



Windsor Fellowship Prostate Cancer UK Internship Programme

Internship information pack

Internship placement information

Host institution:

Queen's University Belfast; Johnston Cancer Research Centre

Host laboratory address:

Johnston Cancer Research Centre; 97 Lisburn Road, Belfast, BT9 7AE

Host lead and joint lead researchers:

Dr Melissa LaBonte Wilson; Dr Victoria Dunne

Project title:

From Genome-wide CRISPR Screens to New Radiosensitisers: Identifying Shared and Distinct Vulnerabilities to X-rays and Radium-223 in Prostate Cancer

Research Project summary:

Prostate cancer often spreads to bone, where it becomes difficult to treat. Radium-223 is a radioactive treatment that targets these bone sites, delivering radiation inside the body. Unlike external X-ray radiotherapy, it releases alpha particles that cause dense, concentrated DNA damage.

Cancer cells can survive radiation by repairing DNA damage and activating other survival processes. Our project asks which genes help prostate cancer cells survive X-rays and radium-223, and whether these differ between treatments. Understanding these vulnerabilities could help us identify drugs that make each treatment more effective.

Our laboratory has used CRISPR screening to switch off genes across millions of prostate cancer cells and identify those that affect survival after either treatment. Your project will help turn these results into laboratory evidence.

You will begin by analysing the screen data, learning how to check its quality and identify promising genes. No coding experience is needed—we will provide training and support. You will then investigate a selected gene in the laboratory, with scope to test a second depending on progress. This will involve growing prostate cancer cells, reducing gene activity or blocking its protein with a drug, and measuring cell survival and DNA damage after radiation treatment.

Over eight weeks, you will gain experience in data analysis, cell culture and phenotypic assays, then present your findings to the research centre. Your work will contribute to an ongoing research programme, with appropriate acknowledgement in any resulting publications.

You will be part of two research teams, with daily supervision and support from PhD students and postdoctoral researchers.

What skills, techniques and/or methods will you develop during the project:

This placement is deliberately split between computer-based and laboratory work, so you get a realistic picture of how modern cancer research actually runs and a better sense of which parts you may enjoy.

Working with data. How a CRISPR screen is designed and what the raw data looks like; how to turn it into a ranked list of genes; how to quality-check results and separate a real signal from background noise; how to compare two treatments; and how to look up whether your candidate genes are already known to matter in cancer, using public databases such as DepMap and cBioPortal. You will do this in R or Python. No coding experience is expected, and we will teach you from the beginning.

In the laboratory. You will learn sterile technique, grow human prostate cancer cells, and design experiments using appropriate controls. You will reduce gene activity using siRNA or inhibit its protein with a drug, then measure how cells respond to radiation using survival and DNA-damage assays.

You will receive training in radiation safety and participate in X-ray and radium-223 experiments within the University's approved procedures. Radium-223 preparation and dosing will be carried out by authorised staff.

Research skills that transfer anywhere. Keeping a laboratory notebook properly; working out which controls an experiment needs; choosing a sensible statistical test; reading a scientific paper critically and discussing it in our journal club; making clear figures; and presenting your own work and defending it in discussion.

By the end, we want you to be able to plan a simple experiment, run it, analyse it, and explain what it means to someone who was not there.

What induction, training, support and guidance will be provided to you:

Induction. You will have a structured introduction to Queen's University Belfast, the Johnston Cancer Research Centre, laboratory safety, radiation safety, research integrity and data management.

Day-to-day supervision. Dr Victoria Dunne will supervise you directly. You will have a scheduled one-to-one with her every week to talk through progress, anything you are stuck on, and the following week's priorities, plus short daily check-ins during busy experimental periods. Dr Melissa LaBonte Wilson will join a weekly project meeting to review your data and help interpret results.

You will have a clear work plan, regular opportunities to ask questions, and support as you become more confident working independently.

People around you. You will be introduced to postdoctoral researchers, PhD students, and research assistants, who can help with specific techniques. You will join group meetings and journal clubs in the Prostate Cancer Centre of Excellence and the Advanced Radiotherapy Centre, where you will meet laboratory scientists, clinicians and medical physicists and see the range of careers that contribute to cancer research.

Career support, from week one. We will not leave this to the final week. We will cover MSc and PhD routes, personal statements, CVs and interviews. You will get written feedback on a draft CV or personal statement, and you will leave with a development plan, named contacts, and a follow-up meeting arranged for after the placement ends. We will also support you to take part in Windsor Fellowship and Prostate Cancer UK training and networking.

Can the project/internship be completed part-time:

Yes, subject to agreement with the Programme and the University.

Can host institution provide accommodation for the duration of the internship programme:

Yes. Queen's University Belfast releases student accommodation over the summer, and we will help you book it if you are relocating.

At current (2026) rates this would cost £90 per week, approximately £720 for the eight weeks, for an ensuite room in a shared apartment. Rates for summer 2027 have not yet been set, so please treat this as a guide.

