

# So you want to be a Summer Student?

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## INTRODUCTION

Around the world, studentships facilitate undergraduate medical students to experience research in a variety of disciplines. Many laboratories are willing to host medical students and there are funding bodies in the UK which provide financial support for student projects. At Queen's University Belfast, funded places for medical students are available on 8-week summer studentship programmes in the Centre for Cancer Research and Cell Biology (CCRCB), Centre for Experimental Medicine (CEM), Centre for Medical Education (CME), and the Centre for Public Health (CPH). Details of these funded projects are released annually in December, although students can also approach a specific Principal Investigator and apply for funding individually. Applications are open to medical students from any part of the UK as well as to international students, and some placements are also suitable for students from scientific degree courses.

## MY EXPERIENCE

I completed my studentship in the Summer of 2016, in Dr Derek Brazil's laboratory in the Centre for Experimental Medicine (CEM). Summer students learn research methodology, undertake a specific research project under supervision and are often able to avail of other opportunities - for example, attending scientific or career orientated seminars, and establishing contacts for possible future projects.

In Dr Brazil's laboratory, I learnt how to perform basic laboratory techniques and conduct experiments independently. The focus of my project was to investigate repurposing FDA-approved drugs for use in cancer treatment, using a bioinformatics tool called QUADrATiC. The cells I was working with were from a thyroid cancer cell line containing high levels of a protein called Gremlin 1, which is implicated in several diseases. The cells were treated with 3 different drugs predicted by QUADrATiC to reduce levels of Gremlin 1, after which the level of Gremlin mRNA in the cells was measured.

At the end of the studentship, all the students hosted by CEM presented their work to at the CEM Summer Student Symposium.

In CEM, in addition to undertaking a research project, summer students also have the opportunity to meet other students and researchers and learn more widely about research through attendance at the REMERGE (QUB Regenerative Medicine Research Groups) symposium, research seminars and careers and ethics workshops.

## CHALLENGES

It may be hard to contemplate giving up a precious summer to do something which is not essential for your current course, especially when it requires the development of a new skillset in an unfamiliar environment. Inevitably, during the first few days, students will feel a little in the way and there is an expectation that a student will become competent enough to work independently in some basic laboratory techniques within a very short time.

For some students, studentships can feel quite pressurised, working to deadlines and staying late until the experiment is complete; for others, especially in some of the written projects in the CME and CPH, the working hours may be more regular or flexible. The working pattern depends on what project you are doing and how much effort you are prepared to put into it.

## BENEFITS

A studentship gives you the opportunity to be involved in an intellectually stimulating activity over the summer, to have ownership over a project and to experience something new. It is also a great way to make friends, especially from other countries, diverse courses and different years - and the programme also includes fun social events. From a networking perspective, a studentship can also help with making important contacts if you decide to undertake a research project and to hear from researchers about their own career pathways. Additionally, a stipend is attached to these studentships so those students who support themselves financially need not feel that they are excluded from this opportunity.

Involvement in a small piece of research can be particularly useful for medical students considering doing an intercalated degree, particularly if, like the author, you have no previous experience of laboratory work. Thinking even further ahead, it may turn out to be valuable encouragement to apply for postgraduate research as a Clinical Academic Trainee and advancing medical knowledge. All students are invited to present their research at the end of their studentship. There is also the opportunity to submit abstracts for consideration of presentation at student research symposia and to submit work for publication in conjunction with the project supervisor.

## OVERALL

My studentship was a really worthwhile experience. I worked hard, but reaped the benefits of my efforts and came away feeling confident doing Western Blots and PCRs, which I never could have imagined 8 weeks earlier. I made friends with people I would otherwise never have met and learned what I can achieve if I put my mind to it. For anyone considering a summer studentship, I would urge you to grasp this opportunity, and, if nothing else, get a behind-the-scenes look at life in a lab!

Thank you to CEM for allowing me to have this opportunity and special thanks to Dr Derek Brazil, Dr Rachel Chambers and Dr Deborah Lavin for taking the time to teach and support me during my time in their lab.

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