King's College LONDON

Health Sciences Doctoral Training Centre
2019–20

Welcome

I am delighted to welcome you to the **Health Sciences Doctoral Training Centre (HSDTC)**. The HSDTC is funded by King's College London and is here to support you in your research and career development during your PhD. We offer a range of training opportunities in research, professional and personal development skills, including practical classes, interactive workshops, lectures and online tools.

We also aim to build communities and foster collaboration across the Health Faculties at King's through our Annual Research Symposium, Student Forum Fund, and other activities.

In this brochure you will find more information about who we are and what we do, including details of training and other opportunities such as funding schemes and competitions.

If you have any suggestions for additional training or support that the HSDTC could provide to you, we'd love to hear from you; you can find our contact details throughout this brochure.

I look forward to meeting you at some of our events.

Dr Fiona Wardle
Director
Health Sciences Doctoral Training Centre

About the Health Sciences Doctoral Training Centre

The **HSDTC** provides training and development for the 1,700+ doctoral research students in the four Health Faculties[1] at King's College London, irrespective of funding stream. The HSDTC:

- is structured around seven **interdisciplinary research themes**;
- delivers a bespoke programme of training in **research methods & skills**, **communication & impact**, and **careers & employability**;
- encourages **collaboration** and **cohort building** across the Health Faculties, via **funding opportunities**, **networking events**, a **buddy scheme**, and more.

All doctoral research students in the Health Faculties at King's are automatically registered with the HSDTC, and receive a monthly newsletter which highlights upcoming workshops, events, and other opportunities; please let us know if you are not receiving your newsletter!

To find out more, please visit the HSDTC website or follow us on Twitter. If you have any concerns, feedback, or suggestions, or just want to get in touch, please feel free to email us.

➤ kcl.ac.uk/healthsciences
🐦 @Kings_HSDTC
✉ hs-dtc@kcl.ac.uk

1 The four Health Faculties at King's College London are: the Faculty of Dentistry, Oral & Craniofacial Sciences; the Faculty of Life Sciences & Medicine; the Florence Nightingale Faculty of Nursing, Midwifery & Palliative Care; and the Institute of Psychiatry, Psychology & Neuroscience.

Research Themes

Research in the Health Faculties at King's is *multidisciplinary* and *interdisciplinary*, spanning a continuum from **bench** to **bedside** to **population studies**. To help us tailor the training that we offer to you, and to help foster collaboration, we have broadly divided this research into seven cross-Faculty themes.

The seven HSDTC research themes are:

1. Molecular Basis of Disease

This theme concentrates on increasing our understanding of the basis of human disease, and brings together aspects of research into cell biology, genetics, and infection and immunity.

2. Health Across the Life Course and Evolutionary Time

Here we encapsulate research areas spanning developmental biology to age-related disorders; the theme focuses on how health changes with time, both across the human life span and with the progress of evolution.

3. Imaging, Computational and Technological Approaches to Health

Combining biomedical science research with the mathematical, computational and physical sciences, this theme explores research areas including clinical and molecular imaging, computational modelling, 'big data' research, and high throughput technologies.

4. Advanced Therapies and Translational Medicine

Focusing on moving fundamental science and experimental medicine to the bedside and population, this theme encompasses regenerative medicine and cell therapies, the drug discovery pipeline line, biomedical engineering,

and research into medical device development.

5. Mental Health and Wellbeing

The focus of this theme is improving the prevention and treatment of mental ill-health while increasing patient wellbeing, through better understandings of how the brain works, investigating the interaction of psychological, social, genetic and developmental factors, and linking population data to risk factors for adverse mental health.

6. Health Services, Patient Engagement and Clinical Care

This theme examines practical applications of health sciences research, including the care of and engagement with specific patient groups, and research focused around the professional development of health practitioners.

7. Health Research Application and Evaluation

The final theme explores the impact of health sciences research on patient health, including how research into public health, health economics, policy and global health research are implemented and assessed.

