



Trinity College Dublin

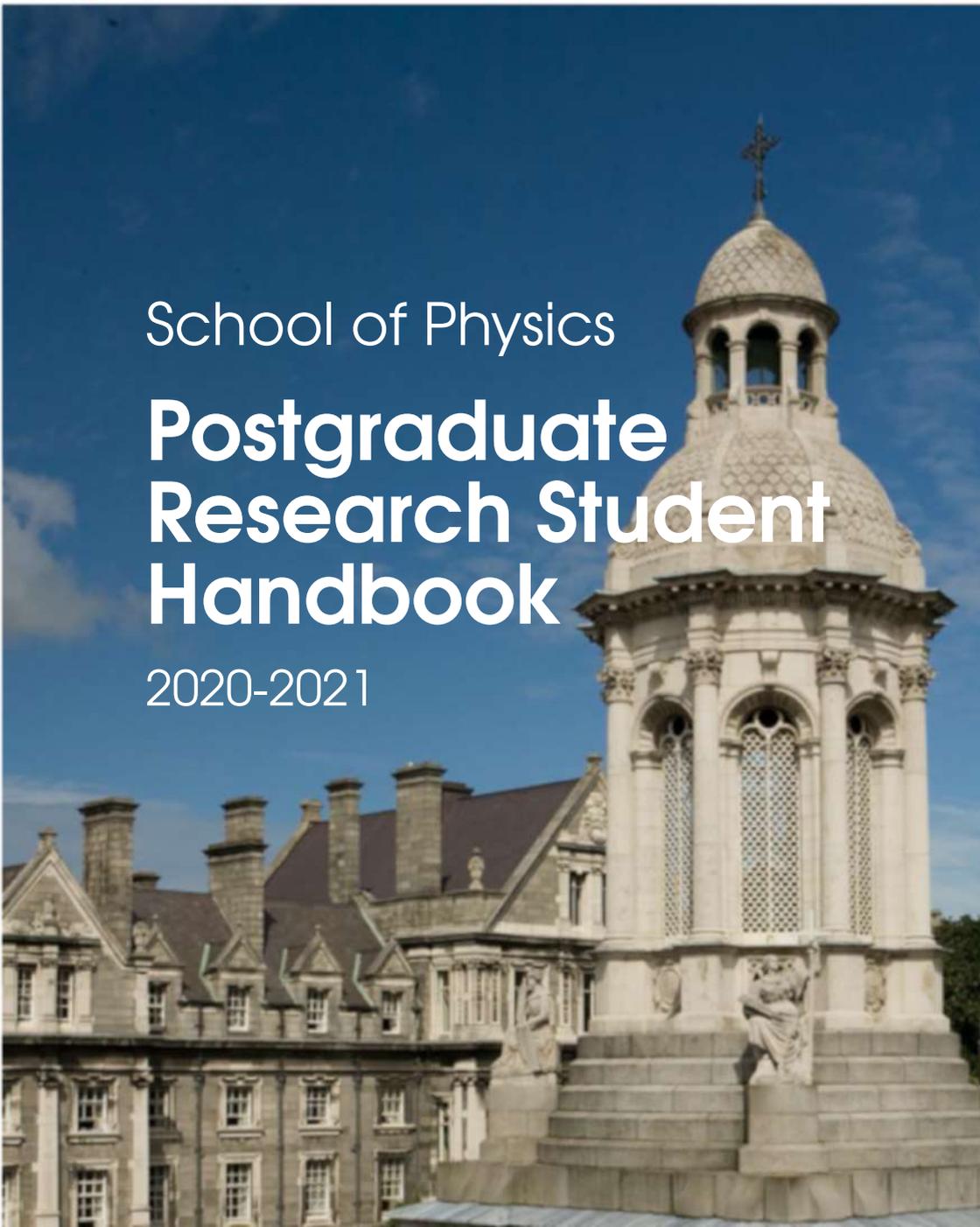
Coláiste na Tríonóide, Baile Átha Cliath

The University of Dublin

School of Physics

# Postgraduate Research Student Handbook

2020-2021



SCHOOL OF PHYSICS, TRINITY COLLEGE DUBLIN

[HTTPS://WWW.TCD.IE/PHYSICS/](https://www.tcd.ie/physics/)

**Disclaimer** The information contained in this document is intended to provide a guide to those seeking admission to the programme and to current students. Trinity College Dublin (TCD) reserves the right to update or change syllabi, timetables, or other aspects of the programme at any time. Changes will be notified to current students by e-mail.

The full regulations concerning postgraduate students and the conduct of research degrees and their examination are contained in the University Calendar Part 3. The calendar is online (<http://www.tcd.ie/calendar/>). Where there is any conflict between the University Calendar and this handbook, the Calendar shall take precedence.

Updated: *September 26, 2020*



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# 1. Introduction

The School of Physics (SoP) in Trinity provides both Master of Science (MSc) and Doctor of Philosophy (PhD) degrees, by research. Completing an MSc or a PhD requires that the candidate make an *original* contribution to knowledge. This makes a research degree a highly individual experience. However, we also aim to provide a structured pathway leading to either an MSc or a PhD. Each research student registered in the SoP participates in taught postgraduate (PG) modules that are designed to enhance the candidate's breadth and depth of knowledge, both in their research area, and in related fields. In addition, other programmes (e.g. seminar series) are included to provide experience in scientific presentation and public speaking.

This document describes the structure of the MSc and PhD degree programmes (by research) in the School of Physics. It also covers the regulations that apply to all postgraduate research students registered in the School of Physics, including those who carry out their research in other institutes, such as the Centre for Research on Adaptive Nanostructures and Nanodevices (CRANN), The Dublin Institute for Advanced Studies (DIAS) or the Armagh Observatory.



## 2. Contacts

### 2.1 School of Physics Contacts

Documents, forms and other ongoing announcements associated with graduate student activities are located on the School of Physics Website: <http://tcd.ie/Physics/postgraduate/>.

