Imperial College London

Department of Chemistry

Postgraduate (PhD) Research Student Handbook
2021-2022



for commitment to advancing women's careers in Science

The Department of Chemistry has become one of only four university Departments across the UK and the first at Imperial to win an Athena SWAN Gold Award. Read the full article on our website at:

https://www.imperial.ac.uk/chemistry/about/working-in-the-Department/edi/athena-swan/

The Graduate School



Welcome to Imperial College London and the Graduate School!

The Graduate School is responsible for the postgraduate experience at the College and we work closely with the Union and the Graduate Students' Union to ensure that when decisions are being made, which affect your time at Imperial, your voice is heard.

Another important aspect of our role is to offer you a free and exciting range of professional development opportunities which you can access wherever you are in the world.

Our team of tutors have a variety of research and other career experiences. We understand the importance of developing professional skills and our programmes will help you to progress in your academic studies and research and will prepare you for your future career. Whether you wish to pursue a career in academia, industry or something else, professional development training will improve your personal impact. You will also get to meet students from other Departments when attending our courses.

The Graduate School runs exciting competitions throughout the year which are an opportunity to broaden your knowledge as well as to meet other students and have fun. Our primary way to communicate to you will be through our monthly newsletter and Professional Development Bulletins. However, do check our website, blog and social media platforms to keep up to date with all the latest activities available to you.

Finally, Imperial College is an extremely exciting, stimulating and diverse environment in which to work, to study and to research. Do make the most of all that the College and your Programme has to offer.

Welcome to Imperial College! I'm Lloyd – President of Imperial College Union (ICU)



ICU is the representative body for all students at Imperial College. We advocate on behalf of students' interests, including through a network of elected student representatives across all Departments and levels of study. We also provide services to students – we operate a number of bars (including h-bar, our Postgraduate bar), shops, a nightclub, and a cinema; we run over 360 clubs and societies, and we have an Advice Centre which offers confidential, impartial advice on academic and wellbeing matters.

ICU is led by myself and a team of Deputy Presidents – students who are elected to take a sabbatical year out of, or at the end of our degrees to work full time leading the Union. I myself recently completed my PhD in Physics. As a Postgraduate student, it was clear that there were plenty of ways that the Union and the College could be better supporting Postgraduate students, which is one of my main focusses for this year.

As we emerge from the pandemic and things are becoming more normal, we are keen to help rebuild the sense of student community that has suffered over the last 18 months. We are so excited to be offering a range of in-person social events through October (including a Postgraduate mingle on October 7th), and to see our clubs and societies returning to running their activities in person.

October also sees our <u>Autumn Elections</u>, where we elect student representatives across the College. If you'd like to be a voice for your peers and help improve the student experience, you should definitely consider running for a role. It's great fun, and an excellent way to meet new people and give something back to the student community.

I'm excited to meet many of you in person in the coming weeks, and I hope you have a fun, and safe, start to your time at Imperial.

Dr Lloyd T. James | **President**

Imperial College Union Beit Quadrangle, Prince Consort Road, London, SW7 2BB Reg. Charity No. 1151241

Tel: 020 7594 8060 imperial college union.org

Introduction

Every student for a higher degree is required to pursue a regular course of study; the length of the course is prescribed for each student by the College in accordance with the University regulations.

Within nine months of the initial start of the PhD, candidates must undertake an examination on their work. If they do not perform satisfactorily at this stage, then their registration may be changed to MPhil, and the duration of the degree likewise shortened. PhD experimental studies are normally expected to last 36 months from the initial date of registration.

Supervision

The primary responsibility for supervision of your postgraduate studies lies with your supervisor. Your supervisor is responsible for overseeing your progress during your studies, ensuring that you undertake appropriate training courses, follow safety guidelines and making funds available for you to successfully undertake your studies. Further supervision may also be provided by one or more co-supervisors - typically where your research involves collaboration with another research group, or where your primary supervisor is a new member of academic staff.

https://www.imperial.ac.uk/students/success-guide/pgr/effective-research/working-with-your-supervisor/

Departmental Support

Administrative support for postgraduate training is provided by the Postgraduate Administrator, Ms Doris Pappoe (G21, MSRH). She should be able to help with most practical matters concerning the administration of your studies, including the submission of relevant forms and the payments of bursaries. Working alongside the postgraduate administrator is the Research Student Manager, Dr Mike Ray (G21, MSRH) whose role is to support all research students in the MSRH building as well as managing the transition of students between postgraduate programmes. To contact Doris and Mike, please use the following address: chemphd@imperial.ac.uk. Using this address avoids your query sitting in the inbox of the personal e-mail address of Mike or Doris when they are on leave and will ensure a faster response to your message.

Academic oversight of postgraduate training is provided by Dr James Wilton-Ely the Director of Postgraduate Studies (Room 601B MSRH, <u>i.wilton-ely@imperial.ac.uk</u>) – please contact him if you have any general queries about the PhD programme or the training it provides. If you have any other concerns, including any concerns you may have about the supervision of your studies, please contact the Postgraduate Tutors:

Dr Rob Davies (Room 601J, MSRH, <u>r.davies@imperial.ac.uk</u>)
Professor Keith Willison (Room 301A, MSRH <u>keith.willison@imperial.ac.uk</u>)
Dr Silvia Díez-González, (Room 401E, MSRH, <u>s.diez-gonzalez@imperial.ac.uk</u>)

The members of the Chemistry PhD Student Support Team are listed on the website at the following link: https://www.imperial.ac.uk/chemistry/postgraduate/phd/pastoral-support/ with details of their roles

Personal Advice

The Postgraduate Tutors, Dr Rob Davies, Prof. Keith Willison and Dr Silvia Díez-González can provide more information on all services available, in confidence. They are available for consultation by all postgraduate students.

The College has an extensive range of services to provide personal advice to students and staff. This includes the Health Centre in the Southside section of Prince's Gardens, Counselling services and Faculty Tutors (http://www.imperial.ac.uk/student-space/).

