Queen Mary University of London | Est. 1785

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Doctoral Training Programme

Barts Charity Doctoral Training Programme

Application Webinar – 2027 Entry

Thursday 15 October 2026

16:00-17:00



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Doctoral Training Programme



Amrita Ahluwalia

Dean for Research (FMD)

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Deputy Dean for Postgraduate Research (FMD)

Co-Director of the Barts Charity DTP



Samuel White

Barts Charity DTP Manager

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Doctoral Training Programme

Agenda:

- Introduction to QMUL and the DTP
- Navigating the Application Process
- What makes a good application?
- Q&A

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The overarching goal of the DTP is to strengthen biomedical research capacity focused on the health inequalities and major health morbidity/mortality experienced by the underserved East London population.



The Case for the Barts Charity Doctoral Training Programme



among highest deprived in England	life expectancy gap east–west London	patient catchment — Barts Health
4 boroughs	**7–10 years**	**~3.5M**

The Geography of Inequality

East London sits at the sharp end of England's health divide

Tower Hamlets

#1 most deprived

Highest rate of poverty & child poverty of any London borough. Home to the largest Bangladeshi community in England.

Newham

350 premature deaths/100k

Highest rate of low-birthweight babies in London (5.1%). Premature death rate far above national average.

Hackney

Highest psychosis rate (England)

Highest incidence of psychosis in England. Infant mortality above national average. TB rates 5× national level.

Barking & Dagenham

2nd highest childhood obesity

Among highest childhood obesity rates in London. High levels of long-term unemployment and economic inactivity.

The Role of the Barts Charity DTP

A 4-year PhD programme building researchers committed to East London's health

01 **Address health inequalities directly**

Projects are anchored to the specific morbidities of the underserved East London population — not generic biomedical questions

02 **Build research capacity where it matters**

Trains future scientists at QMUL and Barts Health who understand local challenges and are motivated to keep addressing them

03 **Harness a unique research environment**

Access to one of the most ethnically and socioeconomically diverse patient populations in the world, with linked primary care data

04 **Translate to patient benefit**

Embedded partnership with Barts Health NHS Trust ensures a direct pathway from discovery research to improved clinical care

Life-Changing Research for East London

The Barts Charity Doctoral Training Programme brings together world-class science and an urgent local need — producing researchers equipped to close the health gap between East and West London.

