



Post Specification

Post Title:	PhD Studentship in Recycled Materials
Post Status:	4-year Fixed-term Contract, Full-time, Fully funded
Research Group / Department / School:	Department of Civil, Structural & Environmental Engineering, Trinity College Dublin, the University of Dublin
Location:	Department of Civil, Structural & Environmental Engineering, Trinity College Dublin, the University of Dublin College Green, Dublin 2, Ireland
Reports to:	Dr. Aimee Byrne
Terms & Conditions:	The funding covers: <ul style="list-style-type: none">• €25,000 annual stipend• Tuition fees• Materials & lab consumables (including laptop)• Conference travel Excludes: contributions to health insurance, work permits or any relocation costs to move to Dublin.
Hours of Work:	Full time (~ 38 hours/week) The student will also be given the opportunity to earn additional income through Tutorial or Lab Demonstrating
Closing Date:	12 Noon (GMT), 9 th July 2026

Post Summary

We are seeking a motivated and talented researcher to join the Research Ireland PUnTex project, which examines the valorisation of waste textiles into high-value materials. The PhD researcher will work closely with the PUnTex team, which includes those from Engineering, Business, Psychology, Chemistry and Industry. The wider PUnTex project is looking at new ways to recycle post-consumer textile waste into useful building blocks for new, more sustainable

and circular, materials and products. The PhD student project will focus on the latter, taking these building blocks (chemicals, molecules and Polyurethane foams) and including them in material and component development and testing towards high-value products primarily for the construction sector, but with the possibility of other sectoral uses.

Activities: Some of the core PhD research activities will include (but not limited to)

- Investigating multiple material development routes from polyols and Polyurethane foams, including thermal or acoustic insulation, composites, cement or geopolymer based materials
- Performing laboratory thermal, moisture and strength tests following relevant European or National Standards (e.g. compression, thermal conductivity, water absorption)
- Investigating means of enhancing and optimising material or product performance, including working collaboratively with other disciplines on specific formulations that result in optimised behaviours in end-products.
- Analyse results and develop relationships using statistical methods and other analytical approaches such as finite element, and predictive techniques.

Standard Duties and Responsibilities of the Post

- Undertake original doctoral research aligned with the objectives of the PUnTex project, producing a PhD thesis according to Trinity College Dublin's criteria
- Conduct literature reviews related to materials, testing, analysis, and innovations.
- Attend and contribute to interdisciplinary group project research meetings
- Identify and participate in research dissemination activities, including conference presentations and writing academic papers (in consultation with supervisor(s))
- Identify and participate in public and stakeholder outreach activities (e.g., public lectures; workshops, etc.)
- Be an active affiliate researcher of the School of Engineering (e.g., attending networking and researcher development events, etc.)

Funding Information

The PUreTex project is funded by the Research Ireland National Challenge Fund - Sustainable Communities Challenge Prize.

Person Specification

Qualifications

A 2.1 or higher BSc (Honours), or MSc, in an Engineering or Science Discipline that includes testing and analysis of materials, such as Material Science, Civil/Structural Engineering, Materials or Chemical Engineering, Polymer or Mechanical Engineering or related field.

Knowledge & Experience (Essential & Desirable)

- Have taken modules or courses that include *some* of the following: structural mechanics, mechanics of materials, structures, chemistry, thermodynamics/ heat transfer (Essential).
- Experience in making or testing materials or components in a laboratory environment (Essential).
- Experience with some or all of the following: insulation, concrete, composites, coatings, polymers, plastics (Desirable)
- Knowledge of sustainability and circularity principles and practices (Desirable)
- Experience in contributing to research projects (Desirable)

Skills & Competencies

- Strong mathematical, problem-solving and analytical abilities.
- Fluent English, with excellent written and oral communication skills.
- Enthusiasm for interdisciplinary research and collaborative working.
- Ability to work independently, take the initiative, research and propose solutions
- Willingness to engage with project partners and attend national/international conferences and project meetings.
- Organisational skills and ability to meet research deadlines.

Application Procedure

Applicants should submit:

- A 1-page cover letter, stating motivation and explicitly referring to how your past experience and achievements relate to: 1. Activities, 2. Knowledge and Experience, and 3. Skills and Competencies, listed in this advertisement.
- A CV, including experience, undergraduate results, postgraduate results (if applicable), and publications (if applicable)
- References: Names and email addresses of two referees

Please send the above to Dr. Aimee Byrne (she/her) **by 12 Noon (GMT), 9th July 2026**

Email Address: aimee.byrne@tcd.ie

Further Information for Applicants

URL Link to Area	www.tcd.ie
URL Link to Human Resources	https://www.tcd.ie/hr/
URL Link to PI Profile	https://www.tcd.ie/civileng/people/academic-staff-/abyrne50/
URL Link to Project	https://puretex.ie/

Trinity College Dublin, the University of Dublin

Trinity is Ireland's leading university and is ranked 108th in the world (QS World University Rankings 2020). Founded in 1592, the University is steeped in history with a reputation for excellence in education, research and innovation.