The most important contact points are the Director of Teaching and Learning, Postgraduate (DTLPG) and the Postgraduate Administrator:

Role	Name	Email	Tel
DTLPG	Prof. Hongzhou Zhang	hozhang	4655
PG Administrator	Dr. Colm Stephens	stephec	2024
PG Applications	Ms. Jenny Kirkwood	kirkwooj	1675

Other useful School of Physics contacts are:

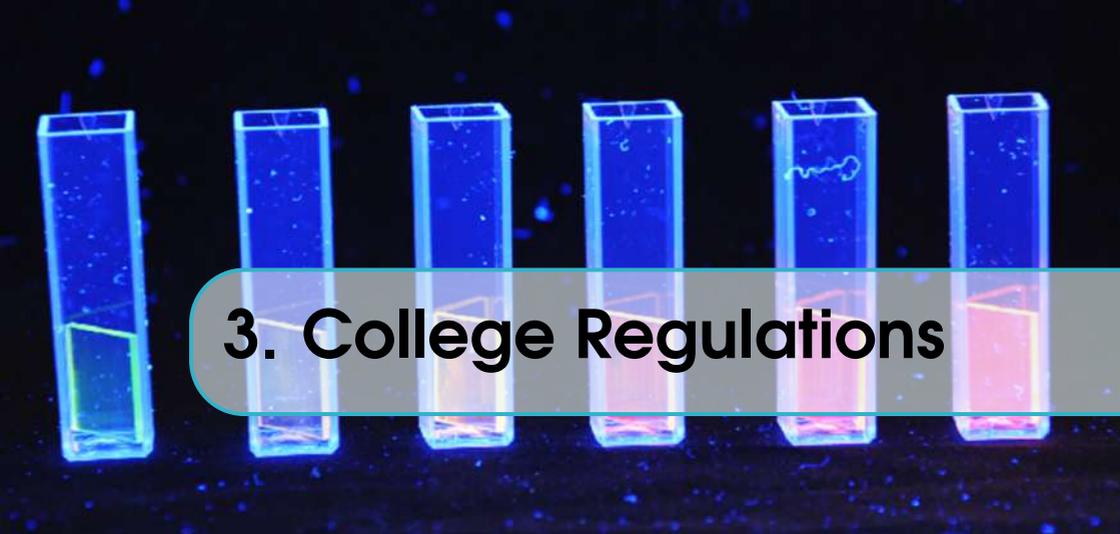
Role	Name	Email	Tel
Head of School	Prof. Johnathan Coleman	headphys	3859
Director of Research	Prof. Stefano Sanvito	sanvitos	3065
School Manager	Dr. Colm Stephens	stephec	2024
Chief Technical Officer	Mr. Ken Concannon	kconcann	1308
Financial Administrator	Ms Marie Kinsella	makinsel	1696
Safety Officer	Mr. Joe McCauley	pmccauley	N/A
SoP Global Officer	N/A	N/A	N/A

Please note that the role of SoP Global Officer is currently vacant. Please refer to <https://www.tcd.ie/globalrelations/people/#GO> for support.

## 2.2 College Contacts

The College also provides a number of contact points useful to postgraduate students.

- Graduate Studies Office (GSO):  
The GSO administers all Masters and Doctorate programmes in the College. It also provides detailed information for graduate students.  
[http://www.tcd.ie/Graduate\\_Studies/](http://www.tcd.ie/Graduate_Studies/)
- Graduate Students Union (GSU)  
The GSU is an independent body which represents graduate students in Trinity.  
<https://www.tcdgsu.ie/>
- Postgraduate Advisory Service (PAS)  
The PAS offers a comprehensive range of academic, pastoral and professional support, dedicated to enhancing your student experience.  
E-mail: [spgsupp@tcd.ie](mailto:spgsupp@tcd.ie)  
<https://tcd.ie/seniortutor/students/postgraduate/>
- Career Advisory Service  
The service offers a range of supports from the professional team of Careers Consultants, including job fairs, CV/interview preparation, individual career guidance appointments etc.  
<https://www.tcd.ie/Careers/graduates/>
- SoP PG Student Representative:  
The School has a PG student representative who can assist students in a number of issues and helps them liaise with the School as well as the GSU. The current representative is Ms Katarzyna Siewierska.  
E-mail: [siewierk@tcd.ie](mailto:siewierk@tcd.ie)



## 3. College Regulations

Regulations for Higher Degrees by Research are contained in the [University Calendar Part 3](#). The University Calendar is available in all College libraries, the School Office and online <http://www.tcd.ie/calendar/>.

Please refer to the University Calendar for general regulations, governing higher degrees by research only, for information on topics such as:

- Admission requirements
- Probation
- Subject of research
- Role of Director of Teaching and Learning (Postgraduate)
- Progress and continuing registration
- Role of Supervisors
- Attendance
- Part-time registration
- Extension and off-books
- Transfer to/Confirmation on the PhD register
- Procedure for examination of a candidate
- Complaints concerning supervision
- Appeal against the decision of examiners
- Plagiarism

### 3.1 Application and Admission

Before being admitted as a research postgraduate student in the School of Physics, students must submit their admission application to the College. For general admission requirements, see <https://tcd.ie/courses/postgraduate/how-to-apply/>.

### 3.2 College Registration

Incoming graduate students officially start on the 1st of September. Postgraduate registration is coordinated by the College's Academic Registry. Some students start their research degrees in March when registration is also possible.

Please complete the registration process once you receive an invitation to register from the Academic Registry. See <https://tcd.ie/academicregistry/student-registration/>. Please refer to the registration process outlined in 4.1, if your College fees and stipends are paid by research grants hosted in the School of Physics.

### 3.3 Registration Duration

The University Calendar provides that (1) the minimum period of research before which a thesis can be submitted by a full-time student is one year (MSc) or two years (PhD) from the date of registration, and (2) full-time students, by default, submit their theses after a maximum of two years (MSc) or four years (PhD) after first registering for a research degree (see Table 3.1).