Induction and Safety

The Department, in conjunction with the Graduate School runs induction activities for all new PhD students in October each year. These include a compulsory Safety Lecture, which details the Department's requirements for safe practice in your research. The link to the Graduate School Induction is Graduate School online induction

Details of this induction programme will be given to you by the PG Administrator, Doris Pappoe. If you start your studies at a different time in the academic year, please discuss your induction with Doris Pappoe and your supervisor, and ensure that you have completed the online Safety courses at the first available opportunity. The link to the Departmental Safety page and courses is New Postgraduates (sharepoint.com)

You should be aware that you are responsible for ensuring that you undertake your research in accordance with safety regulations and procedures, as agreed with your supervisor. If you have any doubts about any safety aspects of your work or work environment, you should discuss these with your supervisor.

Themes and Theme Cohorts

The research in the Department falls under a group of Research Themes (https://www.imperial.ac.uk/chemistry/research/research-themes/), which are listed below:

- Synthesis and Catalysis
- Chemical Biology and Healthcare
- o Environmental and Green Chemistry
- Energy
- Imaging, Sensing and Analytical Chemistry
- Materials and Molecular design
- o Theoretical, Computational and Data-driven Chemistry

All PhD students have been assigned to a Theme based on the topic of their research and this will be used to plan the PG Symposium, in which each Theme has its own parallel session. The PhD students aligned to a particular theme are encouraged to take part in the activities being organised by the Theme Coordinators (and to suggest new events). The Themes also provide the students with a relevant research community to which they can belong (if they wish) beyond their research group. Events will be organised by and on behalf of these 'Theme Cohorts'. Participation will be on a voluntary basis and students can engage as much as they wish. It is clear that many students will be engaged in research that straddles more than one theme and students are encouraged to attend events organised by any Theme.

Postgraduate Lecture courses

While it is not compulsory, attendance at taught courses is strongly encouraged at Imperial College and it can help to close potential gaps in your knowledge. This can include attending a lecture course taking place in the Department (e.g. a 4th year UG lecture course or a bespoke MRes course), a workshop run by one of the learned societies (e.g. RSC or SCI), an on-line course (e.g. Coursera) or even tutorial-style sessions with your supervisor(s). There is no particular time limit (previously, such courses had to be completed by the ESA). Please discuss your training needs and how to address them with your supervisors.

Note that some lecture courses are particularly well attended, for example because they are mandatory for the UG cohort and examined. In case you are in doubt, please liaise with the course organisers (the UG administration for UG courses, Dr Mike Ray for MRes courses) or use live-streaming facilities, where possible. Many lecture courses in the Department are video-recorded and released on-line via the Panopto system (search for 'Panopto' on the College Website).

Please note that you can also attend courses in other Departments. You are responsible for arranging to attend courses in another Department.

English Language Assessment and Classes

All students whose native language is not English are required to attend English Language classes and to be assessed in the first year. Please contact the Centre for Academic English (CfAE) for initial assessment or exemption: https://www.imperial.ac.uk/academic-english

Centre for Academic English Welcome MS Team

Through the MS Team, students will be able to post questions at any point or talk to a member of the Centre directly. This Team will also house information and video clips explaining how the CfAE can help you throughout your time at Imperial (see this link).

The Induction video can be access at these links

- MS Stream link to the Centre for Academic English welcome video
- YouTube link to the Centre for Academic English welcome video

Graduate School Professional Skills Development Courses

The Graduate School's Professional Development attendance requirement exists in order to ensure that all students receive some professional development training while at Imperial and have the opportunity to engage with the programme, alongside their research work.

The College requires all doctoral students to achieve a minimum of four Graduate School credits, by the Late Stage Review (LSR). In addition to these credits, the Online Plagiarism Awareness Course is compulsory and should be completed by the ESA but does NOT count towards the minimum attendance requirement. The online doctoral plagiarism awareness course must be completed by the Early Stage Assessment (ESA), Credits should be accumulated as follows:

- By the Early Stage Assessment (ESA) 2 credits
- By the Late Stage Review (LSR) a further 2 credits

Full details can be found of the requirements is at:

http://www.imperial.ac.uk/study/pg/graduate-school/students/doctoral/professional-development/attendance-requirement/

Students are responsible for choosing the dates of the courses they wish to attend and completing the required booking process in consultation with their supervisor. All students are responsible for informing their supervisors which courses they will be attending and the dates. You are required to take the required courses approved by Graduate School by the 9 month (Early Stage Assessment) milestone. Please note that these courses run from October to June.

The Graduate School new booking system Inkpath, is now up and running. https://www.imperial.ac.uk/study/pg/graduate-school/students/inkpath-guidance/

Research Seminars

The following link, should contain all research seminars across the College: http://www.imperial.ac.uk/study/pg/graduate-school/events/research-seminars/

Demonstrating

Undergraduate teaching is a valuable part of your PhD training, and all PhD students will have the opportunity to contribute to teaching duties which, in turn, can help PhD students obtain status as an Associate Fellow of the Higher Education Academy. All work is paid at the standard College rates, and teaching allocations are distributed by Dr Laura Patel, the Academic Laboratory Coordinator (demonstrating). Participation in all demonstrating should be agreed with your primary supervisor.

Satisfactory Progress in Research activities

Students will be assessed within the Department at a number of points throughout their degree.

- a) Via six-monthly progress reports
- b) Via Early Stage Assessment at 9 months
- c) Via Late Stage Review at 18 months (including a plan for the remainder of the PhD)
- d) Via presentation of a seminar on their work at 30 months

Six-monthly progress reports

Students are required to complete six-monthly progress report forms, in consultation with their primary supervisor. These brief reports are prepared by the student and supervisor. Both student and supervisor should provide comments on how the research programme is proceeding and any issues that have arisen. The questions asked vary with the phase of the PhD.

Early Stage Assessment (ESA) at 9 months

It is not always possible to predict an individual's capacity for research on the evidence of previous academic performance. A PhD programme at the College will include an assessment of research ability based on performance after the initial 9 months of the PhD programme. If the student is not performing at a suitable level, which suggests that they may not succeed in their PhD, then there is the option of altering their degree from PhD to MPhil, and the early termination of the work. This occurs very rarely as we select very able students for our PhD programme. Such a decision will be made after discussions with the student and between the supervisor and the Director of Postgraduate Studies (DPS).

