

## Candidate Information

<b>Position:</b>	Research Fellow
<b>School/Department:</b>	Centre for Cancer Research and Cell Biology
<b>Reference:</b>	20/108241
<b>Closing Date:</b>	Monday 27 July 2020
<b>Salary:</b>	£33,797 to £35,845 per annum.
<b>Anticipated Interview Date:</b>	Friday 14 August 2020
<b>Duration:</b>	This is a fixed term contract for 4 years

### JOB PURPOSE:

To characterise the response of cells with a range of different tissue and genetic backgrounds to ionising radiation across a range of biological endpoints, and correlate this with their underlying biology.

To 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.

To work in collaboration with other members of the team to support the interpretation of these data, and the development of new integrated models of the drivers of radiation sensitivity. They will also be expected to contribute to the supervision of junior members of the team, including undergraduate and postgraduate students as well as day to day running of the laboratory.

A range of biological assays (including clonogenic assays, quantification of chromosome aberrations and measurement of DNA damage through immunofluorescence) will be used to characterise in detail the response of cells to ionising radiation. This will include both tumour cell lines and genetically-modified lines derived from normal tissues, and involve irradiations with X-rays, alpha particles and protons (in collaboration with Massachusetts General Hospital in Boston).

### MAJOR DUTIES:

1. To design, develop and execute experiments related to this project under the supervision of Dr McMahon and other senior investigators in order to obtain reliable data. Evaluate and interpret these data using appropriate methodologies, and prepare results in suitable formats for computational analysis.
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 experiments and 1-3 months (short term) planning of research; 6-12 months (long term) organisation of the research direction/targets as well as contingency planning in collaboration with PI.
2. Prioritise and reprioritisation of research/experiments in order to meet deadlines and targets.
3. 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.
2. Take shared responsibility for the upkeep of laboratory equipment and replenishment of consumable stocks and exercise due diligence when using equipment.

**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 oncology 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, biophysics, biomedical science or a related subject.
2. Three years relevant research experience.
3. Experience in cellular and molecular techniques including tumour biology, cell culture, confocal microscopy and immunofluorescence, clonogenic assays.
4. Must have published paper(s) in quality journals to a level commensurate with research experience.
5. Experience in radiation biology research.
6. Evidence of proactive organisational capabilities.
7. Sufficient breadth and depth of specialist knowledge in the discipline and of research methods and techniques to work within established research programmes.
8. Evidence of communication skills.
9. Ability to communicate complex information clearly.
10. Ability to build contacts and participate in internal and external networks and research presentations.
11. Team worker, highly motivated, supportive of junior colleagues within the group.
12. Ability to assess and organise resources.
13. Ability to work hours required of the research which may include evenings or weekends.

**DESIRABLE CRITERIA:**

1. 1st Class undergraduate degree.
2. Previous track record of high quality research in the field of cancer research
3. Experience in high LET radiation biology (alpha particles, protons)
4. Evidence of scientific writing skills
5. Experience working with radiation response modelling
6. Evidence of participation in training/mentoring of students or junior staff.
7. Commitment to professional development, as evidenced by Scientific memberships.