Located on an iconic campus in the heart of Dublin's city centre, Trinity has 18,000 undergraduate and postgraduate students across our three faculties – Arts, Humanities, and Social Sciences; Engineering, Mathematics and Science; and Health Sciences.

Trinity is ranked as the 17th most international university in the world (Times Higher Education Rankings 2020) and has students and staff from over 120 countries.

The pursuit of excellence through research and scholarship is at the heart of a Trinity education, and our researchers have an outstanding publication record and strong record of grant success. Trinity has developed 19 broad-based multidisciplinary research themes that cut across disciplines and facilitate world-leading research and collaboration within the University and with colleagues around the world. Trinity is also home to 5 leading flagship research institutes:

- Trinity Biomedical Sciences Institute (TBSI)
- Trinity College Institute of Neuroscience (TCIN)
- Trinity Translational Medical Institute (TTMI)
- Trinity Long Room Hub Arts and Humanities Research Institute (TLRH)
- Centre for Research on Adaptive Nanostructures and Nanodevices (CRANN)

Trinity is the top-ranked European university for producing entrepreneurs for the past five successive years and Europe's only representative in the world's top-50 universities (Pitchbook Universities Report).

Trinity is home to the famous Old Library and to the historic Book of Kells as well as other internationally significant holdings in manuscripts, maps and early printed material. The Trinity Library is a legal deposit library, granting the University the right to claim a copy of

every book published in Ireland and the UK. At present, the Library's holdings span approximately 6.5 million printed items, 400,000 e-books and 150,000 e-journals.

With over 120,000 alumni, Trinity's tradition of independent intellectual inquiry has produced some of the world's finest, most original minds including the writers Oscar Wilde and Samuel Beckett (Nobel laureates), the mathematician William Rowan Hamilton and the physicist Ernest Walton (Nobel laureate), the political thinker Edmund Burke, and the former President of Ireland Mary Robinson. This tradition finds expression today in a campus culture of scholarship, innovation, creativity, entrepreneurship and dedication to societal reform.

Rankings

Trinity is the top ranked university in Ireland and ranked 108th in the world (QS World University Rankings 2020). Trinity ranks in the top 50 in the world on 6 subjects and in the top 100 in 20 subjects (QS World University Rankings by Subject 2019). Full details are available at: www.tcd.ie/research/about/rankings.

The Selection Process in Trinity

The Selection Committee (Interview Panel) may include members of the Academic and Administrative community together with External Assessor(s) who are expert in the area. Applications will be acknowledged by email. If you do not receive confirmation of receipt within 1 day of submitting your application online, please contact the named Recruitment Partner on the job specification immediately and prior to the closing date/time.

Given the degree of co-ordination and planning to have a Selection Committee available on the specified date, the University regrets that it may not be in a position to offer alternate selection dates. Where candidates are unavailable, reserves may be drawn from a shortlist. Outcomes of interviews are notified in writing to candidates and are issued no later than 5 working days following the selection day.

In some instances the Selection Committee may avail of telephone or video conferencing. The University's selection methods may consist of any or all of the following: Interviews, Presentations, Psychometric Testing, References and Situational Exercises.

It is the policy of the University to conduct pre-employment medical screening/full pre-employment medicals. Information supplied by candidates in their application (Cover Letter and CV) will be used to shortlist for interview.

Applications from non-EEA citizens are welcomed. However, eligibility is determined by the Department of Business, Enterprise and Innovation and further information on the Highly Skills Eligible Occupations List is set out in Schedule 3 of the Regulations <https://dbei.gov.ie/en/What-We-Do/Workplace-and-Skills/Employment-Permits/Employment-Permit-Eligibility/Highly-Skilled-Eligible-Occupations-List/> and the Ineligible Categories of Employment are set out in Schedule 4 of the Regulations <https://dbei.gov.ie/en/What-We-Do/Workplace-and-Skills/Employment-Permits/Employment-Permit-Eligibility/Ineligible-Categories-of-Employment/> . Non-EEA candidates should note that the onus is on them to secure a visa to travel to Ireland prior to interview. Non-EEA candidates should also be aware that even if successful at interview, an appointment to the post is contingent on the securing of an employment permit.

Equal Opportunities Policy

Trinity is an equal opportunities employer and is committed to employment policies, procedures and practices which do not discriminate on grounds such as gender, civil status, family status, age, disability, race, religious belief, sexual orientation or membership of the travelling community. On that basis we encourage and welcome talented people from all backgrounds to join our staff community. Trinity's Diversity Statement can be viewed in full at <https://www.tcd.ie/diversity-inclusion/diversity-statement>.

Application Procedure

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Applicants should submit a full Curriculum Vitae to include the names and contact details of 2 referees (including email addresses), to:-

Name

Email Address



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universityvacancies.com