All students will be required to submit an Early Stage Assessment Report in the style of a scientific paper before discussing their work in an oral viva. A suggested template for the ESA Report is on page 19 in this Handbook, but any appropriate template (for example from an RSC journal) would be suitable. Students wishing not to use the template should obtain explicit permission from the independent assessor. This ESA Report will be assessed by one academic member of staff who is independent and not involved in the student's project. The student will upload the ESA Report to Turnitin on Blackboard and then send the Report and the Supporting Information (see page 19) to the Academic assessor at least a week beforehand. The work is then assessed in an oral viva. The ESA Report and viva should normally be completed by nine months from the date of initial registration. The documentation on the viva and ESA Report is filled in online by the Assessor and passed on to the supervisor stating whether the Assessor believes that the student understands the project and is fit to continue. The student should see this report and view the comments on their work and performance to help them improve. This documentation is reviewed by the DPS and signed off.

The details of what you should include in the Early Stage Assessment report should be agreed in advance with your supervisor. It is not expected that the report will include a large body of novel

results. For most PhD students, much of the first year of their studies is spent gaining experience in their research field, familiarising themselves with the literature and gaining experience in the relevant experimental and/or theoretical techniques. The purpose of the examination is to confirm that the student:

- (a) understands the research problem
- (b) is aware of the associated literature
- (c) has demonstrated the ability to conduct the research
- (d) has a realistic research plan and schedule
- (e) is a researcher of PhD calibre

The Early Stage Assessment report will be submitted for **plagiarism checking** using Turnitin. The presence of any plagiarism or significant similarity with previously published or submitted student work will be raised by the assessor carrying out the ESA. However, at this stage, the presence of plagiarism will be considered a matter of learning rather than lead to action being taken by the College. **However, if plagiarism is discovered in your PhD thesis, this could lead to you not receiving your PhD degree.**

Assessment at 18 months (Late Stage Review, LSR)

After 18 months on the PhD Programme (or as close to this as possible if the student does not start in October), students are required to complete a Late Stage Review (LSR). Supervisors will be asked to identify **two independent assessors** to conduct the review. At least one assessor should be a member of academic staff in the Department of Chemistry, however, the second assessor can be from another Department, if this is appropriate for the topic of the project. The assessors will schedule a time to meet with the student and conduct the LSR. It is usual for the student to use the poster they plan to present at the PG Symposium (see below) as a summary of their work to date. In addition the student must provide a workplan for the rest of their PhD studies. After the meeting, the assessors and supervisor will complete the LSR form online. The student should see this report and view the comments on their work and performance to help them improve.

The primary role of the LSR is to assess the current scientific achievement of the student and their research plan for the final phase of their studies. A secondary, but important role is for the student to receive independent scientific input into their project. As mentioned above, the poster for the PG Symposium can be used as the basis for the independent LSR discussion. However, the student/assessor/supervisor are free to supplement the poster with slides, or inspection of key spectra/data, in order to allow for a thorough review/discussion.

Any students who fail to meet the standard expected at the LSR will require remedial action. If the quality of the work is unsatisfactory and suggests that the student may not succeed in their PhD studies, then there is the option of transferring their degree registration from PhD to MPhil and terminate their work early. Such a decision will be made by the Director of Postgraduate Studies in consultation with the supervisor after discussion with the student.

Presentation of a seminar on their work at 30 months

After 30 months on the PhD Programme (or as close to this as possible if the student does not start in October), the student is required to present a seminar on their work, most commonly at the PG Symposium (see below). They will present the seminar at a Departmental session and answer questions on their work to members of staff, students and external visitors. Any seminar which is deemed to be unsatisfactory may require further assessment to make sure the student is on track to complete their PhD.

Student Complaints and Appeals

Imperial College aims to give the highest specialised instruction and support to all its students, however, in some cases it recognises that students may not always be satisfied with aspects of the training and support that they have received. If you wish to raise a concern, you should first seek advice from your PhD Student Representatives (there is one for each PhD year group) and raise the matter with the PhD Student Support Team (Doris Pappoe and Mike Ray, chemphd@imperial.ac.uk). If you are not satisfied with the outcome, you should consult the College's Registry website which provides clear and consistent procedures that indicate how you can take your comments further.

Postgraduate Symposium

The Department runs a Postgraduate Symposium in June or July each year. This is a high profile event, attracting industrial sponsorship and attendance. It is a showcase of PhD student achievements in the Department. All second year students are required to give poster presentations on their progress to date at the Symposium. All third year PhD students in the Department are required to give oral presentations on their research studies, organised in parallel sessions. Presentation at the PG Symposium is part of the progress assessment for Research students. Industrial and Departmental funded prizes are awarded for the best presentations. The next PG Symposium will be in July 2022 (date to be confirmed).

Study Leave

It is possible that students' research will require the collection or study of material away from College. The student's supervisor will need to apply for study leave normally at least one month in advance. A student who is granted permission for study leave must have been in regular attendance at College for a minimum total of twelve months full-time study (or the equivalent in part-time study). Apart from in exceptional circumstances, a student shall not be absent during the first three months or the last three months of the course. Where study leave is approved for a student to work abroad and if the period of study leave is three months or more in a particular session, a lower rate of tuition fee may be applicable. For further information on external study leave, please refer to the guidelines for external study leave.

Holidays

Students should always agree their holiday arrangements with their supervisor in advance. In accordance with the rules laid down by the Research Councils, no more than eight weeks, including public holidays, may be taken in each year.

Sickness

Where students are unable to attend College because of illness or urgent personal circumstances they should inform their supervisor and, if required, the PG Tutor as soon as practicable. College regulations require that, if the absence is due to illness, a medical certificate must be provided after seven days. If the absence is prolonged, normally for four weeks or longer, it will be necessary to request an Interruption of Studies.

Interruption of Studies

It may happen that a personal emergency or other circumstance arises which necessitates a student to take a break from their studies. As soon as possible, students in such situations should, in consultation with their supervisor, involve the PG Tutor (Dr Rob Davies) or Deputy PG Tutors (Prof. Keith Willison and Dr Silvia Díez-González) or the PhD Student Support Team, who can advise further. If deemed appropriate, an application will be made by PhD Student Support Team and the DPS to the College for an interruption of studies. This permits students to interrupt their studies for

a period of time (up to a maximum of two years, and normally not less than one month). No fees are payable for this period, during which the research registration is effectively suspended:

https://www.imperial.ac.uk/students/success-guide/pgt/getting-started/breaks-in-study/

Please note that retrospective applications for interruption of studies are discouraged and may not be granted. Therefore is it very important that students and/or supervisors inform the PhD Student Support Team and/or PG Tutor as soon as they are aware of a situation that may require an interruption.

