![Queen's University Belfast logo]

Candidate Information

Position: Research Assistant
School/Department: Patrick G Johnston Centre for Cancer Research
Reference: 22/109922
Closing Date: Monday 18 July 2022
Salary: 28,756 - £33,309 per annum
Anticipated Interview Date: Thursday 28 July 2022
Duration: 3 years or until 30 June 2025, whichever is soonest.

JOB PURPOSE:

Be based within the radiotherapy physics service in the NI Cancer Centre and participate in scientific research activities in radiation oncology physics. Work in close collaboration with physics, clinical and radiographic staff at the Northern Ireland Cancer Centre and the Patrick G Johnston Centre for Cancer Research (PGJCCR), Queen's University Belfast. Communicate research results orally and in writing to own and other professions.

MAJOR DUTIES:

1. To provide scientific support and expertise to the development and implementation of new advanced treatment techniques and technologies in the NI Cancer Centre such that these advanced treatment options will be available to patients treated at the Cancer Centre.
2. To provide radiotherapy physics expertise to support development of multi-modality imaging into the radiotherapy planning process, including the use of MR and PET images. Evaluation and implementation of Radiomics, Deformable Registration, Autocontouring and Dose Accumulation software packages.
3. 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 R, Python, C++, MatLab, IDL etc) for data analysis or for investigational purposes.
4. 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.
5. 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.
6. 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.
7. To contribute to an academic training programme in radiation oncology physics by supporting research students.
8. 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).
9. 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.
10. To support the development of R&D projects and programmes and grant applications.
11. 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.
12. 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.

ESSENTIAL CRITERIA:

1. A minimum of a 1st class Honours degree, or equivalent, in Physics or other appropriate science subject; OR
    A 2nd class Honours degree with MSc in Physics or other appropriate science subject.

2. 1-3 years relevant research experience. This will include 1-2 years research experience in an area of physics related to radiation science or in area requiring advance computational skills.
3. Experience of multi-disciplinary team working.
4. Sufficient breadth and depth of specialist knowledge in the discipline and of research methods and techniques to work within established research programmes.
5. Ability to programme in advanced scientific languages eg MatLab, IDL etc.
6. Advanced skills in data analysis and presentation.
7. Ability to communicate complex information clearly.
8. Ability to build contacts and participate in internal and external networks.
9. Ability to interact effectively with the team.
10. Ability to assess and organise resources.
11. Must be available and willing to undertake R&D activities outside normal hours.
12. Must be willing and able to travel to national and international meetings.

DESIRABLE CRITERIA:
1. MSc in Medical Physics or related subject .
2. Have or be about to obtain a PhD in physical science, mathematics or computer science.
3. Evidence of R&D experience having a record of dissemination and publication of scientific work.
4. Experience in radiotherapy physics.
5. Experience in working in a clinical radiotherapy physics environment.
6. Experience in dosimetry and brachytherapy.
7. Experience in 3D printing technologies.
8. Good negotiation skills.