junior staff.
8. Commitment to professional development, as evidenced by Scientific memberships.