Student Support Fund

The College has a fund to help students who are experiencing financial hardship. The Student Support Fund is primarily intended to assist those students who experienced a change in their financial circumstances after registering with the College. Grants cannot be made to assist with tuition fee payment. The PG Tutor or supervisor of each student will be asked to confirm satisfactory attendance and academic progress. .Applications are considered by a panel that will meet once per term (www.imperial.ac.uk/studentfinance/supportfund). The Faculty of Natural Sciences has The Dean Fund which is used to support students across the Faculty. Nominations for awards for individual students may be made by Heads of Department / Directors of Undergraduate / Postgraduate Studies using the online application form at the https://imperiallondon.sharepoint.com/sites/fons/faculty/education/DeansFund/SitePages/Home.as px. Students cannot apply directly to the Student Support Fund, but must do so via their Department.

Writing up and Completing Research Status (CRS)

Students who wish to retain access to College facilities during their writing up may register for a 12-month writing up period. A registration fee of £200 is payable and these students will be moved to **Completing Research Status (CRS)**. To be eligible for this, a PhD student must have completed the minimum period of registration (36 months) and completed all experimental and/or theoretical work. A formal CRS form must be completed to ensure the student has completed all substantive research and that, during the CRS period, the student will be **solely** engaged in writing up the thesis. **The completed CRS Milestone form and the Time Plan for writing up the thesis should be sent to the PG Administrator, Doris Pappoe (chemphd@imperial.ac.uk).**

The CRS registration status cannot exceed 12 months and should usually follow immediately after the end of the student's normal registration period. At the end of the CRS period a student will be recorded as 'Writing up Away from College' until the thesis is submitted. They will not be registered during this period but will retain VPN access until thesis submission and for a further 12 months from the date of thesis submission.

Students who still have experimental work to perform cannot move into CRS and should continue their registration at the full rate of fees. Students who do not need or wish to register for CRS at the end of their standard research period will enter into writing-up phase but will not be required to pay a further registration fee. This is known as **Writing-Up Away from College** (WUAC) status (www.imperial.ac.uk/registry/researchdegrees) and provides VPN access (journals etc.) but no physical access to College (your swipe card will be deactivated).

Students are expected to submit within 4 years of the start of their PhD studies. This period can be extended in the case of exceptional events, such as a global pandemic. As a result, students who were carting out PhD research during the Departmental closure (March-June 2020) will have 4 years 3.5 months to submit their thesis.

Further information on the topics above can be found at: www.imperial.ac.uk/registry/researchdegrees

Bursary extensions

It is strongly recommended that you aim to complete your studies, including the submission of your PhD thesis within the time period of your funding and in discussion with your supervisor. Most PhD funding is for 3.5 years and this allows for 6 months to write up your thesis and should not be considered additional time in the laboratory. For students who are part of a Centre for Doctoral Training (CDT), the total course is 4 years with the MRes year provided the training and experience of the research area that students on a standard 3.5 year programme would gain in the first 6 months. As a result, CDT students should aim to start writing up their thesis before the end of the third year of their PhD studies. They will have 48 months from the start of their PhD registration to submit their thesis.

If you are concerned that you need additional time and / or financial support to complete your PhD, you should discuss this with your supervisor. The Department does not routinely support extensions to PhD bursaries but it will support all students to finish their studies and this support can take many different forms. In case of significant financial hardship during your studies, it may be possible to obtain support from the Imperial College **Student Support Fund** (www.imperial.ac.uk/studentfinance/supportfund).

Research Integrity

Research integrity is extremely important. It really matters how you conduct research, how you present the findings of your research and how your research impacts on society and the wider world. At Imperial College, you will work with internationally renowned academic staff who will help you to design rigorous, robust, and reproducible research methods. This will ensure that your research is ethical and lawful and that any adverse impact your research may have on society, natural environment, or animals is justified and minimised. Research integrity also involves presenting the findings of your research in a responsible manner.

The College has adopted the Council for Science and Technology's Universal Ethical Code for Scientists and upholds its three principles, which are:

- Rigour, honesty and integrity
- Respect for life, the law and the public good
- Responsible communications: Listening and informing

The primary way to ensure research integrity is to promote and maintain a culture of honesty, openness and responsibility. To this end, the Graduate School has designed a series of professional development courses for postgraduate students:

Plagiarism Awareness. This is **mandatory** for both Master's and Doctoral students. This online course was developed by the Graduate School, in conjunction with the Library. It aims to equip you with a working knowledge of the concept of plagiarism and how to avoid it. It also aims to provide you with information to enable you to use and share information ethically, with academic integrity and in accordance with <u>Imperial College's Examination & Assessment: Academic Integrity Policy.</u>

Copyright for Researchers (Doctoral). This course aims to equip you with a working knowledge of copyright and licencing so that in your career you can use and share information in a copyright safe way. The course has activities and discussions to give you the opportunity to practice the knowledge and skills acquired through context-based scenarios and examples. You are recommended to share your reflections on the digital canvases throughout the course. This will give

you a chance to elaborate what you have learnt in the readings, share examples and challenge your understanding by interacting with your peers.

Intellectual Property (Doctoral). This course aims to equip you with a working knowledge of the concept of Intellectual Property (IP), and an awareness and understanding of the basic principles surrounding IP rights, such as patents, copyright, design rights and other forms of IP. An understanding of IP and its application is important for all students; for those intending to continue in academia as well as those intending to enter the commercial world after graduation.

Introduction to Making your Thesis Open Access (Doctoral). This workshop will provide a general introduction to open access, with specific reference to the PhD thesis, and related research outputs that may arise from PhD study. You will be introduced to: open access repositories, open access publishing and online support tools such as the Directory of Open Access Journals and Open access button. You will also be provided with the opportunity to discuss Creative Commons licences, the re-use of third-party copyright materials in your thesis and why your thesis is made open access.

Data Management (Doctoral). Data is a key research asset, underpinning almost all published research conclusions. In recent years, new technology has enabled us to:

- Generate and record far more data than ever before; and
- Share, reuse and combine that data in new ways to generate new insights.

Research data is increasingly a first-class research output, and a little bit of planning will enable you to take advantage of this shift. This course will highlight key considerations and help you to assess when it is appropriate to share your data and how to write a data management plan.

