Candidate Information

Position:	Research Assistant
School/Department:	Patrick G Johnston Centre for Cancer Research
Reference:	23/110621
Closing Date:	Monday 20 February 2023
Salary:	£29,619 per annum
Anticipated Interview Date:	Monday 6 March 2023
Duration:	Fixed Term for 16 months or until 31 August 2024, whichever is sooner

JOB PURPOSE:

Provide scientific support to the OXISMART project (HEA North-South Collaborative Research Programme). This project is developing the next generation of real-time radiation dose-imaging and oxygen measurements for radiotherapy. Work in close collaboration with physics, clinical and radiographic staff at the Northern Ireland Cancer Centre and radiation biologists in 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 to the OXISMART project with particular focus on:
   • Testing of optical fibre dosimetry and oxygen detection systems using radiotherapy equipment and laboratory radiation sources.
   • Development of phantoms and techniques for dosimetric calibration of optical fibres in reduced oxygen.
2. To provide scientific support to clinical fellows developing clinical protocols for use of optical fibres in real time dosimetrically delivered radiotherapy treatments, facilitating treatment planning studies and methodologies to assess efficacy of procedures.
3. To assist in 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: MatLab, IDL, Python, C++ etc) for data analysis or for investigational purposes.
4. 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.
5. To support the development of R&D projects and programmes and grant applications.
6. To communicate 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.
7. To undertake precise measurements on radiotherapy imaging, treatment equipment and laboratory radiation sources 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 from a UK or equivalent university,
   OR
   A 2nd class Honours degree with MSc in Physics or other appropriate science subject from a UK or equivalent university.
2. 1-2 years relevant research experience. This will include 1 year's research experience in an area of physics related to radiation science or in area requiring advanced 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. Experience in radiotherapy physics.
4. Experience in working in a clinical radiotherapy physics environment.
5. Experience in dosimetry.
6. Experience in 3D printing technologies.
7. Evidence of R&D experience having a record of dissemination and publication of scientific work.
8. Good negotiation skills.