

Government of Ireland Postgraduate Scholarship Scheme 2017:

Indicative Applicant Form

This Word document is provided solely for information purposes. All applicants must create and complete their submission through the [online system](#) by the deadline of **16:00 (Irish time) on 2 November 2016**. Please see the **2017 Terms and Conditions** and **Guide for Applicants** on the [Irish Research Council website](#) for further information prior to submitting your application online. All sections must be completed in full.

Eligibility Quiz

Does your proposed research deal with any of the following prohibited areas?

- Research activity aimed at human cloning for reproductive purposes
- Research activity intended to modify the genetics of human beings that could make such changes heritable (with the exception of research relating to cancer treatment of the gonads, which may be funded)
- Research activities to create human embryos solely for the purpose of research or for the purpose of stem cell procurement, including by means of somatic cell nuclear transfer

Yes	<input type="checkbox"/>
No	<input type="checkbox"/>

Have you had two previous unsuccessful applications to the Government of Ireland Postgraduate Scholarship scheme (including strategic partner themes, applications to the EMBARK Scheme previously run by the Irish Research Council for Science, Engineering and Technology and the Government of Ireland Scholarship Scheme previously run by the Irish Council for Humanities and Social Sciences)?

Yes	<input type="checkbox"/>
No	<input type="checkbox"/>

Do you have a first class or upper second-class honours bachelor's (or equivalent) degree? If examination results are not known at the time of application, the Council may make a provisional offer on condition that the applicant's final grade for their bachelor's (or equivalent) degree is a first class or upper second-class honours.

Yes	<input type="checkbox"/>
No	<input type="checkbox"/>
Bachelor's degree results unknown at time of application	<input type="checkbox"/>

If no: Do you have a master's degree?

Yes	<input type="checkbox"/>
No	<input type="checkbox"/>

Applicant Details

Select the appropriate scholarship theme for which you are applying:

Government of Ireland Postgraduate Scholarship	<input type="checkbox"/>
Andrew Grene Postgraduate Scholarship in Conflict Resolution	<input type="checkbox"/>
Environmental Protection Agency Postgraduate Scholarship	<input type="checkbox"/>
Department of Children and Youth Affairs Growing Up in Ireland Postgraduate Scholarship	<input type="checkbox"/>

Application in Irish:

Yes	<input type="checkbox"/>
No	<input type="checkbox"/>

There is an option on the system at this point to upload an English translation should you wish to do so. This will accompany your research proposal. The system will only accept documents in PDF format.

Name:

Email address:

Contact telephone number:

Contact address:

Gender:

Male	<input type="checkbox"/>
Female	<input type="checkbox"/>

Date of birth:

ORCID ID:

ORCID ID provides a persistent digital identifier that distinguishes you from every other researcher. If you do not currently have an ORCID ID, please register for one at www.orcid.org and provide us with your unique 16-digit identifier

What is your nationality, i.e. your passport-issuing country?

Are you a national of a European Economic Area (EEA)* member state or Switzerland?

Yes	<input type="checkbox"/>
No	<input type="checkbox"/>

*The EEA comprises the EU member states together with Iceland, Norway and Liechtenstein

Will you have been ordinarily resident* in an EEA member state or Switzerland for a continuous period of three of the five years preceding 1 October 2017?

Yes	<input type="checkbox"/>
No	<input type="checkbox"/>

Ordinarily resident denotes your place of legal and permanent residence

Will you be a new entrant to the degree for which you are seeking Council funding?