This workshop is supported by a webinar on Research Data Management Plans which covers some of the more practical elements of research data management and will help students to create their own data management plans.

Science, Research and Integrity (Doctoral). This workshop is designed to give you a chance to explore and critically analyse the ethics of scientific research in a constructive way. We will critically discuss the structure and implications of specific cases of scientific fraud and will also look at different moral theories and how they might apply not only to specific moral dilemmas, but also to science in general. The session will aim to forearm you by providing a safe environment within which to formulate and articulate your own views on how you might deal with the sorts of dilemmas you are likely to face during your career.

The San Francisco Declaration on Research Assessment (DORA)

The College has signed the San Francisco Declaration on Research Assessment (DORA). The ethos behind DORA is to improve the ways in which the output of scientific research is evaluated by funding agencies, academic institutions and other parties. The outputs from scientific research are many and varied, including: research articles, data, reagents, and software; intellectual property; and highly trained young scientists. Funding agencies, institutions that employ scientists, and scientists themselves, all have a desire, and need, to assess the quality and impact of scientific output. It is thus imperative that scientific output is measured accurately and evaluated wisely.

As such the College has signalled that it will assess research based on quality rather than where it is published, for example journal impact factor. The Graduate School promotes the ethos behind DORA at all its professional development workshops.

Plagiarism

Students are reminded that their thesis must be their own work and all quotations from other sources, whether published or unpublished, must be properly acknowledged. Plagiarism is a very serious

offence and, where proven against a student may result in disqualification from the examination for the PhD and exclusion from all future examinations of the College. Some joint work is permitted, provided it is properly and carefully acknowledged as such. The College regulations in respect of plagiarism can be found at https://www.imperial.ac.uk/admin-services/library/research-support/plagiarism-awareness-for-researchers/. The College uses the TurnitinUK Plagiarism Detection Service: https://www.imperial.ac.uk/admin-services/ict/self-service/teaching-learning/elearning-services/turnitin/.

Guidance on Avoiding Self-Plagiarism in Chemistry PhD Theses

The following provides some general guidance on avoiding self-plagiarism when writing your examined chemistry PhD thesis. Any specific concerns you may have regarding self-plagiarism should always be discussed with your supervisor. This guidance only applies to chemistry as conventions differ between subject disciplines.

Your **Examined Thesis** is the version of your thesis that is examined and assessed and it will be submitted to **Turnitin** for plagiarism checking. This will pick up any similarities from your own papers (or those by others). In the course of writing your thesis, you may potentially re-use figures or text that you created and published in a paper. It is important to note that as long as you formally acknowledge the original paper through citing and referencing, just as you would for a paper published by someone else, you will *not* commit self-plagiarism. Below is some more specific guidance relevant to your subject discipline.

The **re-use of figures** from published work is fine as long as you acknowledge the paper where the figure was originally published.

The **re-use of text** from your own published paper in your thesis is a grey area and you should seek advice from your supervisor. Most papers have multiple authors and it is likely that the text in a paper will involve contributions from multiple authors, principally your supervisor. Since your PhD thesis is your own work, it is advisable to re-write the text from your paper to eliminate any concerns over plagiarism. It is recommended not to copy and paste text from your paper, even as a starting point. It is always best to read the paper and then close the file and write the description afresh in your own words (even if they are not as polished as in the paper).

A thesis has a different purpose from a published paper. A paper should be a concise summary whereas a thesis should logically and methodically walk you through the study. The presentation of negative, incomplete or confusing results is perfectly acceptable in a thesis as part of this 'story' but these aspects would be less likely to make the content of a paper. Chemistry papers are often collaborative with multiple authors so unpicking your individual contribution would probably take more time than rewriting. Sometimes review papers are used as the basis for the introduction to a thesis, however, the content must still be re-written.

You should always **clearly reference your own papers** where these have used concepts, data or material included in your thesis. This can be achieved by citing in the usual way, or by more overt acknowledgement of your paper/s at the beginning or end of chapters. For example: 'The data in this chapter was utilised to publish the following contributions...'

Many **CDT students** will have done an MRes degree as part of their studies. This is a separate degree and was awarded on the basis of various pieces of coursework, such as the *proposal* and the *dissertation*. If you re-use this text without changing it, this constitutes using the same text for two separate degree awards and so will count as self-plagiarism.

Your **Published Thesis** is the version of your thesis made available to the public via Spiral, Imperial College's institutional repository.

Although citing and referencing your own published work in your thesis ensures you will avoid self-plagiarism, you will potentially need to take further measures to comply with copyright law. If you have published your work in a journal or conference proceedings, it is likely that you will have had to assign copyright for your work to the publisher. Therefore, you will need to obtain permission from the copyright holder in order to make extracts, images or figures you have reproduced in your thesis publicly available in your published thesis. This is also the case for any figures you have reproduced from papers you have cited and referenced by other authors. More information is available here: http://www.imperial.ac.uk/research-and-innovation/support-for-staff/scholarly-communication/open-access/theses/reproducing-published-works/

The <u>Preparing your Thesis</u> pages on the College website has advice on:

- Seeking permission reproduce content for which you do not own the copyright
- Requesting an embargo
- Publishing your thesis
- Avoiding plagiarism

Nomination of Examiners & Exam Entry forms and Thesis Submission

Students should note that before they submit their theses for examination, certain formalities must be observed and their timing is very important. You are required to submit a Nomination of Examiners & Exam entry form **four months before you intend to submit your thesis**. This allows time for processing, vetting of the examiners and investigation of any conflicts of interest, as described below.

To enter for examination, candidates should refer to the Examination Entry milestone visible in the *Research Degree Milestones* tile in My Imperial, where you will be asked to provide details relating to your research topic, thesis title and expected date of submission. Your main supervisor will then be asked to nominate examiners for your thesis, in accordance with the College's <u>Procedure for Appointment of Examiners for Research Degrees</u>. The examination entry details and the examiner nominations will then be considered by the Director of Postgraduate Studies. Upon their approval, the examination entry will be processed by the Registry Assessment Records Team and you will receive written notification via email once your entry to examination is confirmed. Please note that candidates must submit their thesis by the given deadline displayed via My Imperial, regardless of the status of the examination entry paperwork.

