



Post Specification

Post Title:	PhD Studentship.
Post Status:	Fixed-term Contract or Specific Purpose Contract.
Department/School/ Research Group:	Graphics and Vision, School of Computer Science and Statistics.
Location:	Stack B, Trinity College Dublin, the University of Dublin College Green, Dublin 2, Ireland.
Reports to:	Dr. Gareth W. Young, Assistant Professor.
Terms & Conditions:	Annual stipend of 25,000 Euros + tuition fees for EU and non-EU students, excluding fees charged for student levies.
Hours of Work:	Full Time.
Closing Date:	Midnight (GMT), [29 June 2026].

Post Summary

PhD-2: Advanced Computational Models and Digital Tools for Immersive Storytelling

Group project title: From Silence to Story: Revisiting TCD's Long Room through Acoustics and Immersive Storytelling

Core Principal investigators: Gareth W. Young (Computer Science), Nicole Basaraba (Digital Humanities), Jennifer O'Meara (Film Studies), and Nils Peters (Engineering).

Supporting Principal Investigators: Fionnuala Conway, John Kennedy, and Francis Boland.

Funding provided by: [Trinity Research Doctorate Award \(Group\)](#) 2026.

About the group project:

The renovation and public closure of Trinity College Dublin's (TCD) Long Room of the Old Library present an unparalleled opportunity to conduct pioneering research "on," "through," and "for" this iconic space. This initiative will redefine how we preserve and enhance one of Europe's premier cultural heritage landmarks. This project will delve into aspects of the Long Room that have been largely overlooked: its acoustic experiences and sonic architecture. It will use state-of-the-art robot-aided acoustic measurements and employ advanced computational and acoustic modeling techniques to create a versatile Acoustic Digital Twin, which will be combined with existing 3D image data.

This approach enables unprecedented exploration of the Long Room's physical properties, enabling new acoustic experiences for both physical and virtual visitors. Previous related research includes the "[Jonathan Swift in VR/AR Long Room Project](#)" in 2018. The From Silence to Story project will create immersive XR experiences that preserve and reimagine the



library's significance through site-specific media art and storytelling. This research will set a precedent for future heritage preservation efforts by developing a preservation-by-design strategy in collaboration with experts at TCD's digital library and the Digital Repository of Ireland. This project addresses Trinity College's research themes of "Identities in Transformation" and "Digital Humanities" by preserving and innovating the Long Room through state-of-the-art acoustic and digital technologies. By creating immersive and interactive experiences, we aim to foster meaningful connections between visitors and the cultural significance of the Long Room. Furthermore, this project aims to promote inclusiveness by enabling personalized experiences for vision- and hearing-impaired visitors and for those with diverse linguistic backgrounds and neurodivergent needs. We aim to create a resilient digital preservation system for sustainable, long-term, inclusive access.

The project's interdisciplinary PhD Team:

The project comprises four work packages, including training four PhD researchers across four disciplines, all under a unifying project goal: To preserve, enhance, and reimagine the Long Room Library's unique acoustic and cultural heritage by creating a pioneering Digital Acoustic Twin that integrates advanced acoustic measurements with immersive storytelling tools, fostering innovative interdisciplinary research and transformative cultural experiences.

Four doctoral students will be funded under this award, with specializations in the following domains: engineering (PhD-1: "A data-driven Acoustic Digital Twin for Heritage Preservation and Interactive Experiences"), computer science (PhD-2: "Advanced Computational Models and Digital Tools for Immersive Storytelling"), creative arts (PhD-3: "Audiovisual Media Experiences using the Long Room's Multimodal and Acoustic Digital Twin"), and digital humanities (PhD-4: "Sonic Narrative Approaches to Cultural Heritage - The Long Room's Digital Twin"). This unique multidisciplinary approach will provide students with invaluable experiences and skills that extend beyond traditional disciplinary boundaries, preparing them to become leaders in academic and/or industry settings.

The recruited PhD-2 fellow in Graphics and Vision will be registered with the School of Computer Science and Statistics under the primary supervision of Dr. Gareth W. Young. The student will contribute to WP-2, titled Advanced Computational Models and Digital Tools for Immersive Storytelling, which focuses on the development of computational and XR-based approaches for immersive cultural heritage experiences. PhD-2 will also be supported through an interdisciplinary supervisory structure that brings together expertise across digital humanities, immersive storytelling, and computational technologies. The thesis committee for PhD-2 includes Dr. Nicole Basaraba and Dr. Nils Peters.

The research will focus on the creation of a multimodal Digital Twin of the Long Room through the integration of existing 3D visual scans with acoustic digital twin technologies (ADT). The project will further develop custom XR authoring and computational tools enabling composers, artists, and storytellers to create site-specific immersive experiences while supporting sustainable stewardship, versioning, and long-term maintainability of digital heritage assets. In parallel, the research will investigate methods for optimizing real-time performance and personalized rendering of acoustic and visual simulations to support



accessible and inclusive immersive experiences. Expected outcomes include the development of novel computational frameworks for integrated acoustic-visual modeling, new XR authoring tools for immersive storytelling and music applications, and high-quality scientific publications advancing interdisciplinary XR research.