The default regulation is that extensions are not allowed. However, if a supervisor supports the call for an exception for a student, the DTLPG may then provide a strong recommendation to the Dean of Graduate Studies to allow an extension. It can be noted that students are granted one month of Dean's Grace. Therefore, students who started their PhD on 1st September and

Table 3.1: Limits on Duration of Research Students (\* 5 years where the student changes over from the full-time registrar)

	Type	Min Period (Yr)	Max Period (Yr)
MSc	Full time	1	2
	Part time	2	3
PhD	Full time	2	4
	Part time	3	6*

would be due to submit by 31st August, have an end date of 30th September on their portal and student cards.

### 3.4 Plagiarism

The college has introduced new regulations on plagiarism. Information is available in the college Calendar, PG Calendar Part III, General Regulations, Paragraphs 1.32 and following.

All students are required to complete the online tutorial '*Ready, Steady, Write*'. The link is : <https://libguides.tcd.ie/plagiarism/ready-steady-write>. In addition, students must include a signed cover sheet containing the following declaration with all their submitted work, including the transfer reports and theses.

I have read and I understand the plagiarism provisions in the General Regulations of the University Calendar for the current year, found at: <http://www.tcd.ie/calendar>.

I have also completed the Online Tutorial on avoiding plagiarism '*Ready, Steady, Write*', located at <http://tcd-ie.libguides.com/plagiarism/ready-steady-write>.

In order to support students in understanding what plagiarism is and how they can avoid it, college has created an online central repository to consolidate all information and resources on plagiarism. Up to now, information has been spread across many sites, which can lead to confusion. Through the provision of a central repository, it is hoped to communicate this information to students in a clearer and more coherent manner. The central repository is being hosted by [the Library](#) and is located at <http://tcd-ie.libguides.com/plagiarism>. It includes the following:

- (i). The Calendar entry on plagiarism for undergraduate and postgraduate students;
- (ii). The matrix explaining the different levels of plagiarism outlined in the Calendar entry and the sanctions applied;
- (iii). Information on what plagiarism is and how to avoid it;
- (iv). *'Ready, Steady, Write'*, an online tutorial on plagiarism which must be completed by all students;
- (v). The text of a declaration which must be inserted into all cover sheets accompanying all assessed course work;
- (vi). Details of software packages that can detect plagiarism, e.g. Turnitin.



## 4. School Regulations

In the School of Physics, the DTLPG oversees the progress of postgraduate students from entry to the point of graduation. [Prof. Hongzhou Zhang](#) is the current DTLPG in the School of Physics. The DTLPG maintains oversight of the Structured PhD Programme and liaises with the Graduate Studies Office in matters relating to postgraduate education. The DTLPG is assisted by Postgraduate Administrators, [Dr. Colm Stephens](#) and [Ms. Jenny Kirkwood](#).

### 4.1 Registration with School of Physics

The processes outlined below apply to the students whose fees and stipends are paid by research grants managed in the School of Physics<sup>1</sup>. (Before you start the process, you should consult with your supervisor regarding the management of the payment.)

#### 4.1.1 Completing Registration: College Fees

Incoming or continuing postgraduates should receive an invitation to register from the Academic Registry for the impending academic year. The College fees have to be paid before the College registration can be completed. If the fees are paid by

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<sup>1</sup>The forms can be downloaded from <https://www.tcd.ie/Physics/study/current/postgraduate/handbook/>

research grants via the School of Physics, please follow the process outlined below:

- (i). Follow the instructions in the invitation and register online via the web portal. see <https://www.tcd.ie/academicregistry/student-registration/>
- (ii). Download the '*Fee Statement Form*' from your TCD web portal and if possible, get your supervisor to sign this and indicate where the fees are to be charged.  
If for some reason the student cannot get their supervisor's signature on the *Fee Statement* form, then an email from the supervisor stating where the fees are to be charged to will suffice. Forward this email with the *Fee Statement* and the *Department Research Funding* Form attached.
- (iii). Complete the [Department Research Funding Form](#) with Student Name, Student Number and the School/Department (Basically the top 4 boxes in the form).
- (iv). Send Both the *Fee statement* and the *Department Research Funding* Forms to [Eva Naessens](#) and cc'ing [Marie Kinsella](#). They will code the form and arrange the signature and stamp on the forms.  
*NOTE:* The *Fee Statement* form must be submitted, which shows the amount of the fees.
- (v). The completed and signed *Department Research funding* form will be returned to the Postgraduate student directly.
- (vi). The student will need to forward the completed form to Academic Registry, as per the instructions in the form.
- (vii). If there are any issues from Academic Registry with regards to the form or the coding, please forward it to [Eva/Marie](#) as soon as possible.
- (viii). Please send *one* email only, with all information included. The subject title should state '*PG Academic Fee – Student Name (Student Number)*'.

### 4.1.2 Stipend Set-up and Renewal

In order to get set-up/continue on payroll for the Student stipend, two forms need to be completed: (1). The *Graduate Proposal* form, and (2) The *Scholarship Exemption Declaration* form. The forms can be downloaded from the SoP website: <https://tcd.ie/Physics/study/current/postgraduate/handbook/>.

- (i). For new first year Postgraduate students *only*, please complete the [Pay/Bank Mandate](#) form.
  - For EU students (non-Irish) a Single Euro Payments Area (SEPA) bank account is acceptable.
  - For Non-EU students – if you don't have an Irish or European Bank account, please let [Eva/Marie](#) know, as we are in contact with Human Resources (HR) on the procedure for how to proceed in these situations.
- (ii). Please complete the [Graduate Proposal](#) form as much as possible – this should be typed, so it is clear to read.
  - Sections 2 & 3 need to be fully completed by the student and where they know any information for the other sections, they should complete as best they can.
  - The Supervisor or Principal Investigator (PI) signs off (e-signature if possible) at the Grant Holder part.
- (iii). The [Scholarship Exemption Declaration](#) form needs to be completed entirely by the student. This also includes signing off, by the student. This form can be submitted, either typed or hand written (due to COVID-19), e-signature is also acceptable.
- (iv). Forms are returned to [Eva Naessens](#) and cc'ing [Marie Kinsella](#) for checking. They will arrange for Head of School signature. Please send *one* email only, with all information included. The subject title should state '*Post-Grad Stipend Renewal (or set-up, which ever applies) – Student Name (Student Number)*'.