Yes	<input type="checkbox"/>
No	<input type="checkbox"/>

If yes: Please specify the scholarship type for which you are applying:

12-month Research Master's	<input type="checkbox"/>
24-month Structured Research Master's	<input type="checkbox"/>
36-month Traditional Doctoral Degree	<input type="checkbox"/>
48-month Structured Doctoral Degree	<input type="checkbox"/>

If no: Please specify the degree type for which you are currently registered:

24-month Structured Research Master's	<input type="checkbox"/>
36-month Traditional Doctoral Degree	<input type="checkbox"/>
48-month Structured Doctoral Degree	<input type="checkbox"/>

If no: What date did you first register for this degree?

dd/mm/yyyy

It is important that the information in this field is entered correctly as the duration of funding awarded is dependent on the date of first registration

If no: Please select your current funding source:

Self-funded	<input type="checkbox"/>
Student Universal Support Ireland grant	<input type="checkbox"/>
Higher education institution-funded bursary or scholarship	<input type="checkbox"/>
Central Remedial Clinic Ciaran Barry Graduate Scholarship	<input type="checkbox"/>

If no: Please provide further details in relation to this funding source, including duration:

If no: Please indicate the duration of scholarship for which you are applying:

12 months	<input type="checkbox"/>
24 months	<input type="checkbox"/>
36 months	<input type="checkbox"/>

Will you be in receipt of any additional awards during the scholarship period, e.g. travel bursaries, equipment grants, etc.?

Yes	<input type="checkbox"/>
No	<input type="checkbox"/>

If yes: Please provide further details:

Do you currently hold, or have you previously held, any other Irish Research Council awards?

Yes

☐

No

☐

If yes: Please provide further details:

Applicants for a Research Master's Scholarship must not currently hold, or have previously held, a Council Postgraduate Scholarship. Applicants for a Doctoral Degree Scholarship must not currently hold, or have previously held, any Council Postgraduate Scholarship other than that which would enable them to obtain a Research Master's Degree

Academic Supervisor Details

Primary Academic Supervisor:

Name:

Institution:

Email address:

Secondary Academic Supervisor (if applicable):

Name:

Institution:

Email address:

Referee Details

Referee 1

Name:

Organisation or institution:

Position:

Email address:

Referee 2

Name:

Organisation or institution:

Position:

Email address:

Academic Qualifications

Bachelor's Degree

Institution:
NUI Galway

Graduation date:
dd/mm/yyyy

Qualification type and name:

Final grade or grade point average:

Examination results as detailed here must correspond with those on official transcripts

Any additional information relating to this degree can be included here, e.g. dissertation title, area of study:

Max 300 words

4th year project title here?

Other Education

Please provide any additional information relevant to your academic background which should include the name, location and date(s) of any training courses attended:

Max 300 words

I received a fully funded position on the Wellcome Trust sponsored summer school for training and research experience in neural dynamics (TRENDS) held from 30/08/2017 – 01/09/2017 at Bristol University, UK. Gaining first hand experience of electrophysiological recordings (both in vitro and in vivo), EEG recordings, brain imaging, optogenetics, data analysis workshops and practical classes on learning to code in Python

Research Achievements

Please provide any additional information regarding your research achievements to date such as publications, research awards, creation of data sets and databases, conference papers, patents, excavations, public broadcasts, stage performances, creative writing, creative productions and/or exhibitions:

Max 500 words

Will we be able to get a paper out of this summer internship?

Hopefully will have a conference paper

Work Experience

Please provide details of any relevant work experience, including voluntary work, to date which should include employers' names, job titles, nature of duties and responsibilities, as well as duration of employment:

Max 500 words

Summer Intern, NUI Galway

June - August 2017

- Conducted a 10-week internship supervised by Dr Niall Colgan. Title of research topic; "Experimental and numerical assessment of MRI-induced temperature change and SAR distributions in phantoms"
- This involved a detailed knowledge of how an MRI operates, what types of scans have the highest specific energy absorption rate (SAR) and why.
- I had to design a method to create a T1 doped MRI phantom and the experimental procedure to determine the temperature change from the scan.
- Gained experience in numerical analysis of the data.

ALIVE Leader, NUI Galway

Sept 2015 - Present

- An ALIVE Leader is a student who has volunteered in a community organisation and is willing to take on a deeper role and be the liaison with the ALIVE Programme and support their fellow student volunteers.
- I organise both the Presentation and Scoil Bhride N.S homework clubs, working with volunteers and the schools.
- Gained experience co-ordinating groups of volunteers and planning out homework clubs.