Healthier communities

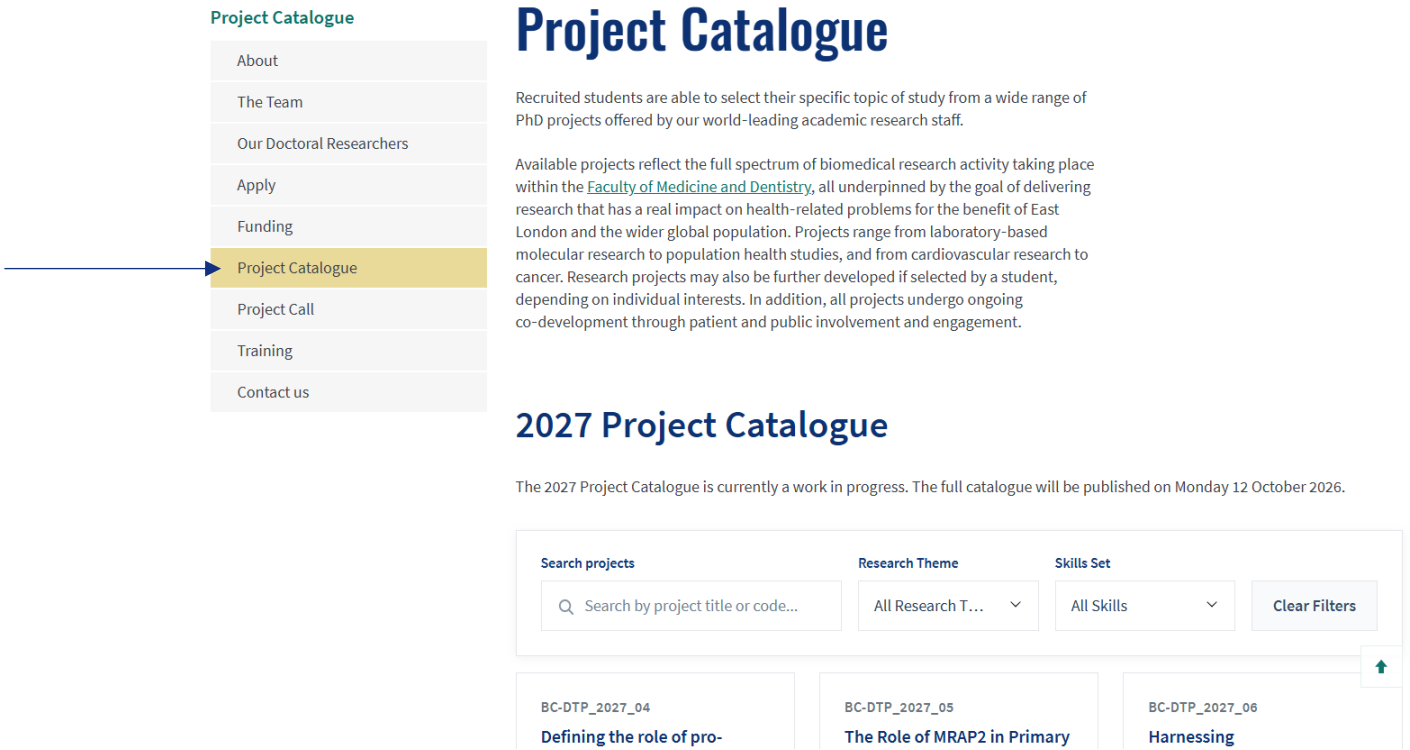
Reduced inequalities

World-class science

bartscharity.org.uk · qmul.ac.uk/whri/study/barts-charity-dtp

https://www.qmul.ac.uk/fmd/barts-charity-doctoral-training-programme/

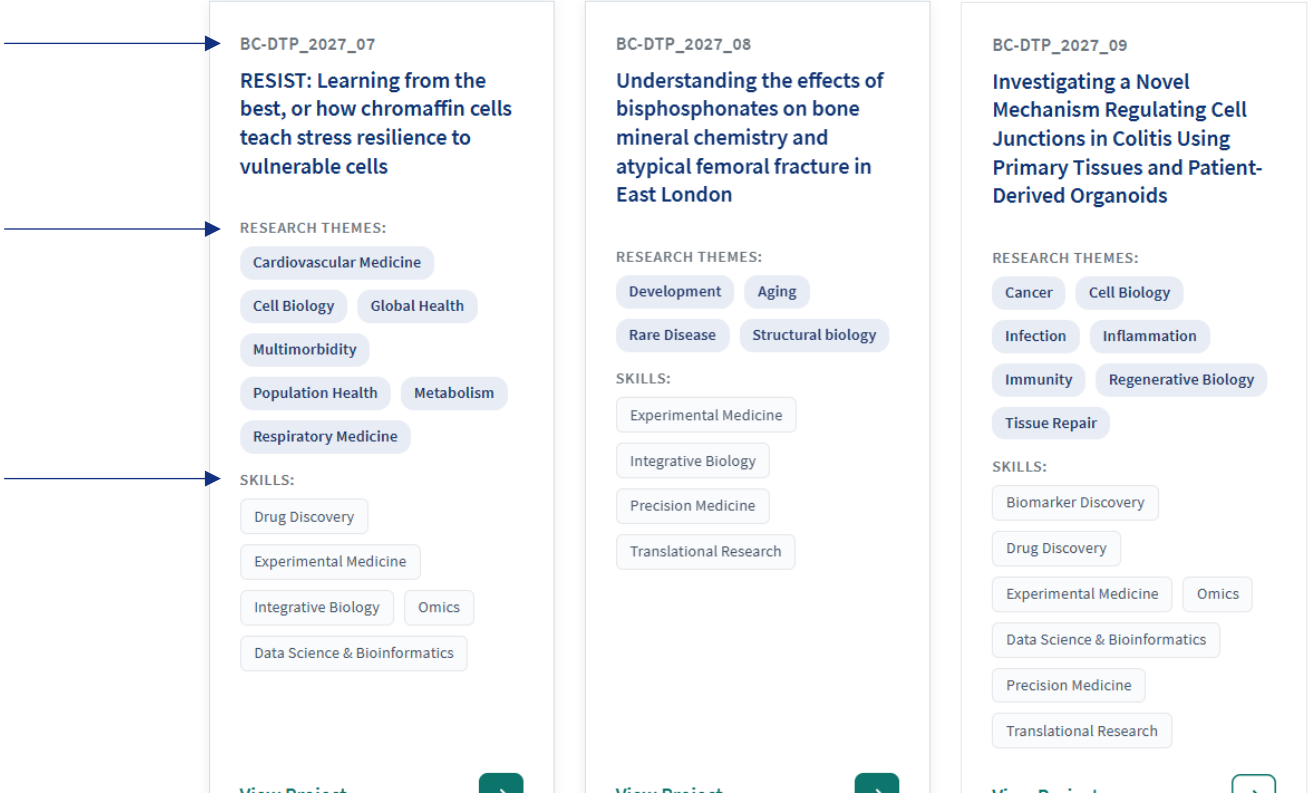
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https://www.qmul.ac.uk/fmd/barts-charity-doctoral-training-programme/project-catalogue/

