Engineering and Physical Sciences Research Council

Centre for Doctoral Training in Applied Quantum Technologies

EPSRC Centre for Doctoral Training in Applied Quantum Technologies

STUDENT HANDBOOK

2025/26

University of Strathclyde Glasgow

University of Glasgow

Heriot-Watt University

The information in this handbook serves as a guide through your studies. Inside, you will find essential information about our vision, course structure, events, PDP, and our code of conduct. We look forward to supporting you as you grow into a leader in applied quantum technologies.

This handbook should be read in conjunction with your home institutions guidance, and your supervisor or the CDT team can support you with any questions or issues you may have.

Vision

We are delighted to welcome you to the Centre for Doctoral Training in Applied Quantum Technologies (AQT), bringing together the University of Strathclyde, the University of Glasgow, and Heriot-Watt University. Our three institutions are internationally recognised centres in quantum science and technology, covering Quantum Measurement and Sensing, Quantum Computing and Simulation, and Quantum Communications and Networks. I encourage you to take full advantage of the collaborative environment, expert guidance and well-resourced research environment that the CDT offers.

As a CDT we are committed to help you realise your full potential, and we will be here to support you every step of the way. Wishing you every success in the year ahead.

Prof Stefan Kuhr, AQT CDT Director

CDT Management Team

Our Management Team represents the three participating Universities and consists of 10 academics with a broad range of expertise across quantum science and technology. They are responsible for determining the overall strategy and addressing any emerging issues.

General Enquires

Name	Institution	Role
Prof Stefan Kuhr	University of Strathclyde	Director
Prof Sonja Franke-Arnold	University of Glasgow	Director, Uni of Glasgow
Prof Alessandro Fedrizzi	Heriot Watt University	Director, Heriot-Watt Uni
Prof Sarah Croke	University of Glasgow	Training
Prof Jonathan Leach	Heriot Watt University	Admissions
Prof Jonathan Pritchard	University of Strathclyde	Industry contact, UoS
Dr Rair Macedo	University of Glasgow	Industry contact, UoG
Prof Gerald Buller	Heriot Watt University	Industry contact, HWU
Prof Paul Griffin	University of Strathclyde	Outreach
Prof Viv Kendon	University of Strathclyde	Cohort director

CDT Coordinators

The administrative Team will assist with any day-to-day matters pertaining to your studies and help sign post you to the relevant team within the University should you encounter any issues or require assistance.

Name	Institution	Contact email
Rachel Jamieson	University of Strathclyde	Enquiries@cdt.ac.uk
Michaela Graham	University of Strathclyde	Enquiries@cdt.ac.uk
Julia Deans	University of Glasgow	aqt-cdt@glasgow.ac.uk

Course structure

The CDT in Applied Quantum Technologies offers a comprehensive four-year program structured to equip you with a solid foundation and specialized expertise in quantum technologies.

Year 1

Year 1 begins with a residential cross-cohort Training School, enabling new students to become quickly embedded in the CDT, and will focus on scientific, personal and cohort development. With lectures on Quantum Mysteries, Lab & computing courses, networking, seminars on trusted research & Responsible Research and Innovation as well as an industry afternoon including talks from industry experts.

Rotating between Strathclyde, Glasgow & Heriot-Watt Year 1 includes taught courses throughout semesters 1 & 2 on Foundations of QT and Enabling Technologies as well as training in Equality, Diversity & Inclusion. Students will also commence their research projects.

Year 2

The year commences with the Training School where second-year students will undertake soft-skills training workshops in subjects such as entrepreneurship, IP, mental health, and scientific writing. Guest lecturers from academia and industry will provide an annually updated seminar on advanced topics in QT.

The Training School also builds the starting point for outreach events, training students in engaging with the public in research topics and building of hands-on activities. Social events will strengthen social bonds across all cohorts.

Second-year students will start on a bespoke modular training programme in tandem with their PhD studies.

Based on your personal development plan you will select a topical lecture course associated with one of the three broad QT areas (quantum computing, communication & sensing). You will also attend the QT Discovery Lab training modules.

The QT Discovery Lab will provide students with the opportunity to undertake training modules in groups of 3-5, to develop practical experience, including hands-on lab work and numerical or computational training, as well as experience of self-led study and groupwork. Students are expected to spend approximately 60 hours working on the mini-project and they will have a semester to complete it, including documentation of results.

Year 3 & 4

Year-3 and 4 students attend the Training School where they will participate in further skills training and will also participate in a proposal workshop, where small student groups are guided through proposing a one-page research project relevant to their PhD research. They will also be encouraged to present their research to the other cohorts in a mini student via posters and presentations.

Year-3 and Year-4 students will increasingly focus on their main research project and activities suited to your individual future career paths. Depending on your personal training plan, you can complete industry placements with one of our partners, deepen your understanding by delving into further lecture topics, or complete appropriate topical third-party qualifications such as certification in quantum software, and prepare for thesis submission.