Summer Intern, NUI Galway

June - July 2016

- Conducted a 6 week internship supervised by Dr Mark Foley researching various methods of Clinical Imaging (Ultrasound, X-Ray, Computed Tomography (CT), Positron Emission Tomography (PET), Single-photon emission computed tomography (SPECT) and Magnetic Resonance Imaging (MRI)) and Radiotherapy techniques (LINAC, Brachytherapy and Orthovoltage). Gained experience in modelling a LINAC using BEAMnrc and DOSxyz.
- Shadowed Medical Physicists at the University Hospital of Galway conducting monthly CT, LINAC, Brachytherapy and Blood Irradiation QA's. Also learned about Radiotherapy Treatment planning methods.
- Gained experience in academic research and got an insight into the different types of clinical imaging.

Proposed Research

Project title:

Max 100 words

Experimental and numerical assessment of MRI-induced temperature change and SAR distributions in phantoms. Application of MR thermometry to shear wave ultrasound.

Higher education institution:

NUI Galway

Department:

Physics

Primary area:

Discipline:

Other research area(s):

Please consult the research categorisation document available on the Irish Research Council website for further descriptions of primary area, discipline and other research area

Second categorisation – if interdisciplinary:

If your proposed research is interdisciplinary, please list the second categorisation here, i.e. primary area, discipline and other research area

Keywords describing proposed research:

Please provide an abstract for your proposed research:

Max 300 words

Please provide a lay abstract for your proposed research, which will be used to inform a non-expert audience:

Max 300 words

Please provide details of your proposed research to include (a) aims, objectives and central research questions of the project, (b) how existing literature on the topic has been used to inform the proposal and (c) how the project will advance state of the art and make a contribution to existing knowledge:

Max 500 words

Please detail the research design and methodologies to be employed in carrying out your scholarship which should be described in sufficient detail to demonstrate your thorough understanding of the research topic:

Max 500 words

Please provide a schedule to include (a) milestones and deliverables for completion of the proposed research, (b) risks that might endanger reaching these deliverables and (c) the contingency plans to be put in place in order to mitigate these risks:

Max 500 words

Please describe any specialist knowledge or data required to undertake your proposed research, such as language competency, technical skills or use of specialist software. If this knowledge or data is not already in place, details should be provided as to how it will be acquired over the course of the scholarship:

Max 500 words

Please outline your plans for the dissemination and knowledge exchange of your research, including publications, conference attendance, poster presentations, reports and outreach activities. Details should also be provided as to how the impact of your research will be measured:

Max 500 words

Please outline the reasons for choosing your proposed higher education institution:

Max 400 words

Please outline the reasons for choosing your proposed academic supervisor(s):

Max 400 words

My goal is to become an expert in the area of MR thermometry and shear wave elastography. My supervisors Dr. Colgan and Prof. Destrade are experts in MRI and elastography respectively. They are the ideal people to learn from

Please provide details of any proposed research trip(s) of more than four weeks' duration which you believe will be necessary for the successful completion of your scholarship:

Max 300 words

PLEASE NOTE: The following question applies ONLY to applicants for an Andrew Grene Postgraduate Scholarship in Conflict Resolution, EPA Postgraduate Scholarship or DCYA Growing Up in Ireland Postgraduate Scholarship. It does NOT apply to applicants for the Government of Ireland Postgraduate Scholarship.

Please outline the reasons for choosing your specific theme, including how your proposal explicitly aligns with the theme statement and specific requirements as included in the relevant appendix of the 2017 Terms and Conditions:

Max 500 words

There is an option on the system at this point to upload any supplementary information, e.g. diagrams or bibliography, to accompany your research proposal. The system will ONLY accept supplementary material in PDF format. Supplementary material should only include essential information required for the interpretation and understanding of the proposed research, rather than additional information about the research proposal or applicant. Supplementary material will not be included in the application word count

Have you previously submitted all or part of this proposal to an Irish Research Council scheme and been unsuccessful?