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BC-DTP_2027_07

RESIST: Learning from the best, or how chromaffin cells teach stress resilience to vulnerable cells

RESEARCH THEMES:

Cardiovascular Medicine
Cell Biology
Global Health
Multimorbidity
Population Health
Metabolism
Respiratory Medicine

SKILLS:

Drug Discovery
Experimental Medicine
Integrative Biology
Omics
Data Science & Bioinformatics

BC-DTP_2027_08

Understanding the effects of bisphosphonates on bone mineral chemistry and atypical femoral fracture in East London

RESEARCH THEMES:

Development
Aging
Rare Disease
Structural biology

SKILLS:

Experimental Medicine
Integrative Biology
Precision Medicine
Translational Research

BC-DTP_2027_09

Investigating a Novel Mechanism Regulating Cell Junctions in Colitis Using Primary Tissues and Patient-Derived Organoids

RESEARCH THEMES:

Cancer
Cell Biology
Infection
Inflammation
Immunity
Regenerative Biology
Tissue Repair

SKILLS:

Biomarker Discovery
Drug Discovery
Experimental Medicine
Omics
Data Science & Bioinformatics
Precision Medicine
Translational Research

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Understanding the effects of bisphosphonates on bone mineral chemistry and atypical femoral fracture in East London

RESEARCH THEMES

Development | Aging | Rare Disease | Structural biology

SKILLS

Experimental Medicine | Integrative Biology | Precision Medicine | Translational Research

PRIMARY SUPERVISOR

Dr Scott Dillon

Institute/ School: Blizard Institute

scott.dillon@qmul.ac.uk | View Staff Page

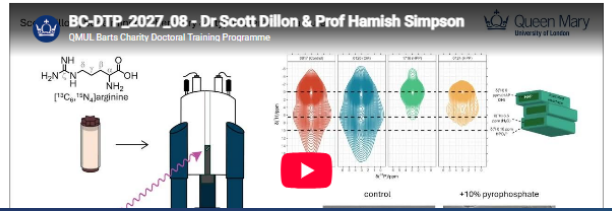
SECONDARY SUPERVISOR

Prof Hamish Simpson

Institute/ School: Blizard Institute

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Project Video



Lay Summary

Osteoporosis causes fragile bones and painful fractures in millions of people worldwide. Bisphosphonate drugs are widely prescribed to reduce fracture risk, but some patients who take them long-term develop catastrophic atypical femoral fractures (AFFs). These breaks are disproportionately common in women of Asian backgrounds. This disparity is directly relevant in diverse regions such as East London where large numbers of patients from these communities receive long-term bisphosphonate treatment.

We believe AFFs occur because bisphosphonates alter bone mineral chemistry at the molecular scale. Our preliminary research in patients with a rare condition in which the body accumulates a molecule chemically similar to bisphosphonates showed, using solid-state nuclear magnetic resonance (SSNMR) spectroscopy and electron microscopy, that this changes how bone mineral forms, generating an abnormally crystalline, brittle structure. This project will test whether bisphosphonate drugs cause the same changes in patients.

