Course Information Sheet for entry in 2022-23: DPhil in Advanced Bioscience of Viral Products

About the course

The DPhil in Advanced Bioscience of Viral Products is a four year programme, led by gene and cell therapy company Oxford Biomedica and run in collaboration with University College London. The programme aims to deliver the next generation of bioscience leaders to advance research on the underpinning bioscience of viral products for future gene therapies and vaccines.

This DPhil course will take a holistic approach to the science underpinning the successful development of new viral vector products including an understanding of the fundamental cell biology, bioprocessing considerations, improving our knowledge of the process/product, understand how these aspects can be translated and advanced in an industrial setting and identify how these fit into the wider regulatory context.

A core component of this training programme is to immerse students in an environment where they are able to apply their fundamental scientific knowledge and research expertise to addressing the current capacity and capability issues in viral vector development.

Throughout your training, you will work in interdisciplinary teams across the cohort, integrate your activities, share your knowledge and disseminate your research findings within the academic/industrial/clinical communities and to the public. All students on this course will undertake a placement with an industrial partner as part of their studies. An example of working across interdisciplinary teams will be ensuring student projects are designed to enable effective leveraging of data, tools and processes across research activities. Experimental and biological data generated from one project will feed into a project focused on employing advanced computational methods, which can then be used to feedback into the original project and inform future experimental design to inform our biological understanding.

You will receive significant subject-specific knowledge and practical training in viral vector development, bioprocessing and production, including methods for virus generation, purification and characterisation. In parallel, you will also receive significant translational training with a focus on business/commercial analysis, understanding of the regulatory framework for advanced therapy medicinal products (ATMPs) and training in Good Manufacturing Practice (GMP) including documentation preparation and compliance with Standard Operating Procedures (SOPs), preparation of a Technology Transfer process, working within stringent Quality Management Systems (QMS) and how to file for a regulatory submission. Additionally the concept of quality by design (QbD) is widely adopted in the industry to build quality and consistency into processes; this concept also aligns with expectations from global regulatory agencies.

Through a recent partnership with Microsoft Research, Oxford Biomedica also recognise that frontier bioscience and the emerging 21st century bioscience landscape necessitates a breaking down of traditional scientific boundaries, towards a model that embraces the emergence of mathematical, computational and data science tools such as AI and ML for the production, management and analysis of research data. You will be trained to grapple with the biological complexity and apply these tools to your respective research activities to extract meaning and enhance understanding from your data. It will also focus on empowering you to learn concise technical writing skills, which form a basis for successful communication and dissemination of data and findings across academia and industry. This is increasingly important as bioscience researchers are often generating large datasets which can benefit from a 'big data' approach to data analysis, in addition to using these tools to improve viral vector design, as has been the case with the emergence of ML to improve adeno associated virus (AAV) vector capsid design. Again, this aligns strongly with the collaboration OXB has established with Microsoft Research, making use of AI/ML approaches to gain insights from complex datasets to inform future areas of development/process improvement.

Given recent significant global developments for both viral vectors and vaccine development, the course will be managed in a way that closely monitors and tracks current UK government and international community focus, particularly in the area of vaccine development and production, and will monitor progress with related/adjacent technologies (eg non-viral technologies) that may evolve over the course of your studies.

Supervision

The allocation of graduate supervision 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.

Students will be allocated at least two supervisors, one of whom will be an Oxford academic and one will be from Oxford Biomedica. Students will usually meet their primary supervisor weekly or fortnightly in the early stages of their project. There will be many opportunities for collaboration with additional research groups throughout the studentship.

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 Advanced Bioscience of Viral Products 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

Four fully-funded studentships are available for students who start the DPhil in Advanced Bioscience of Viral Products (ABViP) at the University of Oxford in October 2022. These four BBSRC CTP ABViP Studentships are available to UK and Overseas (including EU) students. Full maintenance (stipend and fees) is available to UK and Overseas students for the duration of the four-year DPhil programme. Additional funds will be made available for research consumables. Note that up to a maximum of one fully-funded studentship allocation is available for Overseas students across the four University of Oxford ABViP places being offered in 2022-23. The annual tax-free stipend will be paid at the standard UKRI stipend rate, which is currently £15,609 per annum.

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).