'Many thanks to the HSDTC for providing me with an excellent range of training courses – they have made a difficult task easier and have allowed me to learn essential skills for completing my PhD!' **Stuart, Basic & Clinical Neuroscience PhD Student**

Bench	Bedside	Population

- Molecular Basis of Disease
- Health Across the Life Course and Evolutionary Time
- Imaging, Computational and Technological Approaches to Health
- Advanced Therapies and Translational Medicine
- Mental Health and Wellbeing
- Health Services, Patient Engagement and Clinical Care
- Health Research Application and Evaluation

Training for Doctoral Research Students in the Health Faculties

At the heart of the HSDTC is our bespoke programme of training opportunities, which includes interactive face-to-face and blended-learning workshops, wet-lab based courses, online subscriptions, and more, across three broad areas:

1. Research Methods & Skills
2. Communication & Impact
3. Careers & Employability

Assessing your training needs

We strongly recommend that at the start of your PhD you discuss with your supervisor the kind of training that would be of benefit to you during your first year, using the listings in this leaflet and on the HSDTC website as a guide. You will also have regular progress meetings with a thesis committee and these meetings are a good time to reflect on and reassess your training needs as appropriate.

How to book

All HSDTC training opportunities will be advertised on SkillsForge (**training.kcl.ac.uk**). Most sessions can also be booked directly through SkillsForge, but in some instances we will ask you to submit a short application form instead; where this is the case, this will be explained clearly and full instructions on how to apply will be given.

Workshop listings are provided overleaf; for dates and times, see the HSDTC website or SkillsForge. You should be able to search for sessions, using the SkillsForge codes provided in these listings, when bookings are open. If you can't find what you're looking for, it could be that a particular session isn't open for bookings yet, but please get in touch with us if you're unsure, or if you have any questions about a particular session.

The HSDTC also partners with other training providers at King's, such as the Centre for Doctoral Studies; Guy's and St Thomas' Biomedical Research Centre; the MRC Doctoral Training Partnership; the Centre for Stem Cells & Regenerative Medicine; and the Department of Biostatistics & Health Informatics. Booking processes may vary across providers, so please ensure that you read any online instructions carefully.

Please note that the workshop listings in this brochure are subject to change, so please look out for updates via the HSDTC website, newsletter and Twitter feed.

➤ **kcl.ac.uk/healthsciences**
🐦 **@Kings_HSDTC**
✉ **hs-dtc@kcl.ac.uk**

Cancellations

If you have booked onto an HSDTC workshop via SkillsForge and discover that you are unable to attend, we would normally expect you to give notice of cancellation of at least two working days so that your place can be offered to another student.

If you do not attend a workshop that you are booked onto and do not let us know or are unable to provide a good reason for not attending, you may be disqualified from participating in further HSDTC training opportunities.
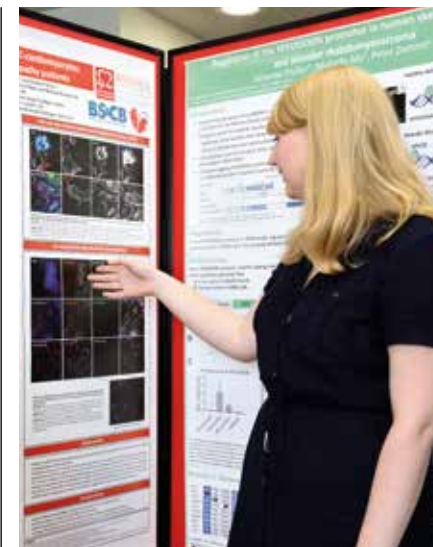
Research Methods & Skills

CLINICAL RESEARCH & ETHICS

Principles of Clinical Research (HSDTC2) Build a comprehensive understanding of the principles of clinical research best practice, from design to delivery to closure. For researchers who develop and deliver clinical research projects with human subjects.

Clinical Research Protocol Development (HSDTC3) Build a comprehensive understanding of research protocols and how to develop one in accordance with best practice. For researchers who develop and deliver clinical research, including CTIMPs.

Managing Early Phase Clinical Trials: Principles and Practice (HSDTC25) This is a one-day interactive session for those who want to learn about the principles and practice of managing early phase clinical trials, with a combination of presentations, discussions and exercises.

Informed Consent for Research (HSDTC4) Explore the concept and principles of informed consent for research, from historical development to an understanding of legislative and ethical considerations for research practitioners.

Research Ethics and Integrity (HSDTC8) Explore the principles underlying research ethics while considering the ethical questions posed by contemporary medical research, and get an overview of good research practice in data management.

BIOINFORMATICS & STATISTICS

DataCamp Subscription (HSDTC20) DataCamp is one of the leading online resources for learning to programme in the main languages used in data analysis. Look out for announcements for the next round of subscriptions.

Introduction to Python for Biologists (HSDTC36) A five-day course giving an overview of the Python programming language for biological sciences students, with an emphasis on practical problem-solving.