Key Dates

AQT CDT Welcome & Induction Webinar	**Wednesday 1st of October 2PM**
AQT CDT Training School & Residential Stay	**Monday 27th October –Sunday 2nd November**

Overview of CDT events

In addition to the Training School, other cross-cohort events will take place including:

Industry Day

The Training School will culminate each year with an Industry Day, devoted to industry engagement and discussion panels led by the Industry Forum 2-day winter CDT Showcase. In addition, we will organise two Summer Schools with the International Scottish Universities Summer School in Physics (SUSSP) over the CDT lifetime.

CDT Showcase

The CDT Showcase will be a two-day non-residential event, highlighting the research projects and the work of industrial partners. Day One will see presentations from Year-4 students, highlighting their work to the CDT community, while Day Two will focus on industry, including keynote speakers and a half-day industry fair. The industry fair gives student's opportunities to speak one-on-one with industry professionals working in QT, and allows industrial partners to advertise placements, internships, and graduate positions. At all cohort events, time will be set aside for student-led activities, planned and prepared by the Student Council.

Summer Schools

During the SUSSP Summer Schools we will invite world-class UK and international speakers to give lectures on the latest developments in the field, complemented by selected contributions from industry partners. All courses will be designed to match the central theme of Applied Quantum Technologies and be delivered through the Scottish Universities Physics Alliance (SUPA) network that includes the SUPA Graduate school. Where applicable, industry partners will be invited to deliver guest lectures and all courses will have practical elements, such as coding with the quantum language QisKit, using cloud quantum hardware, and real-world data supplied by our labs. As suggested by our industry partners, courses will include the latest approaches in integrated systems engineering, introducing and comparing to classical state-of-the-art methods in, e.g., sensing, imaging, telecom networks or classical simulation of quantum systems, and practical aspects of tackling engineering challenges in the translation of QT from the lab to the real world, including economic, social and environmental aspects of future solutions.

SUPA Electives

In addition to the dedicated CDT core and elective courses, students will be able to personalise further via the extensive SUPA Graduate School course offer. Relevant courses include Gravitational Wave Detection, Quantum Field Theory, Modern Topics in Condensed Matter Physics, Electron Microscopy, Quantum Magnetism and Phase Transitions, Advanced Statistical Physics, Nanophotonics, Software Carpentry, FPGA Programming for Physicists, and more.

Personal Development Plan

Your PDP will be a document used by you and your supervisor to guide your development and training over the CDT timeline.

In year one, you and your supervisor should use your reflections and discussions on the mandatory CDT training courses and events alongside your PhD progress to identify areas you would like to develop and set some goals.

In years two to four, you will use this information to select CDT or other courses that will help you meet those goals. The PDP will be reviewed each year and new targets set if needed.

Please fill out the questions below and book a meeting with your supervisor to discuss, (preferably within two weeks of returning to your home institution).

Reflections from the CDT Training School

1. What Career pathways am I considering and what steps can I take during my PhD to prepare for them?
2. What specific technical skills or knowledge areas do I need to advance my research in quantum technologies?
3. What transferrable skills (e.g. project management, communication, leadership) do I want to develop during my time in the CDT, and how will I go about this?
4. What are my short-term goals for the next 12 months and what actions will I take to achieve them?
5. How will I engage in the wider quantum technologies community both within and outside the CDT?

Code of conduct

Please refer to the AQT CDT Code of Conduct which you can find here.

Policies, Guidance and Information

Strathclyde

AQT CDT students based at the University of Strathclyde will conduct their research either in the John Anderson Building or the Technology and Innovation Centre, depending on the location of their supervisor.

All Strathclyde CDT students are expected to attend the following inductions as well as any other training necessary for their research.

- The Department of Physics PGR Induction
- The AQT CDT Induction Webinar
- The Strathclyde Doctoral School PGR Induction

The following links provide valuable information & guidance to support all CDT postgraduate research students within the Department of Physics.

- PGR student Handbook
- Strathclyde MyPlace Site
- AQT CDT Share Point
- Strathclyde Doctoral Training School
- Student Advice & Support

Glasgow

At the University of Glasgow, you'll study within the College of Science and Engineering and will be based in the same School as your CDT supervisor—either the School of Physics and Astronomy or the James Watt School of Engineering. Certain administrative processes, including Annual Progression Reviews, are managed at School level. To ensure you're well-informed, please familiarise yourself with your school's procedures by attending the School Induction Event in October and any relevant talks throughout the year, or by contacting the school's administrative team for support. If you're unsure who to contact for School-specific information, please email aqt-cdt@glasgow.ac.uk, and we'll direct you to the appropriate person.

Several useful sources of information are outlined below to support you throughout your studies. However, if you need clarification on any PGR policies or procedures, or guidance on accessing University services, please don't hesitate to contact us directly at aqt-cdt@glasgow.ac.uk.

- The PGR Code of Practice: University of Glasgow - Research - Our research environment - PGR Policy, Strategy & Support - PGR Code of Practice

- The Graduate School SharePoint Site: CoSE Graduate School - Home

- PGR Wellbeing Webpages: University of Glasgow - Research - Our research environment - PGR Policy, Strategy & Support - PGR Wellbeing

- Researcher Developer Training: University of Glasgow - MyGlasgow - Research & Innovation Services - Researcher Development - For PGRs

Heriot Watt

At Heriot Watt University AQT CDT students will study within the Institute of Photonics & Quantum Sciences. Working closely with your supervisor you will conduct your research in.....

