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The Cambridge Medicine Journal's guide to summer research projects

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Abstract
Cambridge summers are long, and this provides the perfect opportunity to organise a research project. Research projects offer crucial insights into the world of academic science that can't be attained from the medical course – they can also be helpful later in your career, as the experience helps in MB/PhD and Academic Fellowship applications, and research publications and posters can gain points when applying to hospitals for Foundation Year programmes.

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1. Research projects – the basics

A reasonable time for a research project is about 8 weeks – this will give you plenty of time to settle down, become familiar with the lab and the field, and (hopefully) get plenty of data! There are two ways of organising projects, organising your own, or applying for a research programme, and they each have distinct pros and cons.

2. Organised research programmes

Programmes provide 8-10 week research placements, usually with a grant/funding to cover your expenses [1]. They are well-structured and often have itineraries that include lectures and seminars to embellish your research experiences. Perhaps the most exciting part is the ability to apply to these all over the world: Harvard [2], Cold Spring Harbor [3], Vienna [4] - why not make it a work-ation!

Of course, these programmes are extremely competitive, with large numbers of international applicants. Some are specifically designed to provide opportunities for scholars from non-research-typical universities, meaning that Cambridge students can be negatively selected – so check their details carefully. Programmes often look for top applicants, with at least first-class marks in their exams, though often previous research experience is not advantageous as these programmes look to give applicants their first taste of research. The application process is long and time consuming, requiring a personal statement, letters of recommendation and sometimes interviews.

Look at the Amgen Scholars programme for more information and a typical example [5]. This programme runs across multiple continents, and is certainly an excellent programme for any student considering whether or not research is for them. The medical school will advertise opportunities and deadlines, but you can also find a list of UK and international summer research programmes online [6].

3. Organising your own projects

Cambridge is a hub of world-class research institutes and academics, making it one of the best locations to do a research project. The choice of research topics and supervisors is huge, and the non-official nature of these projects means that dates will be flexible. The application process is much simpler: simply a well-written email to a supervisor of your choosing and potentially a CV or a face-to-face meeting. Be persistent with contacting supervisors – they are busy academics and may not respond to you on your first try!

Research itself is very expensive, as you will soon find out, but you will also have travel and living expenses to cover. Typically, £1,200-1,500 will cover accommodation and travel for an 8 week placement. There are pots of money available: most colleges have summer grants and studentships exist to offer stipends and consumables (laboratory costs). Once you have made contact with a supervisor they may be able to arrange funding, or point you in the direction of funding bodies. Critical to this is an early application!

4. Tips for organising projects

Choosing projects – read through the websites of laboratories you are interested in to get a flavour of their work. All labs and Principal Investigators (PI) have pages on their institutional websites which will detail their research areas and recent publications, as well as their all-important contact details. Read around areas that you find interesting to find potential supervisors, and don't be afraid of asking your lecturers or supervisors if you enjoy particular lecture material.

Contacting supervisors – the key is to do this early. Some potential supervisors may not be able to take a summer student if they already have one or if there are no vacancies in a lab, however by applying early (over the Christmas break, for example), you can optimise your chances of getting the placement you really want. When applying, send a polite email to your potential supervisors that details who you are, why you want to do a project in their lab, whether you need funding, and what dates you are available. Tailoring your application to their field of research and their department, and showing that you have an awareness of the most relevant research papers, will help you secure your placement and help you stand out from a group of applications.

During your placement – congratulations, you've got your project! Remember to ask questions: this research area is your supervisor's job, and they are probably very enthusiastic and knowledgeable. Asking questions will help you get the most out of your project but also show your supervisor that you are engaged and intelligent, helping them to write you the best reference possible in the future.

Keep your lab book up to date – your lab book will document your every experiment and thought process in the lab. While you may remember it as well as your own birthday at the time, this knowledge will fade with time – your lab book is thus an invaluable tool to keep track and refer back to when writing applications for other research projects or PhD/academic foundation courses.

After your placement – presentations and publications are valuable additions to your CV and can get you extra points when applying to foundation year placements. Research is not always successful, and sometimes you can walk away from a project feeling disheartened. This is a good learning experience, and a fair representation of what research is like in the real world!

Whatever the outcome, you will have learned something and this is what we are interested in at the Cambridge Medicine Journal. We publish a range of medically-relevant primary research papers, case studies, reviews and perspective pieces, meaning that you can use anything from results and data to extra-reading and literature reviews to publish in an expert peer-reviewed journal. For more information, see our website [7] or get in touch!

References

[1] Studentladder.co.uk. (2017). Scientific Research — Internships. [online] Available at: http://www.studentladder.co.uk/Internships/scientific-research.html [Accessed 20 Sep. 2017].

[2] Harvard University. (2017). Amgen Scholars. [online] Available at: http://amgenscholars.com/us-program/university/harvard-university [Accessed 20 Sep. 2017].

[3] Cshl.edu. (2017). CSHL Undergraduate Research Program — Education. [online] Available at: http://www.cshl.edu/Education/Undergraduate-Research.html [Accessed 20 Sep. 2017].

[4] Training.vbc.ac.at. (2017). SUMMER SCHOOL - Vienna Biocenter PhD Programme. [online] Available at: https://www.training.vbc.ac.at/summer-school/summer-in-vienna/ [Accessed 20 Sep. 2017].

[5] Amgen Scholars. (2017). Amgen Scholars. [online] Available at: http://amgenscholars.com [Accessed 20 Sep. 2017].

[6] Cam.ac.uk. (2017). Undergraduate Research. [online] Available at: https://www.biology.cam.ac.uk/undergrads/undergrad-fund [Accessed 20 Sep. 2017].

[7] Cambridgemedicine.org. (2017). Cambridge Medicine Journal. [online] Available at: http://cambridgemedicine.org [Accessed 20 Sep. 2017].