Advanced Python for Biologists (HSDTC26) A five-day course for biological sciences students who have a basic knowledge of Python and want to write more complex programs, deal with larger datasets, or contribute to existing software projects.

Data Science for Biologists using Python (HSDTC59) A five-day course for biological sciences students with knowledge of Python who need to explore big datasets and quickly visualise patterns and relationships, and focuses on using Python's scientific software libraries.

Introduction to R (HSDTC60) For wet lab-based students who want to handle tabular datasets using R programming, and so develop new ways of thinking, test new hypotheses, and generate new concepts. No prior knowledge of R required.

RNA-seq and ChIP-seq Analysis (HSDTC34) This workshop is aimed at wet-lab biologists who are embarking upon research projects that will involve RNA-seq and ChIP-seq experiments and the analysis of the data generated.

Ensembl Genome Exploration (HSDTC67) Gain hands-on experience in the use of the Ensembl genome. Learn about the incorporated/interlinked datasets, explore the genome of different species, and perform different types of analysis.

Introduction to UNIX (HSDTC70) UNIX is a versatile language that's employed in multiple data analysis pipelines; by the end of this workshop you should be able to execute simple commands and tasks, and navigate through folders in your computer.

Single Cell Data Analysis (HSDTC32) A three-day overview of the existing problems and the available computational and statistical frameworks available for the analysis of scRNA-seq data. Some knowledge of UNIX and R is required.

Data Hackathon (HSDTC61) For everyone at King's, including students at all levels, postdocs and PIs, who use or wish to use coding for their research, regardless of their level of expertise with programming.

Introduction to Statistics for Researchers (PGR257) For doctoral research students and research staff who wish to learn more about statistical methods and apply statistical techniques in practice.

Statistical Analysis with R (HSDTC68) This workshop will allow you to connect the concepts behind statistical tests and their implementation. You'll use R scripts to analyze data and learn the basics of conducting reproducible research.

Bayesian Statistics with R (HSDTC37) This three-day workshop includes theory and practice and is designed for doctoral research students with minimal knowledge of R who are keen on extending their background in applied statistics.

Experimental Design and Statistical Methods (HSDTC73) This two half-day course will show you how to design high quality experiments using rigorous but easily accessible statistical thinking, and will consist of lecture sessions and a written exercise.

Guy's and St Thomas' Biomedical Research Centre: Research Methods Programme This comprehensive range of courses in Quantitative and Qualitative Research Methods are bookable via the HSDTC on SkillsForge; see **https://bit.ly/2LMoAVO** for full listings.

Department of Biostatistics and Health Informatics: Executive Education Programme Apply for an HSDTC bursary to support your attendance at one of these courses in a range of biostatistics and health informatics research methods and skills; visit the **HSDTC website** for more details.

MICROSCOPY, CELL BIOLOGY & IMAGING

Cell Culture for Beginners: Theory & Practice (HSDTC16) Learn about cell culture background, theory and technique over two sessions. Suitable for those who are new to handling cells, as well as anyone wishing to top-up their knowledge.

Cell Culture for Beginners: Theory Only (HSDTC17) Learn about cell culture background and theory in a single session. Suitable for those who are new to handling cells, as well as anyone wishing to top-up their knowledge.

Fundamentals of Light and Electron Microscopy (HSDTC27) This course comprises four sessions that cover the fundamentals of light and electron

microscopy, as well as hands-on training on imaging instruments and image analysis software.

Icy for Beginners: Bio-Image Analysis (HSDTC35) This workshop is for doctoral research students who use microscopy and want to use Icy, a free, open-source community platform for bioimage informatics, to quantify their data. No programming experience necessary.

Icy Intermediate: Bio-Image Analysis (HSDTC57) This workshop is for doctoral research students who use microscopy and want to use Icy, a free, open-source community platform for bioimage informatics, to quantify their data. Some experience of Icy is necessary.

CRISPR Gene Editing (HSDTC58) For doctoral research students using CRISPR technologies. This workshop will take the form of a tutorial on identifying and using resources for the design of CRISPR gene editing experiments.

Stem Cells and Regenerative Medicine 1: Latest Developments (HSDTC72) This session provides an overview of the latest developments and techniques, legal regulation and translational aspects of stem cell for regenerative medicine, and is open to all.

Communication & Impact

How to Review a Paper (PGR700) This session aims to give an understanding of the processes around peer reviewing academic articles, reviewing published articles for journal clubs, and tips on what to look for when reviewing a paper.

