

## Candidate Information

<b>Position:</b>	Research Fellow
<b>School/Department:</b>	Patrick G Johnston Centre for Cancer Research
<b>Reference:</b>	20/108399
<b>Closing Date:</b>	Wednesday 25 November 2020
<b>Salary:</b>	£33,797 to £40,322 per annum
<b>Anticipated Interview Date:</b>	Tuesday 8 December 2020
<b>Duration:</b>	This is a fixed term contract until 30 June 2022

### JOB PURPOSE:

Be based within the radiotherapy physics service in the NI Cancer Centre and participate in scientific research activities in radiation oncology physics within the Prostate Cancer UK Centre of Excellence. Work in close collaboration with physics, clinical and radiographer staff at the Northern Ireland Cancer Centre and the Patrick G Johnston Centre for Cancer Research, Queen's University Belfast. Communicate research results orally and in writing to own and other professions. Amongst other duties, this role will build on the significant contribution that the group has made in prostate radiomics.

### MAJOR DUTIES:

1. Development of software tools to enable comprehensive use of Treatment Planning data for the purpose of collection, storage and analysis of radiotherapy data. Development and implementation of radiobiological models.
2. To undertake complex analysis of research data requiring the ability to process data, interpret and present in report/presentation format. To develop, if required, software packages using a range of high level scientific and imaging computer languages (for example: C++, MatLab, IDL etc) for data analysis or for investigational purposes.
3. To participate in a portfolio of complex translational research projects aimed at improving cancer care by research and development in the application of physics in radiation oncology working with multi-disciplinary groups of staff.
4. To support the radiotherapy Medical Physics Experts on the implementation of agreed novel technologies and techniques into clinical service providing expert specialised input to multidisciplinary staff groups on individual patient treatments.
5. To scientifically support designated research staff and to supervise and provide specialist training to multi-disciplinary staff groups allocated to projects being undertaken by the post holder.
6. To contribute to an academic training programme in radiation oncology physics by supporting the supervision of MSc and PhD research students.
7. To support links between the clinical and academic oncology groups within the Northern Ireland Cancer Centre (NICC) and the Patrick G Johnston Centre for Cancer Research (PGJCCR).
8. To work with the clinical and academic oncology groups within the Northern Ireland Cancer Centre (NICC) and the Patrick G Johnston Centre for Cancer Research (PGJCCR) to maintain and develop a coherent R&D strategy for radiation oncology.
9. To support the development of R&D projects and programmes and grant applications.
10. To communicate highly complex research and development outcomes by means of internal reports, publications in peer reviewed journals and presentations at local, national and international conferences to multi-disciplinary groups. To advocate, when appropriate, changes in clinical practice to multi-disciplinary groups which may have conflicting opinions.
11. To undertake precise measurements on radiotherapy imaging and treatment equipment requiring a high degree of accuracy using sensitive dosimetric equipment when collecting or verifying data as part of research and development activities.

### Planning and Organising:

1. Planning of various aspects of the research project(s) 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.
2. Prioritise and reprioritisation of research/experiments in order to meet deadlines and targets. Organisation of informal meetings.

3. To 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 and clinical equipment 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. Join national and international scientifically relevant societies.

**ESSENTIAL CRITERIA:**

1. A minimum of a 2nd Class Honours degree, or equivalent, in Physics or other appropriate science subject from a UK or equivalent university.
2. Have or be about to obtain a PhD in physical science, mathematics or computer science.
3. 3 years relevant research experience. This will include 2 years research experience in an area of physics related to radiation science or in area requiring advance computational skills.
4. Evidence of R&D experience having a record of dissemination and publication of scientific work.
5. Experience of multi-disciplinary team working.
6. Sufficient breadth and depth of specialist knowledge in the discipline and of research methods and techniques to work within established research programmes.
7. Ability to programme in advanced scientific languages eg MatLab, IDL etc.
8. Advanced skills in data analysis and presentation.
9. Ability to communicate complex information clearly.
10. Ability to build contacts and participate in internal and external networks.
11. Ability to interact effectively with the team.
12. Ability to assess and organise resources.
13. Must be available and willing to undertake R&D activities outside normal hours.
14. Must be willing and able to travel to national and international meetings.

**DESIRABLE CRITERIA:**

1. MSc in Medical Physics or related subject.
2. Development of collaborations with internal and external departments.
3. Experience in radiotherapy physics.
4. Experience in working in a clinical radiotherapy physics environment.
5. Experience in the implementation of technologies.
6. Good negotiation skills.