### 4.1.3 Covid-19 Information

#### Access College

Students should observe the Covid-19 regulations issued by the Irish government, Trinity College Dublin and the School of Physics. Continuing students should consult with their supervisor with regard to getting back to campus. For new students, please take the following steps immediately:

- (i). Register as a new member of the School for safety issues (everyone even if here before).
- (ii). Log onto Blackboard and complete the College Covid induction.
- (iii). Visit <https://www.tcd.ie/physics/covid19>, read the School plan and fill out the *Return to Campus* form.
- (iv). Do School Covid-19 induction. (Invite to weekly induction follows step 3).
- (v). Do Safety training. (Invite follows step 1 in due course).
- (vi). Do *not* come to campus if you have any Covid symptoms.

#### Stay Wholly Remote

Students who seek to participate remotely for the first term of academic year 2020-2021 must request the permission from the Dean of Graduate Studies. The procedure to request the permission is outlined below:

- (i). The student must inform their supervisor of their intention to stay wholly remote for the term as soon as possible.
- (ii). The student should then arrange a remote meeting with the supervisor to agree on the research plan for the term.
- (iii). On behalf of the student, the supervisor must submit the following document to the School office (Dr [Colm Stephens](#)) and cc'ing the DTLPG:
  - A formal agreement between the student and supervisor that outlines the expectations and requirements for the programme of study.

- Evidence to support their request, which is probably related to:
  - (a) Financial hardship in connection with excessive travel costs or accommodation in Dublin following a change in the financial situation of an independent student or a student's family. Normally students should have calculated accommodation costs anyway and there must be some evidence that this has been disrupted e.g. receipt of COVID payments, social welfare etc.
  - (b) A medical condition attested by a registered doctor and/or a disability which must be registered with the Disability Service (<https://www.tcd.ie/disability/>) or the Health Service Executive (HSE), <https://www.hse.ie/eng/> or equivalent. In the event of a student living in a household with a vulnerable other, this should also be attested by a health professional.

## 4.2 MSc by Research

No specific stipulations beyond the requirements of the University Calendar (Part 3) apply. Students working towards a MSc by research should expect to spend two years carrying out research leading to the submission of a thesis, see 4.4.

Students on the MSc register who wish to transfer to the PhD register, with the agreement of their supervisor, must satisfy the requirements of the structured PhD programme (see 4.3).

## 4.3 Structured PhD programme

A PhD student in SoP is on a four-year (full-time) or six-year (part-time) structured programme in TCD. The student is re-

quired to carry out research under the direction of a supervisor with the support of a Thesis Committee. The students are required to complete approved modules to the value of 20 European Credit Transfer System (ECTS) credits before they can undergo a review process to continue on the PhD register. The structure is illustrated in Appendix A

### **4.3.1 The Thesis Committee**

A Thesis Committee shall be appointed for all PhD students. This committee comprises the Principal and any co-supervisors, the internal examiner and a non-supervisory member. The internal examiner and the non-supervisory member are appointed by the School. The role of the Thesis Committee is to monitor and advise in relation to the progress of the PhD student throughout the lifespan of his/her structured PhD, see [4.3.7](#) , [4.3.8](#) and [4.5.2](#).

### **4.3.2 Probation and PhD Register**

As per the College regulations, most research students register directly onto the PhD register. This is on a probationary basis and students are required to undergo a formal review process after the first 18 months in order to continue on the register. This process is called a confirmation review. A smaller number of students enter on the MSc register. However, such students may undergo the review procedure mentioned above and if successful, may transfer to the PhD register. Under these circumstances, the review process is called a transfer review. However, the format and requirements are the same in both cases.

### **4.3.3 Prerequisites for a Confirmation/Transfer Review**

Students participating in the research PhD programme or seeking to transfer to the PhD register must fulfil a set of prerequisites before successfully passing the review process:

- (i). Achieve a pass grade of 50% in PG modules contributing to 20 ECTS credits (see 4.3.4).
- (ii). Achieve an overall grade of at least 60% across a required number of PG module credits (see 4.3.4).
- (iii). Fulfil the duty as the Undergraduate Laboratory Teaching Assistance (see 4.3.5) and achieve a pass grade in the module on Teaching for Physics Postgraduate Teaching Assistants (see 4.3.4).
- (iv). Complete the online module CA7000 entitled “*Research Integrity and Impact in an open Scholarship Era*”. (see 4.3.4).
- (v). Maintain a satisfactory level of attendance ( $\geq 75\%$ ) on the Postgraduate Seminar Series (see 4.3.6).
- (vi). Submit the Annual Progress Report for the first year and any additional full year prior to the review (see 4.3.7).

#### 4.3.4 Postgraduate Modules

In order to pass the review process (confirmation or transfer), each student must achieve 20 ECTS credits. Of the 20 credits, 5 credits must come from the compulsory module on Teaching for Physics Postgraduate Learning Assistants and another 5 from the online module on Research Integrity (CA7000). To obtain these credits the student must pass the modules. To obtain the credits for any other module, the student must attain a grade of 50% in that module. Moreover, for the remaining 10 credits for scientific/technical modules, the overall grade across all modules being considered must be at least 60%.

Postgraduate modules from a number of sources can be taken, for example:

- (i). The School of Physics offers a limited number of 5-credit PG modules, see <https://tcd.ie/Physics/study/current/postgraduate/modules/>. Note some modules are only offered on a biennial basis (i.e. each module

is given only every second year). The School of Physics reserves the right to cancel modules. Please note that courses will be cancelled if there is insufficient uptake. Students will be notified in advance by email and will have to arrange to take an alternative course. A list of modules that are available for academic year 2020-2021 can be found in Appendix B.