Information on the Submission of Thesis:

https://www.imperial.ac.uk/students/success-guide/pgr/progression-and-feedback/thesis-submission-and-viva/

Chemistry Department PG Social Events

Post Graduate social events are organised by the PG Committee, a group of current PhD students charged with organising social events and facilitating interaction between members of the Department. Such events include doughnuts on Fridays, cocktail evenings, trips away etc. The committee is made up of voluntary members including a chairman, secretary and treasurer who are elected by the Chemistry PhD students each year in April.

Students Standing for Sabbatical Posts

Students are encouraged to take advantage of the social and sporting opportunities afforded by the Students' Union. There are a number of sabbatical student positions that together run the Union each session. If you are considering standing for election to one of these positions then before

allowing your name to go forward you are strongly recommended to discuss with your supervisor and the PG Tutor about the possible effect on your academic studies and where appropriate how best to prepare to resume your studies in the event that you are elected

The PhD Progression Timeline

First Year PhD Students		
Nature of assignment	Action for the student	Deadline
Late Starters	Students who start their PhD later than the beginning of the academic session should contact the PG Tutor, Dr Rob Davies or the Deputy PG Tutors, Prof. Keith Willison or Silvia Díez-González who will explain the pastoral care available to them. Their contact details, along with those of the other members of the Chemistry Department PhD Support Team are listed at https://www.imperial.ac.uk/chemistry/postgraduate/phd/pastoral-support/	By the end of their second week.
English Language Classes Non-native English speakers are required to attend classes to be assessed in the first year	Contact the Centre for Academic English, which has a <i>Centre for Academic English Welcome MS Team</i> . Through this MS Team, students will be able to post questions at any point or talk to a member of the Centre directly. This Team will also house information and video clips explaining how they can help you throughout your time at Imperial. Access to this Team, is via this link.	Should reach the required standard by Early Stage Assessment at 9 months in June 2022.
Graduate School Professional Skills Development All research students are required to complete the Graduate School Professional Skills Development Programme as part of their PhD registration	The College requires all doctoral students to achieve a minimum of four Graduate School credits, by the Late Stage Review (LSR). In addition to these credits, the Online Plagiarism Awareness Course is compulsory and should be completed by the ESA but does NOT count towards the minimum attendance requirement. Full details can at: http://www.imperial.ac.uk/study/pg/graduate-school/students/doctoral/professional-development/attendance-requirement/	Two credits and compulsory online plagiarism awareness course must be completed by Early Stage Assessment at 9 months A further two credits should be completed by the Late State Review
Mid-Year Progress Report in March 2022	Six-monthly progress report form completed by the student and supervisor.	Submit by April 2022
Early Stage Assessment (ESA) at 9 months, June 2022	All students will be required to submit a written report. The Template for the Report is on page 19. This report will be assessed by one other independent academic. The student will be assessed in an oral viva.	Submit written report to blackboard by June 2022 (TBC). Completed ESA form submitted to be confirmed.

PG Symposium in July 2022 (date TBC)	Attend PG Symposium	All first year students are required to attend.
End of year Progress Report in Sept. 2022	Six-monthly progress report form to be completed by the student and supervisor.	Submit by September 2022
	Second Year PhD Students	
Nature of assignment	Action for the student	Deadline
Mid-Year Progress Report in March 2022	Six monthly progress report form completed by the student and supervisor.	Submit by April 2022
PG Symposium in July 2022 (date TBC)	The PhD student will be required to present a poster on their work at the PG Symposium	Submit a poster draft with the final title to Blackboard. Date TBC
Late Stage Review (LSR) at 18 months, due July – August 2022	All students will do an LSR oral viva with two independent assessors using a poster from the PG symposium and a workplan for the rest of the PhD (see information above)	Submit LSR form by mid- August 2022
End of year Progress Report in Sept. 2022	Six-monthly progress report form to be completed by the student and supervisor. A research plan for final year must be agreed.	Submit by end of September 2022
	Third Year PhD Students	
Nature of assignment	Action for the student	Deadline
Mid-Year Progress Report in March 2022	Six-monthly progress report form completed by the student and supervisor.	Submit by April 2022
PG Symposium in July 2022 (date TBC)	The PhD student will be required to give a talk at the PG Symposium. If the student does not start in October, they will need to present a talk at 30 months since the start.	Submit a one-page abstract with the talk title on Blackboard. Date TBC.
Entering Completing Research Status (CRS).	Students who wish to retain access to College facilities during their writing up may register for a 12-month writing up period and will be given Completing Research Status . See details above.	The <u>CRS milestone</u> form must be completed and returned to the PG Administrator by mid-August 2022.

End of year Progress Report in Sept. 2022	Six-monthly progress report form to be completed by the student and supervisor. Students writing up from October should have completed CRS milestone form.	Submit by end of September 2022
Nomination of Examiners and Exam Entry form	You must complete Part 1 your PhD examination and thesis submission forms online to which your supervisor will add the nominated examiners. See details above.	Submit the form at least four months before you intend to submit your thesis.
Submission Checklist	Please read information on submission at the link: Preparing your Thesis	
Preparing for Your Viva. This film has been created by the Graduate School to help viva preparation:	Please click this link https://www.imperial.ac.uk/students/success -guide/pgr/progression-and-feedback/thesis- submission-and-viva/preparing-for-your- viva/	
Submission of the Final Thesis	Your Final Thesis must be submitted online by <u>uploading to Spiral</u> (the College's digital repository). Your submission will be checked by Research Degrees before being released to the Spiral team in the library, and your thesis will only be made available publicly on expiry of any agreed embargo. Bound copies of the thesis and copies on CD are not required. You do not need to submit any additional forms at final submission stage, so long as you have already submitted your Thesis Declaration Form.	

Student Surveys

Your feedback is important to the Department, the College and Imperial College Union. Whilst, there are a variety of means to give your feedback on your Imperial experience, do not miss your opportunity to express your views via the surveys below. Your feedback will help improve PhD provision for the later years of your studies and subsequent students.

