Course Information Sheet for entry in 2022-23: DPhil in Cardiovascular Science

About the course

This DPhil programme, which includes funding support from the British Heart Foundation (BHF), is for basic science graduates who want to undertake advanced research into cardiovascular disease in Oxford.

The programme provides you with a solid grounding in the study of cardiac and vascular biology through access to taught courses and advanced level seminars, and a choice of projects which includes approximately 70 principle investigators directly engaged in cardiovascular research. These cover all aspects of cardiovascular science, including cardiac imaging, cell signalling, clinical trials and human genetics, developmental biology and regenerative medicine, myocardial biology, integrated physiology, and vascular biology. There are multiple collaborations within and between different departments and research themes, and research interactions have been greatly enhanced and facilitated by a British Heart Foundation Centre of Research Excellence (CRE) award, one of only six in the UK.

Year 1

You are provided with a co-ordinated programme of post-graduate teaching in your first year and the possibility of experiencing research in more than one laboratory.

In your first term you will attend a series of seven micro-rotations where you will meet graduate students and principal investigators working in seven broad areas of cardiovascular science:

- Atherosclerosis, Diabetes and Inflammation (academic lead Charis Antoniades)
- Cardiac Biology and Imaging (academic lead Craig Lygate)
- Cardiac Signalling and Metabolism (academic lead Manuela Zaccolo)
- Contemporary Techniques and Technologies (academic lead Blanca Rodriguez)
- Developmental Biology and Regenerative Medicine (academic lead Nicola Smart)
- Endothelial Cell and Vascular Biology (academic lead Kim Dora)
- Target Discovery and Chemical Biology (academic lead Angela Russell)

Micro-rotations include attendance at lab meetings, journal clubs and hands-on experience of key experimental techniques. They are designed to give you exposure to the many possibilities for cutting-edge research projects, as well as generate interest in areas of research that you may not have had access to previously.

An important part of the student experience is graduate tutorials every Monday morning and Friday afternoon. Topics include how to choose a good scientific problem, how to choose a good supervisor, and classic experiments in cardiovascular medicine. Students give short presentations and write News and Views style articles on recent papers. In Friday tutorials students are asked to reflect on that week's micro-rotation and start discussing which principal investigator's project they found most interesting and why.

Mid-way through your first term in Oxford you will choose supervisors for typically two 10 to 12-week laboratory mini-rotations, which will expose you to techniques and research modalities. You will be expected to design and execute experimental protocols, critically appraise research methods and experimental results, and communicate research results and their implications to a wide audience.

Students decide their main research project from one of the mini-rotations, allowing time to develop and write a full project proposal before the second year commences. By doing this you will gain a greater understanding of the cardiovascular research field and can bring a broader perspective to your research project than is possible under the standard three-year DPhil.

The first year of your graduate studies will be overseen by an academic mentor who will monitor your academic progress and be available to offer advice and support throughout the course of your graduate studies. The department aims for you to be associated with one host laboratory for the first nine months of your graduate studies under the supervision of a laboratory mentor who will ensure you receive appropriate training in laboratory methods and in planning, executing and analysing experiments.

Once you have commenced your research projects, you will attend graduate tutorials, to present your latest results and discuss a range of research methods as well as journal clubs where you can discuss papers directly relevant to current lab projects. Your first year is monitored by presentations on your laboratory rotations, typically in the ninth week of each term, ie three times in the first year.

These regular small group meetings and social interactions help foster a distinct cadre of graduate students who share a common interest in, and enthusiasm for, cardiovascular science.

Years 2-4

From the second year onwards, you will spend the remainder of the programme carrying out a specific research project, under the supervision of two named supervisors.

You will have access to a wide range of training in generic research skills provided through seminars and short courses. Examples of the courses that may be available to you include:

- proteomic methodologies
- genomics and bioinformatics
- confocal microscopy and image analysis
- statistics and experimental design
- information technology/computing skills
- written and oral presentation skills
- laboratory experience.

You are encouraged to develop DPhil projects that bridge the work of two separate laboratories or that involve two complementary experimental approaches. You are expected to attend regular lab meetings and take part in all departmental graduate student training and assessment sessions.

Regular mini-symposia will be held, in which first and second year students will give 15-minute presentations on their current research followed by student networking events and informal meetings with committee members.

The taught component during your programme also includes the possibility to attend final-year undergraduate lecture options, including Pharmacology and signalling, Endocrinology and metabolism, Cardiovascular science, Molecular pathology, Development and disease, Infection, Immunity and Neuroscience.