Importantly, the Prostate Cancer Centre of Excellence at QUB/JCRC has confirmed it would supplement your accommodation costs if required. Together with the relocation support available through the Internship Programme, accommodation cost should not be a barrier to taking up this placement.

Stipend offer for this internship:

‘Real Living Wage’ (£13.45/hour) for 35 hours/week - a stipend of £3,766 over 8 weeks

Internship placement requirements

Eligibility criteria:

To be eligible for the internship, you must meet the following criteria:

- Must be in your penultimate or final year of undergraduate study, or a graduate who has yet to, but wants to pursue a MSc and/or PhD and a career in prostate cancer research.
- Must be currently studying towards, or hold, a relevant STEM undergraduate degree in the UK. Graduates must have received a minimum 2:2 grade.
- Must be a permanent resident in the UK, be eligible for home fee status and not have any restriction on their right to work in the UK.
- Must self-identify as being from a Black background, including a mixed background, for example: Black British, Black Welsh, Black African, Black Caribbean, Black Other and Mixed Black background.
- Must be a British citizen and have 'Home' tuition fee status.
- Must be free to attend a laboratory placement between July and August 2027.

STEM undergraduate degrees that would be suitable for an intern matched with this project/placement to hold or be undertaking:

Biomedical sciences; biological sciences; biochemistry; molecular or cell biology; genetics or genomics; cancer sciences; or another closely related STEM degree with an interest in cancer biology, radiation science or data analysis.

Interview and recruitment processes for this placement:

We will run recruitment with the Windsor Fellowship, who lead eligibility screening and shortlisting.

If you are shortlisted, you will be invited to an online interview with both supervisors, Dr LaBonte Wilson and Dr Dunne, joined by a PhD student or postdoctoral researcher from the group.

The interview will explore your interest in the project, what you hope to learn, and how you approach questions and challenges. Previous coding experience or experience with the project's specialist techniques is not required.

Internship additional information

Relocation

If you are required to relocate to undertake this internship, you may be eligible to claim relocation costs. Your commute must exceed 1.5 hours each way and you must demonstrate that daily commuting is impractical due to time, cost, or transport availability.

Eligible relocation costs:

Category	Amount over 8-week placement
Accommodation	£1,800
Travel	£100
Moving/setup	£150
Local transport	£160
Total	£2,210

Requirements for requesting relocation costs:

Proof of Expenses - Reimbursement requirements: Receipts for accommodation, travel, or moving costs. Signed lease or booking confirmation.

Type of Costs Covered - Usual eligible costs: Temporary accommodation (short-term rental, student housing); Travel to and from the internship location (start/end of program); local transport. Not usually covered: Food and daily living expenses; Luxury accommodation upgrades; Costs without receipts

Tax Considerations - In some cases, relocation support may be treated as taxable income. This can apply to lump sum payments or un-evidenced payments.

Please note in your application if you require relocation costs for a placement you are applying for. Please note, there is only budget for a finite number of relocation costs, so not all requests can be accepted.

Project-external development opportunities and support:

As part of this internship, the Windsor Fellowship and Prostate Cancer UK will offer the following development opportunities and support:

- The Windsor Fellowship will provide pastoral support in personal and professional development throughout the duration of the internship.

- Internship Programme alumni will be enrolled onto Prostate Cancer UK's [Researcher Mentoring Scheme](#).
- Alumni will be invited to Prostate Cancer UK researcher events and conferences.
- Interns will be supported by a Prostate Cancer UK grant manager before and throughout the duration of the internship.
- Prostate Cancer UK will provide interns with support and guidance in finding postgraduate opportunities (e.g. PhD studentships).

Code of conduct

1. Interns are expected to abide by the host organisation's employee manual, code of conduct, or similar standards (including dress code, where applicable) that apply to interns and/or employees at the site.
2. Interns must act in a professional and ethical manner including being punctual, dressing appropriately, fulfilling commitments, meeting deadlines, and maintaining a cooperative attitude.
3. Interns understand that permissible absences from the internship site include illness and serious circumstances, and that they will notify their host institution in a timely manner should these situations occur.
4. Interns must maintain confidentiality of any information gained regarding the host organisation's clients, projects, work, and personnel. Additionally, interns will respect copyright laws and intellectual property rights.
5. Interns understand that information about the host organisation should not be broadcast in public spaces, including online platforms such as YouTube, Facebook, X, blogs, websites, or message boards without expressed written authorisation of the host institution.
6. Interns will seek feedback from lead applicant(s), accept suggestions and constructive criticism, and strive to improve performance.
7. Interns must immediately report to the host institution or Prostate Cancer UK with any concerns about an internship placement, including requests to engage in unethical or illegal activities, exposure to sexual harassment, discrimination or unsafe situations, or any other circumstances that create an uncomfortable environment for the intern.

Interns recognise that the host institution and/or employer have the right to terminate the internship experience at any time if it is deemed by Prostate Cancer UK or the host institution that the intern has violated the code of conduct or otherwise negatively compromised the internship programme and/or host organisation.