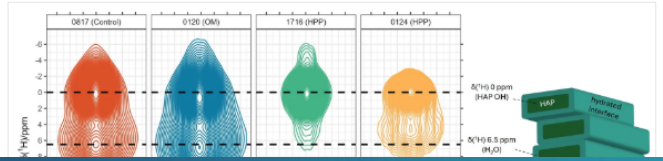
You will study bone tissue from diverse AFF patients, developing expertise in state-of-the-art physical sciences technologies including SSNMR, electron microscopy and small-angle X-ray scattering (SAXS). You will also use synthetic bone mineral and cell culture systems to investigate how bisphosphonates alter mineral chemistry and its interaction with the collagen matrix. This is an interdisciplinary project and you will collaborate with clinicians, biologists, chemists and physicists, acquiring a broad and highly distinctive skillset.

Year 1: Optimise the synthetic bone mineral model with a range of bisphosphonate drugs and characterise their effects on early mineral phase formation by SSNMR, electron microscopy and SAXS.

Year 2: Generate isotopically labelled osteoblast cell culture samples to investigate bisphosphonate-induced changes in bone mineral–collagen intermolecular interactions by SSNMR.

Year 3: Characterise bone mineral molecular structure in AFF patient samples using SSNMR, electron microscopy and SAXS.

Year 4: Perform subgroup analyses correlating bone mineral structure with bisphosphonate treatment status and ethnic background across the patient cohort.



https://www.qmul.ac.uk/fmd/barts-charity-doctoral-training-programme/apply/

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Timeline:

The DTP will adhere to the timeline set out for 2027 entry's recruitment cycle.

Application Webinar	Thursday 15 October 2026 - 16:00-17:00
Application Opens	Thursday 15 October 2026
Application Deadline	Thursday 26 November 2026
Shortlisting	December 2026
Invitations to Interview Sent *	From Monday 18 January 2027
Interview Clinic	Tuesday 26 January 2027, 14:00 - 15:00
Interviews	Tuesday 2 February 2027



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Stage One:

To start your application for the Barts Charity Doctoral Training Programme (2027 entry), please click the link below and follow the instructions provided.

Click here to start your Stage One application

1. Make sure the course selected "**PhD FT William Harvey Research Institute (Non-Clinical) - Semester 1 start**" (Course Code: **RFQM-W6XF-09**).

2. Log in to your existing QMUL MySIS account or create a new one.

3. Complete the personal, contact, qualifications, and experience sections.

4. In the personal statement section, select **No** when asked to upload a statement, then type: "*Personal Statement to be included in Barts Charity DTP Stage Two Application.*"

5. In the research proposal section, enter:

- Proposed supervisor: **Professor Paul Chapple**
- Supervisor contact: **Select 'No'**

4. In the personal statement section, select **No** when asked to upload a statement, then type: "*Personal Statement to be included in Barts Charity DTP Stage Two Application.*"