Supervision

The allocation of graduate supervision for this course is the responsibility of the Medical Sciences Doctoral Training Centre, and it is not always possible to accommodate the preferences of incoming graduate students to work with a particular member of staff. Under exceptional circumstances a supervisor may be found outside the Medical Sciences Doctoral Training Centre. It is anticipated that students will meet with their supervisors at least once a fortnight, on average, across a year.

Applicants are advised to visit the course page on the centre's website for further information about supervisors associated with this course (see *Further Information and Enquires*).

Assessment

All students will be initially admitted to the status of Probationer Research Student (PRS). Within a maximum of six terms as a PRS student you will be expected to apply for transfer of status from Probationer Research Student to DPhil status.

A successful transfer of status from PRS to DPhil status will require the submission of a report on progress to date on research and future plans. Students who are successful at transfer will also be expected to apply for and gain confirmation of DPhil status within ten terms of admission, to show that your work continues to be on track.

Both milestones normally involve an interview with two assessors (other than your supervisor) and therefore provide important experience for the final oral examination.

You will be expected to submit an original thesis of up to 50,000 words within a maximum of four years from the date of admission. To be successfully awarded a DPhil in Cardiovascular Science you will need to defend your thesis orally (viva voce) in front of two appointed examiners.

Changes to courses

The University will seek to deliver this course in accordance with the description set out above. However, there may be situations in which it is desirable or necessary for the University to make changes in course provision, either before or after registration. These may include significant changes made necessary by a pandemic (including Covid-19), epidemic or local health emergency. For further information, please see the University's Terms and Conditions (http://www.graduate.ox.ac.uk/terms) and our page on changes to courses (http://www.graduate.ox.ac.uk/coursechanges).

Expected length of course

	Full Time Only
Expected length	4 years

Costs

Annual fees for entry in 2022-23

Fee status	Annual Course fees
Home	£8,620
Overseas	£28,560

Further details about fee status eligibility can be found on the fee status webpage (http://www.graduate.ox.ac.uk/feestatus).

Course fees are payable each year, for the duration of your fee liability (your fee liability is the length of time for which you are required to pay course fees). For courses lasting longer than one year, please be aware that fees will usually increase annually. Information about how much fees and other costs may increase is set out in the University's Terms and Conditions (http://www.graduate.ox.ac.uk/terms).

Course fees cover your teaching as well as other academic services and facilities provided to support your studies. Unless specified in the additional cost information (below), course fees do not cover your accommodation, residential costs or other living costs. They also don't cover any additional costs and charges that are outlined in the additional cost information.

Graduate students who have reached the end of their standard period of fee liability may be required to pay a termly University and/or a college continuation charge.

The University continuation charge, per term for entry in 2022-23 is £548, please be aware that this will increase annually. For part-time students, the termly charge will be half of the termly rate payable by full-time students.

If a college continuation charge applies (not applicable for non-matriculated courses) it is likely to be in the region of £100 to £600 per term. Please contact your college for more details.

Additional cost information

There are no compulsory elements of this course that entail additional costs beyond fees (or, after fee liability ends, continuation charges) and living costs. However, please note that, depending on your choice of research topic and the research required to complete it, you may incur additional expenses, such as travel expenses, research expenses, and field trips. You will need to meet these additional costs, although you may be able to apply for small grants from your department and/or college to help you cover some of these expenses.

Living costs

In addition to your course fees, you will need to ensure that you have adequate funds to support your living costs for the duration of your course.

The likely living costs for 2022-23 are published below. These costs are based on a single, full-time graduate student, with no dependants, living in Oxford. We provide the cost per month so you can multiply up by the number of months you expect to live in Oxford.

Likely living costs

	Likely living costs for 1 month		Likely living costs for 9 months		Likely living costs for 12 months	
	Lower range	**Upper range**	**Lower range**	**Upper range**	**Lower range**	**Upper range**
Food	£290	£410	£2,610	£3,690	£3,480	£4,920
Accommodation	£680	£810	£6,120	£7,290	£8,160	£9,720
Personal items	£135	£260	£1,215	£2,340	£1,620	£3,120
Social activities	£45	£120	£405	£1,080	£540	£1,440
Study costs	£45	£100	£405	£900	£540	£1,200
Other	£20	£55	£180	£495	£240	£660
Total	£1,215	£1,755	£10,935	£15,795	£14,580	£21,060

When planning your finances for any future years of study at Oxford beyond 2022-23, you should allow for an estimated increase in living expenses of 3% each year.

More information about how these figures have been calculated is available at www.graduate.ox.ac.uk/livingcosts.

Document accessibility

If you require an accessible version of the document please contact Graduate Admissions and Recruitment by email (graduate.admissions@admin.ox.ac.uk) or via the online form (http://www.graduate.ox.ac.uk/ask).