- (ii). Modules can be taken from other PG programmes and/or other Schools in TCD<sup>2</sup>. For example, a number of students take modules offered by
- the Energy Science MSc Programme, see <https://www.tcd.ie/courses/energyscience/about/modules/>
  - the Dublin Chemistry Graduate Programme, see [https://chemistry.tcd.ie/Study/current\\_students/postgraduate/dublin-chemistry/](https://chemistry.tcd.ie/Study/current_students/postgraduate/dublin-chemistry/)
  - the Trinity Centre for High Performance Computing, see <https://maths.tcd.ie/postgraduate/masters/modules/>
  - the Irish Geoscience Graduate Programme, see <http://www.iggp.ie>
- (iii). Modules can also be taken from other universities. Permission must be obtained from the DTLPG for any external modules taken outside Trinity College Dublin. The guidelines and the related form for requesting the permission can be found in Appendix C.
- (iv). You can propose a directed study module with your supervisor. This is a module of study and assessment that

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<sup>2</sup>To take these modules, please discuss with your supervisor. With your supervisor's support, you can contact the course coordinator/director of the programme for registration (follow the links). Please inform the SoP office in the Module Choice form. If the module is offered by another Institute, please follow the instruction below for taking modules from other universities.

you design personally with your supervisor and is then approved by the DTLPG. It could be based around studying part of a book or taking an external on-line module. The guidelines and the related form for requesting the permission can be found in Appendix C.

- (v). Also permitted for credit is attendance at a summer school with subsequent assessment. Your supervisor can assess the module personally. The guidelines and the related form for requesting the permission can be found in Appendix C.

Again, it is emphasized that permission must be obtained in advance from the DTLPG for any external, direct-study module or summer school, if the student wishes them to be considered for credit towards transfer/continuation on the PhD register. The module must have a clear learning objective, means of assessment and be of an appropriate size for 5 ECTS credits. No module can be used to gain credits unless it can be shown that it has been rigorously examined by continuous assessment or examination, or a combination of both. A full syllabus, module description and details of assessment will have to be presented for the DTLPG's permission (use the form provided in Appendix C). A numerical mark must be returned to the PG administrator ([Colm Stephens](#)) by the module coordinator on the completion of the module.

Non-scientific courses do *not* count towards the transfer onto the PhD register or continuation on the PhD register in the School of Physics. However, students are encouraged to avail of these courses and they will appear on their transcript. These course may be offered through:

- the library  
<https://www.tcd.ie/library/support/skills-training.php>
- Target

<https://www.tcd.ie/tangent/education/postgraduate/>

- Academic Practice and eLearning (CAPSL)  
<https://www.tcd.ie/CAPSL/>.

The student is free to take more than 20 credits worth of modules if s/he wishes and has the permission of their supervisor. The final grade will be calculated from the scientific modules totaling 10 credits with the highest grades.

The chosen modules must have been taken and the exams concluded before the confirmation/transfer review. In some exceptional circumstances, the report may be submitted before the exams are taken. The confirmation/transfer interview will not occur until after the final marks are received and student has achieved the required overall grade.

A student who has not achieved the required overall grade or obtained a pass grade in the Teaching for Physics Postgraduate Learning Assistants module, as set out in 4.3.3 within 18 months of registration as research student, will *not* be eligible to participate in the normal round of confirmation/transfer reviews. Under these circumstances, the student will be deemed to *have failed the confirmation/transfer review process*.

The student may undergo a repeat review 24 months after first registration. However, this will be the student's last opportunity to be reviewed. If the student does not achieve the required overall grade or pass grade in the Teaching for Physics Postgraduate Learning Assistants module or fails the review (see 4.3.8), the student will be invited to submit a MSc thesis. (See section 4.6 for details of the appeals procedure.)

### 4.3.5 Undergraduate Teaching Assistant

All postgraduate students are required to undertake the duties of an Undergraduate Laboratory Teaching Assistant. Students are required to teach up to a maximum of 50 hours of Laboratory

Teaching Assignments per academic year. This requirement includes only students in the 1st, 2nd and 3rd years. These activities will be assigned by the School and the students will be informed of their nature and of their respective timetables. Students should report any timetable clash between their teaching assignments and the graduate courses of their choice to the School Manager, so that a different arrangement can be put in place. Undergraduate Laboratory Teaching Assistant duties are a component of the compulsory postgraduate module on Teaching for Physics Postgraduate Learning Assistants. Further details on module requirements are given in [4.3.4](#).

#### **4.3.6 The Postgraduate Seminar Series**

The postgraduate seminar series showcases research done within the School of Physics and at CRANN. It is presented mainly by postgraduates for postgraduates (with the occasional external speaker), but all staff and researchers are welcome (and encouraged!) to attend.

All postgraduate students within the School of Physics must give at least one presentation in the seminar series before the transfer to the PhD register, and must attend at least 75% of these seminars. An attendance record is maintained. All PhD students must deliver a seminar at the Postgraduate Seminar Series before they can submit the thesis.

#### **4.3.7 Progress Report and Continuing Registration**

The progress of graduate students will be reviewed each year, and the Supervisors and/or Directors of Teaching and Learning (Postgraduate) may test students in whatever way is appropriate. In the first, third and subsequent years of a student's period on the PhD register, save in the year in which s/he intends to submit her/his thesis, s/he and her/his Supervisor should complete a progress report. The complete report, the student need to

- (i). Download the [Progress Report](#) from the the Office of the Dean of Graduate Studies website (see [2.2](#)).
- (ii). Conduct self assessment and draft the student part of the form.
- (iii). Submit the draft to his/her supervisor and arrange a meeting with the supervisor to discuss the student's progress. The supervisor needs to complete and sign their part of the form and return the signed form to the student.
- (iv). Submit the progress report to the non-supervisor members of her/his Thesis Committee and arrange a meeting with the non-supervisor member to discuss academic progress. The committee member will need to sign the form and indicate whether or not they recommend continuation on the register. The form is then returned to the student.
- (v). The SoP will send a reminder to the students in February and July of each year with detailed submission instruction. Submit the completed form by 31 August (if registered in September) or end of February (if registered in March).

In the event of disagreement between the Supervisor and the non-supervisor member of a student's Thesis Committee as to whether the student's registration should be continued, the matter should be discussed, in the first instance, by the whole Thesis Committee (i.e. the supervisor and co-supervisor, the non-supervisory member and the internal examiner), and if no resolution can be achieved, mediated by the DTLPG and then the Dean of Graduate Studies.

Students will *not* be invited to register for their next year until this process has been completed. The DTLPG is not responsible for any progress reports not submitted on time. Students and supervisors will have to deal with Academic Registry separately.