Writing a Literature Review in the Sciences (PGR259) This session explores the relationship between your research and the literature, covers the key principles of organising and critiquing published work, and will help you structure your writing about others' work.

Writing Masterclass: Writing a Successful Review Article (HSDTC55) For doctoral research students who are writing or planning review articles for publication, this session takes you through the process of planning, pitching, structuring, drafting and revising your article.

Turbocharge Your Writing (PGR270) Learn the secret to high output, low stress scholarly writing, using clear and practical strategies that can greatly increase your writing productivity.

Writing Masterclass: Writing a Scientific Abstract (HSDTC19) This half-day session for doctoral research students and postdocs will help you distil your research into an abstract for peer-reviewed journals that is concise, accurate, compelling, and written to the required length.

Publishing a Scientific Research Paper (PGR261) Gain insights from a former journal editor who knows scientific journals from many angles, and learn how to choose a journal and then write and structure your paper and get it through peer review.

How to Get Published (PGR701) This session will provide practical advice on how to prepare, structure and submit your manuscript for successful publication. Suitable for all King's health sciences staff and doctoral research students.

Science Communication: Writing for a Lay Audience (HSDTC54) Learn how to summarise your research and write really good articles which are understandable to a general audience – invaluable if you're applying for the HSDTC Science Communication Competition!

Creating Impact and Engagement for your Research (HSDTC23) This workshop guides you step-by-step through the processes to maximise the chances of your work fostering real and long-lasting change outside of academia.

Three Minute Thesis (PGR600) Could you explain your doctoral thesis to an audience in just three minutes? The King's College London Three Minute Thesis competition is open to all doctoral research students.

Public Engagement through STEM Education (HSDTC69) Run in part by STEM Learning for individuals who would like to become a STEM Ambassador, this training session is a great introduction to the many ways in which researchers can engage the public in their research.

Podcast Training (HSDTC9) This session which will give you the skills to produce, record and edit a podcast showcasing your research, and will also give you the chance to join the HSDTC 'Postdocalypse' Podcast team!

Media Awareness (HSDTC11) A comprehensive and engaging introduction to all aspects of the media, including 'how journalists source stories' and 'using social media to become media aware'.

Careers & Employability

What's Next? Career Options for your Health Sciences PhD (HSDTC1) Whatever direction your future career takes, these sessions will give you invaluable insights into your options, whether inside or outside of academia.

From Bench to Market (HSDTC24) This introductory workshop is aimed at doctoral research students in the health sciences who are interested in exploring business start-up, spin out and commercialisation.

Connecting with Industry (HSDTC65) This blended learning course is aimed at giving doctoral research students in the health sciences a working knowledge of critical business issues that impact commercial organisations.

King's Careers & Employability Workshops & Webinars There are a range of additional workshops and webinars run by the King's Careers & Employability team that can help you to weigh up your career options. Search under 'PGR' codes on SkillsForge, or check the **Centre for Doctoral Studies webpages**.

Discover Careers Comprising short talks followed by a Q&A, these sessions focus on a particular sector such as mental health research or software engineering. Search 'Discover' in the events listings on **King's CareerConnect**.

Careers In Your Ears A podcast from the King's Careers & Employability team, featuring interviews with PhD holders and providing insights into their career journeys. Have a listen now: **https://anchor.fm/careersinyourears**.

Careers and Professional Skills Programme for Researchers Further online resources from the King's Careers & Employability team have been specially curated for doctoral research students, and can be found on **KEATS**.

DOCTORAL ESSENTIALS

We've listed a few relevant 'Doctoral Essentials' courses run via the **Centre for Doctoral Studies** here, but don't forget to check out what else is on offer: search under 'PGR' on SkillsForge, or check the **CDS webpages**.

Starting Your PhD in the Sciences (PGR100) Get an overview of the PhD: what it is, what to expect and how to manage a research project effectively; aimed at first year students in biomedical and health sciences, medicine, dentistry, etc.

Preparing for the Upgrade in the Sciences (PGR174) For PhD students in the sciences going into their upgrade, this session will provide guidance on how to construct your upgrade report and help to prepare you for your interview/presentation.

Writing Up the Thesis in the Sciences (PGR103) For PhD students in the sciences who are entering their writing-up phase, this session will address the structure and content of a thesis and will explore writing strategies and how to cope with 'writer's block'.

The Seven Secrets of Highly Successful Research Students (PGR237) Find out what PhD students do to finish on time, overcome isolation, doubt and writer's block, and enjoy the process, while spending time with family and friends and perhaps even having holidays!