5. In the research proposal section, enter:

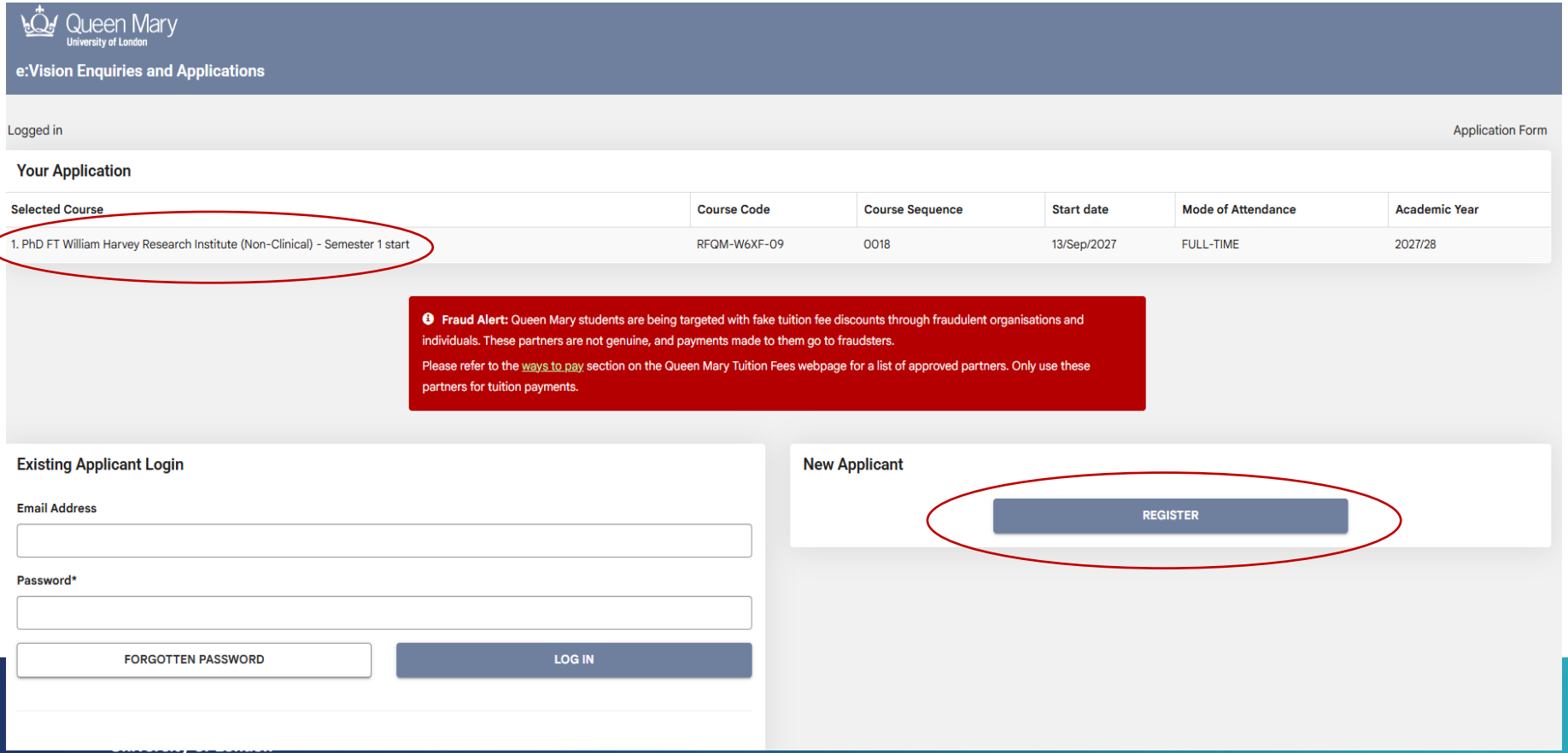
- Proposed supervisor: **Professor Paul Chapple**
- Supervisor contact: **Select 'No'**
- Project/Studentship title: **Input 'Barts Charity DTP 2027 Entry'**
- Research group: **Input 'Barts Charity DTP 2027 Entry'**
- Start date: **Thursday 13 September 2027**
- No uploads required

6. In the Other Information – Funding section:

- Select:
  - **Home applicants**: "I am a QMUL PG research Studentship applicant"
  - **Overseas applicants:** "I will fund my studies by multiple funding sources" and add: "*I confirm that I have read and understood the Barts Charity Doctoral Training Programme (DTP) position on fee status, and acknowledge responsibility for self-funding the overseas fee difference if offered a studentship.*"

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Stage Two (Anonymised Application):

Only one Stage Two application per applicant will be considered. Submitting multiple applications will result in disqualification.