Yes

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No

☐

If yes: Please clearly describe the modifications to your research proposal since it was previously submitted:

Please note that unsuccessful applicants may only re-apply to the scheme on one subsequent occasion (with effect from 21 October 2009)

Please provide a career training and development plan which addresses the following:

- What are your career goals and how would this scholarship help you to achieve them?
- How will you go about acquiring the expert knowledge and transferable skills necessary for your professional development, e.g. technical skills, communication skills, analytical skills?
- How would this scholarship enable you to gain skills relevant to employment outside the traditional academic sector?

Max 1000 words

My goal is to become an expert in the area of MR thermometry and shear wave elastography. My supervisors Dr. Colgan and Prof. Destrade, are experts in MRI and elastography respectively. This gives me the unique opportunity to interact and work closely with some of Irelands leading experts in these fields. Shear wave elastography is a fast expanding area with huge potential. After I complete the PhD I want to continue my career as an academic and conduct further research in this area.

This scholarship will help me achieve my goals as it will allow me to immerse myself in novel research in an area I enjoy working in. I think that enjoying the work you do is the most important part of choosing a project, especially when things don't go to plan. I'm a self driven individual and if I'm given the necessary resources I am sure I will be able to achieve my goals.

The beauty of this project is the range of skills I will improve on. This project has distinct parts that focus on different areas of expertise.

I need to create a phantom for the scanning, I have experience in this as my 3rd year summer internship was based on creating a phantom for use in MR thermometry. I will build further on this by testing different materials. I will gain experience in experimental testing of the mechanical properties of materials. Then I will use analytical skills to decide what is the best material to use.

I then need to investigate different methods of MR thermometry that can be used, I will use my computational modelling skills to assess what is the best method to use. I will need to be able to present my findings and convey why a certain method is better than another method. This will require strong communication skills.

The planning of the experimental setup for creating the shear waves will be the hardest part of the experiment. I will need to be flexible and adaptable in this phase as things will inevitably go wrong. Communicating with my supervisors about how I plan to meet my short term goals and overcome potential problems will be crucial.

Once shear waves have been created, further analytical and modelling skills will be used for the elastography component of the project. As this is a novel area a lot of research will be taken

At the end of the scholarship I will have developed excellent skills in computational modelling, experimental physics, communication, research and data analysis. These will stand to me in my pursuit of an academic position in the future.

If I decide I do not want to peruse a position in academia at the end of this scholarship, these skills are highly sought after in areas such as Reasearch & Design, medical physics or as a data analyst.

Personal, Ethical and Sex/Gender Statements

Personal Statement

Please highlight any additional information which has not been included elsewhere in the application, e.g.:

- Why do you wish to pursue a higher degree by research?
- Why have you proposed this research topic?
- Why do you feel there is a specific demand for the skill set that you wish to build?
- Why are you particularly suited to this research field?
- Which of your attributes demonstrate your capability to be a good researcher, e.g. motivation, commitment, thirst for knowledge?

Max 500 words

While I was always interested in science and how things worked when I was younger, it wasn't until I came to NUI Galway that my passion in physics grew. I have received first class honours in all my examinations to date and have always wanted to do further research in physics.

After learning about how physics could be applied to the medical sector I asked my lecturers if I could do summer research. I completed my first summer internship in medical physics in 2nd year and enjoyed it so much I got a scholarship to conduct another internship in 3rd year. During this scholarship I got the opportunity to travel to Barcelona to the annual conference of the European Society for Magnetic Resonance in Medicine & Biology and present my research there. This immersion in novel research and what so many academics are working on inspired me to do further research.

I have proposed this research topic as I think there is a genuine application at the end of it. Ultrasound elastography is starting to be used to detect tumours but the heating aspect of it hasn't been properly calculated. Further applications of high intensity ultrasound could be used to heat and destroy tumours. This would be an incredible application and greatly help peoples lives.