### 4.3.8 The Confirmation/Transfer Review

#### **Purpose of the Review:**

The purpose of the confirmation/transfer process is three-fold. Firstly, the candidate must show that s/he has carried out a significant amount of research to date and that s/he is able to defend the results obtained. Secondly, the candidate must show that s/he can write clearly, with due regard for scientific notation and convention. These two elements, the equivalent of a Master Degree, are necessary but not sufficient for a PhD. The third element requires the candidate to demonstrate that the chosen topic warrants a further two years of research and has the clear potential to lead to a PhD. It is also implicit that the supervisor believes that the student is capable of carrying out that further research and that there is access to appropriate facilities.

#### **Procedure of the Review:**

Students must undergo a confirmation/transfer review 18 months after initial registration. The review is organized as follows:

- (i). To initiate the review process, the student must complete and email the *Intention to Transfer* form to Colm Stephens (cc'ing the DTLPG) by a deadline (see Table 4.1).
- (ii). The candidate should prepare a written dissertation on his/her research, i.e. the transfer report (see 4.3.8). Candidates must submit a draft of the report to the supervisor well in advance of submitting it to the School.
- (iii). Three copies of the transfer report, spiral bound, must be submitted to the Postgraduate Administrator by a due date (see Table 4.1). (One each for the DTLPG, Internal Examiner and Supervisor.)

Late submissions or amended versions will be accepted only upon a written request signed by the student's supervisor. In any case no amended versions will be accepted after the calendar of the review interviews is established.

- (iv). The candidate should prepare an oral presentation of his/her research (see 4.3.8), which will be presented in an oral examination/interview (see 4.3.8).

The exact deadlines related to the review process will be publicized well in advance. but an approximate timeline is given in Table 4.1.

Table 4.1: Approximate timeline for the review process

First Registered on	Intention to Transfer by	Report submitted on	Transfer Exam
01/09/2019	04/01/2021	01/03/2021	03/2021
01/03/2020	05/07/2021	06/09/2021	09/2021
01/09/2020	10/01/2022	28/02/2022	03/2022

### Confirmation/Transfer Dissertation:

The dissertation will be read critically by a member of the academic staff appointed by the DTLPG, the internal examiner. The transfer dissertations must be prepared according to the following guidelines:

- (i). Language: the dissertation must be written in good scientific English.
- (ii). Length: the dissertation must not be longer than 30 pages (including figures and references but excluding appendices). This is a strict limit.
- (iii). Font and Spacing: the dissertation should be in New Times Roman 12pt with 1.5 line spacing or equivalent. Dissertations written in unreasonably small characters will be returned to the candidates without evaluation.
- (iv). Style: the dissertation must contain
  - Title
  - Plagiarism declaration
  - Abstract (max 1 page)

- Keywords
- Introduction and overview of the literature (max 10 pages)
- Methods and Results (max 15 pages)
- Forward Plan (max 5 pages) A Gantt chart or equivalent must be included in this section.
- References: Reference must be numbered in the order in which they appear in the main text and must have the following format: Authors, Title, Journal, Number, Page, Year, for example:

W. Kohn and P. Hohenberg, Inhomogeneous Electron Gas, Phys. Rev. 136, B864 (1964).

- List of Publications and Presentations

### **The Oral Presentation:**

The student will give a short oral presentation (10 minutes of presentation) on his/her research to the panel of examiners (Internal examiner, DTLPG or nominee, supervisor and co-supervisor if applicable). The presentation should illustrate the progress of the candidate's research and the future outlook. Therefore, this must contain:

- (i). Presentation of the problem
- (ii). Work done to date
- (iii). Outlook for the future

### **Confirmation/Transfer Interview:**

The student must attend an oral examination (30 mins) as scheduled. The panel of examiners will consist of the internal examiner, the DTLPG and the supervisor (in attendance) and/or, if applicable, the co-supervisor if s/he is officially nominated in the student record. The student will be examined both on basic physics and on the content of his/her dissertation. On the basis

of the oral exam, the panel will decide on one of the following:

- (i). Proceed to PhD register (without corrections)
- (ii). Re-submit dissertation having made minor corrections (resubmit within one month of confirmation/transfer Interview)
- (iii). Repeat review procedure 6 months later
- (iv). Write up MSc or withdraw.

**Failure to Pass the Review:**

Where a student is not successful in their initial confirmation/transfer review, s/he may apply to repeat the process six months later. However, if the student is unsuccessful a second time, a third attempt will not be allowed. Under these circumstances, the student will be asked to write up a MSc or withdraw.

As per the University Calendar, a student may appeal the result of a confirmation/transfer interview. This appeal will be brought in the first instance, to an appropriate sub-committee of the School Executive. A further appeal may be directed to the Dean of Graduate Studies, following The University Calendar part 2, Section 1, Paragraph 1.24.5.

## 4.4 Submission of a Thesis

These are the School of Physics guidelines for submission of MSc and PhD theses, and they must be followed by every registered student in the School. These do not replace the standard proof-reading procedure, which should be a standard practice by the student and his/her supervisor, but have been designed to ensure the standard and the quality of theses submitted for examination. The college provides detailed guidelines for the preparation of the thesis, see “Thesis Submission Guidelines” on the webpage <https://www.tcd.ie/academicregistry/exams/research-degree/>. The procedure is the following:

- (i). The normal deadline for thesis submission is the last day of August for September registrants, and the last day of February for March registrants.
- (ii). Students should express their intention to submit a thesis three months before the intended submission date by sending the [Intention to Submission](#) form via e-mail to the Postgraduate Administrator (Dr Colm Stephens, [STEPHEC@tcd.ie](mailto:STEPHEC@tcd.ie)), the DTLPG (Prof Hongzhou Zhang, [hozhang@tcd.ie](mailto:hozhang@tcd.ie)) and eThesis ([eThesis@tcd.ie](mailto:eThesis@tcd.ie)).
- (iii). The thesis should be discussed extensively with the supervisor, who must read the entire work prior to submission, and express his/her recommendation to the student. This is a student's right. A student who has concerns that his/her thesis has not been adequately read by the supervisor or who has not received appropriate feedback should contact the DTLPG immediately. The submission of a thesis is ultimately, however, at the discretion of the student who may choose to submit a thesis against or without the advice of the supervisor. However, this final course should be discussed with the DTLPG.
- (iv). A complete draft of the thesis should be submitted to the DTLPG ten days before the intended submission date. This draft should be free of typographical errors and in a final form. The draft will be reviewed by the DTLPG and/or a nominated senior member of staff to check that the draft thesis conforms to common scientific practice and to College regulations and guidelines regarding its form (layout, line spacing, font, inclusion of declaration, acknowledgements, abstract, references etc.). The scientific content or worth of the thesis will not be checked and the review does not form part of the examination of the thesis. It is intended to aid the student in preparing a thesis compliant with School and College regulations. After

checking the reviewer will express a recommendation to the student:

- to submit the thesis to College,
- to submit the thesis after necessary amendments (the student's responsibility) or
- not to submit the thesis (i.e. defer for serious thesis improvements)

The recommendation will be put on record in the School Office but is not binding (the student may still choose to submit the thesis to the University for examination). However, students should note that refusal to follow this recommendation will be communicated to both internal and external examiners.

- (v). Thesis in PDF format should be submitted online to Share Point. After submitting the intention to submission form, a link to a Share Point folder will be set up and sent to the student. The student may use this link and upload the PDF thesis to the folder.

## **4.5 Examination of Thesis**

### **4.5.1 Examination of an MSc Thesis**

Normally a MSc thesis is examined without an oral or viva voce examination. However, an oral examination will be held if either examiner or the DTLPG requests one or the result proposed by the examiners is fail or resubmission after major revision. If an oral examination is held it will be organised and run on similar lines to a PhD viva as described above. However, there will be no public presentation by the student.

After the examiners have read the thesis they confer and agree a proposed result which may be one of the following:

- (i). Pass the thesis.

- (ii). Pass subject to minor corrections (these are checked by the internal examiner).
- (iii). Thesis to be resubmitted after major revision (after re-submission both examiners will re-examine the thesis). Resubmission is only allowed once.
- (iv). Fail. The result is communicated to the Dean of Graduate Studies and DLTP.

### 4.5.2 Examination of a PhD Thesis

The DTLPG, in consultation with the supervisor, will nominate an Internal and External Examiner. The supervisor will provide a two-page CV of the external examiner. This must be submitted to the GSO along with a nomination form.

The DTLPG can then nominate a chair for the oral or viva voce examination. This Postgraduate Administrator will set a date for the oral examination in consultation with both internal and external examiners and the supervisor and chair. Particular care will be taken to ensure that the examiners have enough time to read the thesis.

The examination of a PhD thesis is in three parts:

- (i). The examiners read the thesis and write a pre-viva report individually. The pre-viva reports must be submitted a week in advance of the viva voce.
- (ii). The student makes a public presentation (45 minutes) which the examiners (and usually other staff and students from the School) attend. In the presentation the student will present a summary of the research and the main results described in the thesis. There will be no questions asked by either the examiners or the audience at the public presentation.
- (iii). Following the presentation the examiners conduct a face-to-face oral or viva voce examination in private with student. The conduct of the viva examination (e.g. length of

time, number of questions etc.) is a matter for the examiners but typically it takes about two and a half hours.

After the oral examination the examiners will confer and agree a result which is communicated to the Dean of Graduate Studies and DTLPG in a joint post-viva report. The result may be one of the following:

- (i). Pass the thesis.
- (ii). Pass subject to minor corrections (these are checked by the internal examiner, and the internal examiner should approve the thesis or request the student to make further correction within a reasonable time of receiving the revised thesis).
- (iii). Thesis to be resubmitted after major revision (after resubmission both examiners will re-examine the thesis and may call the student for a further oral examination). Resubmission is only allowed once.
- (iv). Pass the thesis for the award of a MSc degree (subject to minor corrections if necessary).
- (v). Fail

## 4.6 Appeals

Appeals of decisions by the DTLPG may be taken to the College Postgraduate Appeals Committee; this is composed of a subset of the College Postgraduate Teaching and Learning Committee that omits the DTLPG from the appellant's school.

Appeals of School-level decisions may be taken to the Dean of Graduate Studies. Appeals of the School Research Ethics committee may be taken to the College Ethics review body. At any level of appeal, the Appeal Committee may decline to hear the appeal. College regulations on appeals of postgraduate matters are outline in the University Calendar Part 3.