Every two years, Imperial College participates in the national **Postgraduate Research Experience Survey (PRES)** run by the Higher Education Academy (HEA). This survey is important as it allows the College to benchmark itself against other UK higher education institutions and it provides information on whether it is meeting the high standards it aims to achieve. PRES last ran from Thursday 22 April and closed on Monday 17 May 2021 and the dates for the next edition will be released in due course. PRES covers topics such as supervision, research community, progress and assessment, opportunities and research skills. It also includes additional questions about issues that are particularly important to us at Imperial such as graduate teaching activities and professional development. For further information on PRES see:

http://www.imperial.ac.uk/students/academic-support/student-surveys/pg-student-surveys/

USEFUL COLLEGE WEBSITES

Students Support Zone

https://www.imperial.ac.uk/student-support-zone/

Faculty of Natural Sciences – Postgraduate Students Handbook https://www.imperial.ac.uk/about/covid-19/students/learning-experience/postgraduate-research/programme-details-for-academic-year-2021-22/chemistry-phd-continuing-students/

The following link, should contain all **Research Seminars** across the College: http://www.imperial.ac.uk/study/pg/graduate-school/events/research-seminars/

The College's Student Charter, approved by Senate in June 2012. http://www3.imperial.ac.uk/students/ourprinciples

Students and Supervisors – What to expect:

https://www.imperial.ac.uk/media/imperial-college/study/graduate-school/public/Mutual-Expectations-PGR.-01.07.20.pdf

Code of Practice for Research Students

www.imperial.ac.uk/graduateschool/qualityassurance/codesofpractice/researchstudents

Research Degrees Administration

https://www.imperial.ac.uk/student-records-and-data/for-current-students/research-degrees/administration/

Link to plagiarism awareness:

https://www.imperial.ac.uk/admin-services/library/research-support/plagiarism-awareness-for-researchers/

Information for students with disabilities, including the Disability Advisory Service: https://www.imperial.ac.uk/disability-advisory-service/

Early-Stage Assessment Report

This is the title

Full Name,* Full Name and Full Name (PG student first, then Supervisor(s))

Affiliations (inc. student's email address and CID number)

Note that this report is normally between 6 and 10 pages in length; please make use of figures and illustrations where appropriate The report should follow the journal format of an established publisher, e.g. the RSC: https://www.rsc.org/journals-books-databases/journal-authors-reviewers/prepare-your-article/

Abstract

The abstract should briefly explain the context and motivation for the work (Why are we doing it?); the main challenges involved (What are we trying to achieve?); the hypotheses that will be tested; the approach taken; and summarize the results obtained so far..

1 Introduction

Introduce your project in more detail: Why is it important, what is the motivation for the project? What is the current state-of-the-art in the field? What are your hypotheses and which approach(es) will you use to address those? What do you expect to find and how do you move on from there? What is the novel and significant contribution that you hope to achieve by the end of your PhD?

2 Experimental (or Methods)

20 This section should contain an explanation of why the particular methodology has been adopted and a description of the technical details of your work, depending on the nature of your project (computational methods, synthetic techniques, description of instrumentation used, chemicals inc. source, purity etc.).

25 3 Results & Discussion

As far as available, show a number of key results you have obtained in your PhD so far. These may well be preliminary results or conflicting data - as long as you put them into context. A good approach is to describe the results first and then discuss the meaning (interpretation) - do not jump from one to the other and back as this makes the text difficult to follow.

4 Conclusions

What are the main conclusions from your work so far?

5 Future Plans and Outlook

35 Based on what you have achieved so far, what are the next steps? What do you expect the main challenges to be? What are your fall-back options ("Plan B")?

Please provide a Gantt chart covering the entire duration of your PhD on a separate sheet. Try to be reasonably accurate - the further you look into the future of your project, the less specific you are likely to be.

Electronic Supporting Information (ESI)

Where applicable, please provide any additional relevant information, for example further experimental data (e.g., spectra etc.), tables, derivations and so forth. The above page limit does not include the ESI. However, the main text must be comprehensible as a unit - for example, moving the entire Methods section to the ESI to gain space in the main text is not permitted. Normally, the ESI does not contain extensive discussion of the results and is more descriptive in nature.

Notes and references

DOI: 10.1039/b000000x/

- ^a Address, Address, Town, Country. Fax: XX XXXX XXXX; Tel: XX XXXX XXXX; E-mail: xxxx(@aaa.bbb.ccc
- ^b Address, Address, Town, Country. Fax: XX XXXX XXXX; Tel: XX XXXX
- 55 XXXX; E-mail: xxxx@aaa.bbb.ccc
 † Electronic Supplementary Information (ESI) available: [details of any supplementary information available should be included here]. See
- ‡ Footnotes should appear here. These might include comments relevant to but not central to the matter under discussion, limited experimental and spectral data, and crystallographic data.
 - A. Name, B. Name and C. Name, *Journal Title*, 2000, 35, 3523; A. Name, B. Name and C. Name, *Journal Title*, 2000, 35, 3523.

Research Student Assessment: Mid-First Year Report Form

Name:	Initial Registration date:	
Supervisor:	Research Section:	
Evaluation to be completed by the S give details/agreed action in space pro	Supervisor (please circle as appropriate, if starred response please vided)	
Attendance:	Excellent / good / satisfactory / unsatisfactory*	
Commitment:	Excellent / good / satisfactory / unsatisfactory*	
Awareness of Literature:	Excellent / good / satisfactory / unsatisfactory*	
Presentation skills (written and oral):	Excellent / good / satisfactory / unsatisfactory*	
Overall Progress:	Excellent / good / satisfactory / unsatisfactory*	
Has a satisfactory PhD project plan been agreed with the student and training needs identified? Yes / No*		
Is the student on track to undertake the required English Language Test by the Early Stage Assessment at 9 months? Yes / No*/Not applicable		
Is the student on track to complete the required workshops for the Graduate School Professional Skills Development courses by the Early Stage Assessment at 9 months? Yes / No/* The student should provide a list of the courses he/she has attended.		
Non-native English speakers are normally required to pass the College English Language test prior to Early Stage Assessment at 9 months.		
All students starting in 2016-2017session are required to attend four Professional Skills Development courses as well as the plagiarism awareness course as part of their PhD registration. Two of the courses and the Online Plagiarism awareness course should completed by the 9 months Early Stage Assessment. The remaining two courses should be completed by the Late Stage Review at 18 months.		
Supervisor(s) General Comments		
Student's General Comments, including identification of any issues which need to be addressed (Students may also submit a confidential report directly to the Director of Postgraduate Studies)		
Student's signature	Date	
Supervisor's signature	Date	

Please submit completed form to BLACKBOARD

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Research Student Assessment: End of First Year Report Form