I think I am suited to this research field as it is an area I have had a strong interest in for a few years already and my summer internships and 4th year projects have helped put me on this path to pursue a higher degree by research.

I'm a strongly self motivated individual and I want to succeed at everything I do. I don't do things by halves and if given the opportunity I am sure I will complete this project.

Ethical Statement

Does your research involve any of the following ethical issues of special relevance?

Informed consent	<input type="checkbox"/>
Human embryonic stem cells	<input type="checkbox"/>
Privacy and data protection	<input type="checkbox"/>
Use of human biological samples and data	<input type="checkbox"/>

Research on animals	<input type="checkbox"/>
Research in developing countries	<input type="checkbox"/>
Dual use (possible military/terrorist application)	<input type="checkbox"/>
None of the above	<input type="checkbox"/>

Does your research proposal require approval by the relevant institutional Ethics Committee?

Yes	<input type="checkbox"/>
No	<input type="checkbox"/>

Please note that a full ethical report and approval from the relevant institutional Ethics Committee should be received by the Council before activities for which ethical approval are required commence or no later than three months after the start date of the scholarship

Please provide a statement detailing the careful consideration you have given to the ethical implications of the proposed research (where ethical issues may arise) and how you plan address these over the course of your scholarship:

Max 500 words

Sex/Gender Dimension Statement

Does your research involve any of the following?

Humans as the research focus	<input type="checkbox"/>
Animals as the research focus	<input type="checkbox"/>
Human samples and/or data	<input type="checkbox"/>
Humans involved as consumers, users, patients, or in trials	<input type="checkbox"/>
Research on animals, animal samples and/or data	<input type="checkbox"/>
Research outputs with implications for end users or consumers	<input type="checkbox"/>

Please provide a statement detailing whether there is a potential sex/gender dimension to be considered in carrying out your research. If your research involves any of the above, please indicate how potential sex/gender issues will be handled. In particular, you are asked to reference the points mentioned in the 'checklist for sex/gender in research content' in the Guide for Applicants:

Max 500 words

Please carefully read the section on *sex/gender dimension* in the Guide for Applicants for help in answering this question

Financial Justification

- Please provide the total cost for the full duration of the scholarship.
- The exact amount of eligible direct research expenses to be allocated is subject to sufficient justification being made. An itemised breakdown of costs is required, e.g. separately list the cost and justification for individual pieces of computer equipment and software. Small consumables can be grouped as one item, e.g. general lab or stationery supplies.
- Software and hardware must be obtained within the first year of a scholarship or within the first three months of a 12-month award. Aside from this exception, funds may not be used to purchase capital items.
- A maximum amount of €2,250 *per annum* applies.
- There is a limit of €1,000 for computers or laptops.
- Membership costs are not eligible.
- Living costs, e.g. rent, are not essential direct research expenses and should not be included.

- Subsistence/per diem/meal costs/vouched expenses for meals and drinks are not an eligible cost.

Essential direct research expenses:	Total cost requested for the funding term:	Please provide a full justification and itemised breakdown for all costs requested:
Essential research supplies such as small consumables:		
Pay-as-you-go access to national research infrastructure:		
Software and hardware critical for the proposed research:		
Archival research costs:		
Conference travel and participation:		
Generic and/or specialist disciplinary skills training:		
Publishing and write-up costs:		
Other costs:		
Total:		

Applicant Declaration

I hereby declare that I have read and accept the applicant requirements as set out in the 2017 Terms and Conditions and Guide for Applicants on the [Irish Research Council website](#):

I agree ☐

I confirm that the information supplied in this application is correct and recognise that should it become apparent that any of the information provided is inaccurate or unverifiable with appropriate documentation, it will result in the application automatically being deemed ineligible:

I agree ☐

I hereby declare that this application is my own work and understand that it will be subject to plagiarism checks:

I agree ☐

Would you like the Irish Research Council to make your application available to other funding agencies and/or enterprise partners for consideration?

Yes ☐

No ☐