To provide you with comprehensive guidance throughout your studies please refer to the links provided below.

- Institute of Photonics & Quantum Sciences
- Postgraduate Research Degree Candidate Code of Practice
- Student Wellbeing
- Student Support

Assessment and Progression

Assessment and progression criteria will follow the specific guidelines of each host institution.

Strathclyde:

All PhD students are required to submit an annual progress report through SPIDER including an attachment of an extended written report of their work by mid-August each year. This is assessed by a committee in the form of a progress viva. First & second year students are also expected to take part in the PGR Conference & posterboard session. More information on PGR assessment can be found in the PGR Handbook as well as through the universities MYPLACE page.

Glasgow

All students are required to have their progress formally assessed on an annual basis for the first three years of their studies. This is known as the Annual Progression Review (APR) process, and it is coordinated by your School. Please make sure that you familiarise yourself with the specific information that will be provided by your School including the process and timelines for submission. The APR Training Guides are available on the following webpage: University of Glasgow - Research - Our research environment - PGR Policy, Strategy & Support - PGR Code of Practice - Annual Progress Review.

Heriot Watt

All students are required to complete training as part of their academic and professional development. Each year, a minimum of 80 hours of training must be documented in your yearly appraisal. PhD students are also required to attend the mandatory eight-part course 'Getting Started' hosted by the Research Futures Academy as well as creating and updating a Personal Development Plan. Further details relating to assessment & development can be found in the PGR student handbook.

Thesis and Submission deadlines

Students should check the policies and guidelines at their host institution.

Strathclyde

Students are expected to submit their thesis by the end of their maximum period of study and can only submit once the Vice Dean has approved the examination committee. Once the examination committee has been approved students will receive instructions from Student Business on how to submit their electronic copy of their thesis. Before submitting students should familiarise themselves with the Submission and Examination section of the Policy and Code of Practice for Postgraduate Research Study

Glasgow

Students are required to complete an 'Intention to Submit' form at least three months prior to their planned thesis submission date. This form serves to notify the Graduate School so that a Committee of Examiners can be arranged for the Viva Voce examination.

All students are expected to submit their thesis by the end of their four-year studentship. The College of Science and Engineering (CoSE) electronic thesis submission process is detailed on the CoSE Graduate School SharePoint site.

If extenuating circumstances arise and the submission deadline cannot be met, students may apply for an extension. Extension request forms are available on the Graduate School SharePoint site or by contacting the CDT Administrator.

Heriot Watt

Students are expected to submit their thesis by the end of their studentship. Should students be unable to submit their thesis at this stage a discussion with their supervisor should take place and a possible extension application can be made by following the correct procedures.

Students should submit their thesis 4 weeks prior to their viva date. Thesis submissions can only be submitted once the viva committee has been approved. Students should familiarise themselves with Guidance on the presentation and submission of yourn thesis as well as the Guidelines on submission and format of Thesis document located on the Heriot Watt University website.

Student Attendance and Engagement

Strathclyde

All students are expected to engage in their studies through regular meetings with their supervisor and by attending departmental events such as the Physics Colloquiums.

All students who are in the UK on a student visa should be aware that the UK Home Office Regulations require the University to proactively verify the "Engagement in Study "of all Tier 4 Students. This means that the Department is obliged to monitor your attendance and check that you remain actively working on your PhD throughout your time in the UK. This is done through a part of PEGASUS called the Student Engagement and Monitoring System (SEAMS). Each tier 4 student will have a SEAMS record, and you must ensure that this is updated regularly by one of the authorised Departmental Administrators. Failure to keep your SEAMS record up to date is a **very** serious matter and may result in your UK visa being withdrawn.

Helpful information for new students about International Tier 4 visas can be found here .

Glasgow

Student visa holders should use the UofG *HelpDesk* Engagement Form to record their monthly attendance, i.e. details of their monthly supervisory meeting. Please review Student Visa Responsibilities on the following webpages: *University of Glasgow - MyGlasgow - Registry - Immigration Compliance - Student Visa Responsibilities*. It should be noted that if you are an international student, non-attendance at any scheduled meeting or contact points will require action and could ultimately lead to the withdrawal of visa sponsorship.

Heriot Watt

Heriot Watt University has an obligation to conform to UKVI regulations in relation to record engagement & attendance of all student visa holders. To meet these regulations all students on a student visa must record their attendance through the 'Student Notes' on PGR Portfolio as evidence of their engagement of study. More information regarding student visas can be found in the PGR student handbook or through contacting the Visa Compliance team through the student portal.

Accessing Research Support Funds / Reclaiming expense/ RTSG

All AQT CDT students have access to a RTSG (Research Training Support Grant) fund of £3000 per year. The purpose of this fund is to cover incidental costs associated with conference attendance, travel for research purposes and consumables. Please liaise with your supervisor to access these funds and to grant approval of spend. Please contact your local CDT Coordinators will be able to assist with purchasing of consumables and booking for travel and conference registrations.