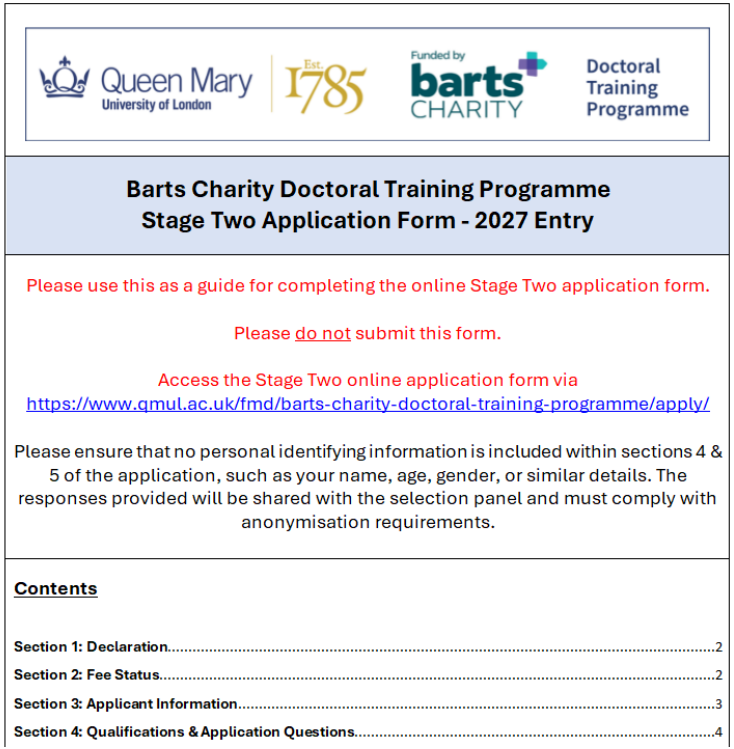
To support preparation, we have provided a Microsoft Word template of the Stage Two application form which is available below.

Application Template: Barts Charity DTP - Stage 2 - Anonymised Application Form - Template - 2027 Entry.docx [DOC 140KB]

We recommend you download and complete the template to draft your responses offline. Once you are satisfied with your answers, open the Stage Two application form and paste in your responses from your prepared draft.

Important: To complete your Stage Two application, you must first submit a Stage One application and have your 9-digit online application reference number ready to enter.

Please ensure that no personal identifying information is included within sections 4 & 5 of the application, such as your name, age, gender, or similar details. The responses provided will be shared with the selection panel and must comply with anonymisation requirements.



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Barts Charity Doctoral Training Programme
Stage Two Application Form - 2027 Entry

Please use this as a guide for completing the online Stage Two application form.

Please do not submit this form.

Access the Stage Two online application form via
https://www.qmul.ac.uk/fmd/barts-charity-doctoral-training-programme/apply/

Please ensure that no personal identifying information is included within sections 4 & 5 of the application, such as your name, age, gender, or similar details. The responses provided will be shared with the selection panel and must comply with anonymisation requirements.

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Stage Two Application Link Published Thursday 15 October





What Are We Looking For?

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We want to understand…

- **What excites you about science?**
- **What has motivated you to apply for a PhD in biomedicine?**
- **What areas of biomedical research are you particularly interested in?**



What Are We Looking For?

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We want to understand…

- **Why you think a cohort-based PhD programme is right for you?**
- **How completing a PhD fits into your broader goals?**
- **Why you want to join the Barts Charity Doctoral Training Programme at QMUL specifically?**



What Makes a Strong Application?

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- An understanding of the goals and ethos of the Barts Charity Doctoral Training Programme
- Explain why the Barts Charity Doctoral Training Programme and the training environment it offers will be right for you
- Demonstrate alignment between your research interests and career aspirations and the programme's goals



What Makes a Strong Application?

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- Demonstrate willingness to contribute to research that reflects the needs and perspectives of patients and local communities

- Show enthusiasm to become part of a diverse and collaborative doctoral research community



Demonstrating Your Readiness for Research

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- Explain how your previous learning and experience makes you a strong candidate for the Barts Charity Doctoral Training programme

- Keep in mind that we value research potential, not just academic achievements, and recognise that some candidates relevant experience may differs from traditional academic routes



Demonstrating Your Readiness for Research

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- Demonstrate scientific curiosity, critical thinking and problem-solving using specific examples

- Reflect on your scientific development and explain how the Barts Charity Doctoral Training Programme will help you grow as a researcher

- Highlight any ability to take initiative, adapt to new challenges and learn from setbacks, using examples from your academic or other experience.



Guidance for Applicants

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- **Familiarise yourself with the DTP's aims, opportunities and expectations by exploring the programme website.**
- **Use specific examples to highlight your achievements, contributions and skills.**
- **Keep your responses clear, concise and focused on the questions asked.**

Guidance for Applicants

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- Use your own words and experiences rather than relying on AI-generated responses

- Convey your genuine enthusiasm for research and explain what motivates you to pursue a PhD!



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Thank you

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