Funding, competitions, and other opportunities

The HSDTC aims to encourage collaboration and cohort building for doctoral research students across the Health Faculties by providing a range of funding opportunities and competitions, a buddy scheme, our Annual Research Symposium, and much more.

Visit the website and follow us on Twitter to find out more, and get in touch if you have any suggestions

- **kcl.ac.uk/healthsciences**
- **@Kings_HSDTC**
- **hs-dtc@kcl.ac.uk**

Funding
Biostatistics & Health Informatics Bursaries
Awards of up to £225 to support your attendance at short courses at the Department of Biostatistics & Health Informatics delivered at the IoPPN at Denmark Hill.

Doctoral Summer School Bursaries
Awards of up to £375 to support your attendance at doctoral Summer Schools delivered across King's.

Advanced Training Fund
Grants of up to £300 to support you to undertake training in a method, technique or application to advance your doctoral research project.

PGR Student Forum Fund
Awards of up to £750 to support your new or existing PGR Student Forum.

Competitions
Science Communication Competition
This competition challenges you to communicate your research and its significance to non-experts in a newspaper style article. Winners will be announced at an awards ceremony and featured on our website.

Science Image Competition
An annual competition to find the best images that represent the excellent doctoral research that goes on across the Health Faculties at King's, culminating in an exhibition and awards ceremony.

Buddy Scheme
First year PhD students are paired with a second-, third- or fourth-year student to support them during the first twelve months of their doctoral studies at King's.

Podcast
A monthly podcast which includes interviews with current PhD students and discussions of topical science issues; visit **https://soundcloud.com/kings-hsdtc** to have a listen! To get involved with producing the podcast, sign up for the 'Podcast Training' workshop (HSDTC9) via SkillsForge.

Annual Research Symposium

The HSDTC Annual Research Symposium is a chance to showcase your research through a talk or poster, to network with fellow PhD students, and to gain valuable new skills through mini masterclasses.
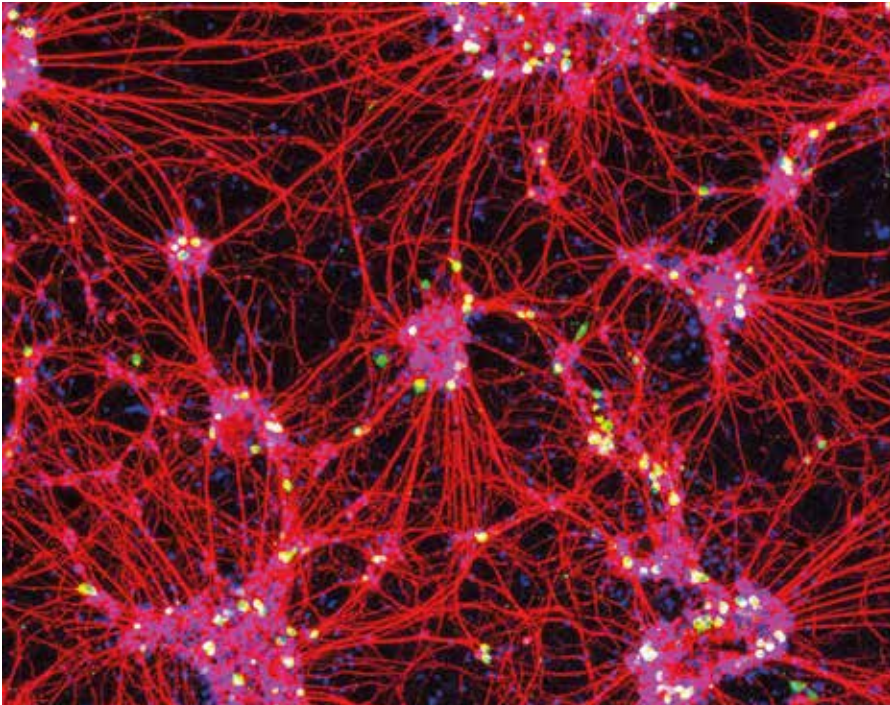
Social and Networking Events

The HSDTC also runs other social and networking events designed to help you find other students who share your interests or who may be able to help your research project. Look out for announcements of research theme-focused or campus-based events.

Image below:
Elucidating the mechanisms of RNA regulation underpinning axon development in zebrafish motor neurons
Richard Taylor, Institute of Psychiatry, Psychology & Neuroscience, HSDTC Science Image Competition 2019

The Institute