Name:	Initial Registration date:	
Supervisor:	Research Section:	
Evaluation to be completed by the So give details/agreed action in space p	upervisor (please circle as appropriate, if starred response please provided)	
Attendance:	Excellent / good / satisfactory / unsatisfactory*	
Commitment:	Excellent / good / satisfactory / unsatisfactory*	
Awareness of Literature:	Excellent / good / satisfactory / unsatisfactory*	
Presentation skills (written and oral):	Excellent / good / satisfactory / unsatisfactory*	
Overall Progress:	Excellent / good / satisfactory / unsatisfactory*	
Has the student completed the Early State Assessment at 9 months? Yes/No*		
Has the student completed English Lan	guage Test? Yes/No* /not applicable	
Has the student completed the required Development? Yes / No/*	I workshops for the Graduate School Professional Skills	
Non-native English speakers are normally required to pass the College English Language test prior to Early Stage Assessment at 9 months.		
All students starting in 2016-2017session are required to attend four Professional Skills Development courses as well as the plagiarism awareness course as part of their PhD registration. Two of the courses and the Online Plagiarism awareness course should completed by the 9 months Early Stage Assessment. The remaining two courses should be completed by the Late Stage Review at 18 months.		
Supervisor(s) General Comments		
Student's General Comments, including identification of any issues which need to be addressed (Students may also submit a confidential report directly to the Director of Postgraduate Studies)		
Student's signature	Date	
Supervisor's signature	Date	
Please subi	mit completed form to BLACKBOARD	

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Research Student Assessment: Mid-Second Year Report Form

Name:	
	Initial Registration date:
Supervisor:	Research Section:
Evaluation to be completed by the S give details/agreed action in space p	upervisor (please circle as appropriate, if starred response please provided)
Attendance:	Excellent / good / satisfactory / unsatisfactory*
Commitment:	Excellent / good / satisfactory / unsatisfactory*
Awareness of Literature:	Excellent / good / satisfactory / unsatisfactory*
Presentation skills (written and oral):	Excellent / good / satisfactory / unsatisfactory*
Overall Progress:	Excellent / good / satisfactory / unsatisfactory*
Is the student on track for the Late Stag	ge Review at 18 – 24 months? Yes / No*
Is the student undertaking any required	I English Language Training? Yes / No* / not applicable
Has the student completed the Gradua	te School Mandatory Skill Courses? Yes / No
Supervisor(s) General Comments	
	ding identification of any issues which need to be addressed al report directly to the Director of Postgraduate Studies)
Student's signature	Date
Supervisor's signature	Date

Research Student Assessment: End of Second Year Report Form

Name:	Initial Registration date:	
Supervisor:	Research Section:	
Evaluation to be completed by the S give details/agreed action in space p	upervisor (please circle as appropriate, if starred response please provided)	
Attendance:	Excellent / good / satisfactory / unsatisfactory*	
Commitment:	Excellent / good / satisfactory / unsatisfactory*	
Awareness of Literature:	Excellent / good / satisfactory / unsatisfactory*	
Presentation skills (written and oral):	Excellent / good / satisfactory / unsatisfactory*	
Overall Progress:	Excellent / good / satisfactory / unsatisfactory*	
Has the student completed the Late Stage Review at 18 – 24 months? Yes / No* Has a final year PhD project plan been agreed with the student: Yes / No* Is the student on course to complete his/her studies by the end of Year 3: Yes / No* Has the student completed any required Language Training courses Yes / No* / not applicable Supervisor(s) General Comments		
	ding identification of any issues which need to be addressed all report directly to the Director of Postgraduate Studies)	
Student's signature	Date	
Supervisor's signature	Date	

Research Student Assessment: Mid-Third Year Report Form

Name:	Initial Registration date:	
Supervisor:	Research Section:	
Evaluation to be completed by the S give details/agreed action in space	Supervisor (please circle as appropriate, if starred response please provided)	
Attendance:	Excellent / good / satisfactory / unsatisfactory*	
Commitment:	Excellent / good / satisfactory / unsatisfactory*	
Awareness of Literature:	Excellent / good / satisfactory / unsatisfactory*	
Presentation skills (written and oral):	Excellent / good / satisfactory / unsatisfactory*	
Overall Progress:	Excellent / good / satisfactory / unsatisfactory*	
Is the student on course to present a seminar on his/ her research work? Yes/No* PhD Exam Entry form submitted? Yes/No* Has the student completed any required Language Training courses Yes / No* / not applicable		
Supervisor's General Comments		
	ding identification of any issues which need to be addressed tial report directly to the Director of Postgraduate Studies)	
Student's signature	Date	
Supervisor's signature	Date	

Research Student Assessment: End of Third Year Report Form

Students moving to CRS should have already completed the form CRS milestone

Name:	Start date:	
Supervisor:	Research Section:	
Evaluation to be completed by the Supervisor give details/agreed action in space provided	r (please circle as appropriate, if starred response please	
Attendance:	Excellent / good / satisfactory / unsatisfactory*	
Commitment:	Excellent / good / satisfactory / unsatisfactory*	
Awareness of Literature:	Excellent / good / satisfactory / unsatisfactory*	
Presentation skills (written and oral):	Excellent / good / satisfactory / unsatisfactory*	
Overall Progress:	Excellent / good / satisfactory / unsatisfactory*	
Has the student registered for CRS (Writing up)	? Yes/No*	
Expected date of thesis submission	Date of Viva	
Reasons if continuation beyond three years:		
Supervisor's General Comments		
Student's General Comments, including identification of any issues which need to be addressed (Students may also submit a confidential report directly to the Director of Postgraduate Studies)		
Student's signature	Date	
Supervisor's signature	Date	

Research Student Assessment: Mid Fourth Year Report Form

Name:	Initial Registration date:
Supervisor:	Research Section:
The college monitors PhD completion rates and in passibiliting within 4 years of registration for the PhD that, even if you have been awarded a 4 year bursary registration.	programme. It is therefore particularly important
Reasons for continuation of PhD studies beyond three years	ears:
Expected start date of CRS (Writing up)	
Expected date of thesis submission	
PhD Exam Entry form submitted?	Yes/No*
Expected date of Viva	
Supervisor's General Comments	
Student's General Comments, including identificatio (Students may also submit a confidential report directly to	
Student's signature	Date
Please submit completed for	orm to BLACKBOARD