# Appendices



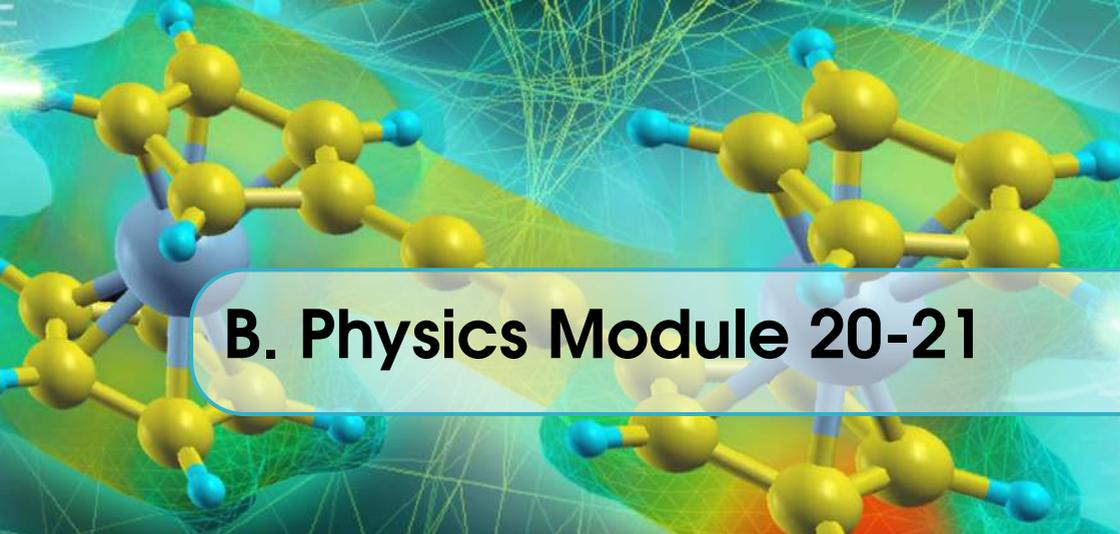
# A. The Structured PhD in SoP

Phase	Time Point	Check Point	Key activities			
	01/09/2020	Admission	Research	PG Seminar	TA Duties	Taught module
Probation (18 Months)	31/08/2021	Progress Report				
			Report Interview	75% Attendance	50 hr/yr Pass	20 ECTS
	Mar-22	Review				
PhD Register (31 Months)			Correction			
	31/08/2023	Progress Report			50 hr/yr	
			Thesis	75% Attendance Give a talk		
	31/08/2024	phD Viva				
	Dean's Grace 30/09/2024		Correction			
Extension	Dean's Permission					
PhD Degree: Original contribution to the knowledge						

Fail

Figure A.1: The Structured PhD programme in SoP, taking students who are first registered on 01/09/2020 as an example. See 4.3 for details





## B. Physics Module 20-21

Please follow the following procedure to register for the modules offered in SoP.

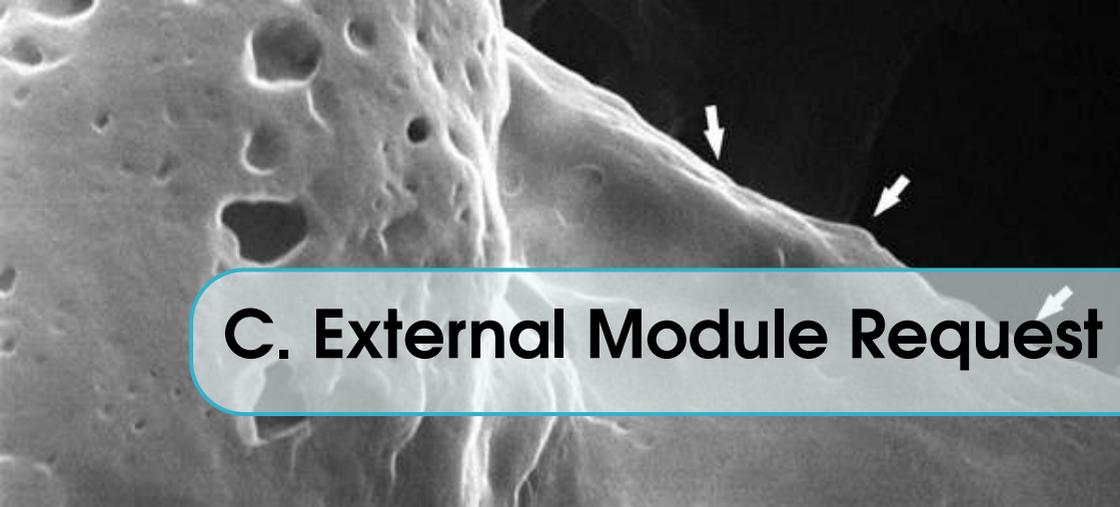
- (i). Please download the Physics Module Choice form: <https://www.tcd.ie/Physics/study/current/postgraduate/handbook/>
- (ii). The available modules are listed in Table B.1. You have been registered for the two mandatory modules, CA7000 and PY5025, automatically.
- (iii). Please consult with the supervisor before you start filling the form.
- (iv). Supervisor's signature is not required if the student has collected less than 20 ECTS credits. The supervisor must sign the form to approve for additional credits.
- (v). Students are asked to confirm their choice by inserting the credit of the chosen module(s) on this form and work out the total credits.
- (vi). This form must be returned to the School of Physics Office via email Dr [Colm Stephens](#) by 12pm on Friday, 2nd October, 2020.

Table B.1: Available modules in SoP, 2020-2021

Module code	Name	Lecturer	Class hours	ECTS	Sem
PY5025	Teaching for SoP PG Teaching Assistants	Ferreira	10	5	S1,2
PY5003	Surface Science	McGuinness	18	5	S1
PY5001	Electronic Structure	Sanvito	24	5	S1
PY5006	Magnetism	Coey	18	5	S2

UG modules available to PG students:

Module code	Name	Lecturer	Class hours	ECTS	Sem
PYU44P04	Nanoscience	Coleman	24	5	S1
PYU44P07(a)	Advanced Topics: Polymers	Coleman	12	2.5	S2
PYU44P07(b)	Advanced Topics: Green's Functions	Ferreira	12	2.5	S2
PYU44C01-1	Comp Sim III, Part 1: Computational Linear Algebra	Patterson	12	2.5	S2
PYU44C01-2	Comp Sim III, Part 2: Numerical Methods	Möbius	12	2.5	S2
PYU44A01(b)	Planetary and Space Science	Gallagher, Vidott	12	5	S1
PYU44A01(a),5	Cosmology	Espey	20	5	S2



## C. External Module Request

Permission must be obtained from the DTLPG before attending the module. The School of Physics will *NOT* accept responsibility for costs you may incur as a result of taking the module. The proposed taught modules must be rigorously examined.

Please follow the steps below to request the permission to take an external or directed-study module.

- (i). Download the External Module Request form <https://www.tcd.ie/Physics/study/current/postgraduate/handbook/>
- (ii). Fill the form and discuss with your supervisor. Before the module can be considered, the student must have the supervisor's support. By signing the form, the supervisor agrees to monitor the student learning progress and to assess the student's performance with regard to the learning outcomes proposed in the course, if required.
- (iii). Email the completed form to Dr [Colm Stephens](#).
- (iv). A certificate of attendance, including a numerical mark, must be presented to the DTLPG on completion of the module.
- (v). To allow the credits count towards the 20-ECTS requirement, the student must get a pass grade ( $\geq 50\%$ ) shown the certificate and the requirements on the overall grade ( $\geq 60\%$ ) apply to the external module (see [4.3.4](#)).