Duties and Responsibilities of the Post

Work Package	Faculty	School	Discipline	PI	PhD Fellow
WP-2	STEM	Computer Science and Statistics	Graphics and Vision	Dr. Gareth W. Young	PhD-2
TITLE: Advanced Computational Models and Digital Tools for Immersive Storytelling					
PhD-2 Committee: Dr. Young, Dr. Basaraba, Dr. Peters					
Objectives: <ol style="list-style-type: none"> Create a Multimodal Digital Twin by combining the existing 3D visual scan of the Long Room with the ADT. Design and implement custom digital tools enabling composers, artists, and storytellers to create site-specific immersive experiences using the Digital Twin, while embedding practices for sustainable stewardship, versioning, and long-term maintainability of digital heritage assets. Optimize real-time performance and personalized rendering of acoustic and visual simulations for inclusive XR experiences. 					
Expected Results: <ul style="list-style-type: none"> Creation of a novel framework for computational modeling of acoustic environments integrated with visual data. Development of XR authoring tools to enable personalized and accessible site-specific immersive storytelling and music experiences. Scientific journal publications presenting advancements in XR technologies and interdisciplinary storytelling applications. 					

Standard Duties and Responsibilities for a PhD:

1. Produce a PhD thesis according to Trinity College Dublin’s criteria
2. Attend/organize interdisciplinary group project research meetings
3. Identify and participate in research dissemination activities, including conference presentations and writing academic papers (in consultation with supervisor(s))
4. Identify and participate in public outreach activities (e.g., public lectures; workshops, etc.)
5. Be an active affiliate researcher of the School of Computer Science and Statistics (e.g., attending networking and researcher development events, etc.)
6. Engage with professional development opportunities (e.g., teaching assistance, demonstrating duties, etc.)



Person Specification

Minimum eligibility requirements for PhD entry to SCSS:

- A minimum 2.1 honors class undergraduate degree from an Irish university, or its international equivalent.
- English-language competency at Band B.

Skills and competencies:

Essential:

1. Commitment to interdisciplinary research approaches.
2. Strong academic writing skills in the English language.
3. Excellent research and project management skills.
4. Knowledge of immersive media, including audio and XR software development.

Desirable:

1. A master's degree in a related subject (e.g., Computer Science; Interactive Digital Media; Game Studies), ideally with distinction.
2. Software skills (e.g., digital media editing software; C# or C++ programming; AI tools; Game Engines).
3. Experience in a cross-cultural or dynamic workplace/environment.

Application Procedure

Applicants should submit:

1. A covering letter outlining the candidate's research readiness.
2. Academic writing or portfolio of works relevant to the position.
3. English-language competency (see accepted supporting documents here: <https://www.tcd.ie/study/english-language-requirements/>).
4. Academic transcript(s).
5. Curriculum Vitae.
6. Names and email addresses of two referees (at least one should be an academic reference).

Please submit the above-mentioned application documents **by the 29th of June 2026** to: Gareth W. Young, Assistant Professor, School of Computer Science and Statistics, Trinity College Dublin, gareth.young@tcd.ie.

Further Information for Applicants

Interviews will take place **in early July**.

URL Link to PI profile:	https://www.tcd.ie/research/profiles/?profile=youngga
SCSS Structured PhD Program.	https://www.tcd.ie/scss/courses/postgraduate/phd-programme/
URL Link to Human Resources	https://www.tcd.ie/hr/



Trinity College Dublin
Coláiste na Tríonóide, Baile Átha Cliath
The University of Dublin

Trinity College Dublin, the University of Dublin

Trinity is Ireland's leading university and is ranked 75th in the world (QS World University Rankings 2026). 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 center, Trinity has 22,000 undergraduate and postgraduate students across our three faculties – Arts, Humanities, and Social Sciences; Engineering, Mathematics and Science; and Health Sciences.

Trinity is ranked the 35th most international university in the world. [Times Higher Education World University Ranking, 2025](#).

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 College Dublin is Ireland's No.1 University](#) - ranked 75 in the World by the QS World University Ranking and 173 by the Times Higher Education World University Rankings 2026.



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 experts in the area. Applications will be acknowledged by email.

Given the degree of co-ordination and planning to have a Selection Committee will only be 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.

The Selection Committee will conduct interviews online via video call in early to mid-July 2026. The University's selection methods may include any or all of the following: Interviews, Presentations, References, and Supplementary Documents.

Applications are open to EU and Non-EEA applicants. This PhD Award will cover tuition fees of EU/Non-EEA applicants. Applicants must have been resident in an EU member state for three out of the last five years to be eligible for EU fees. Non-EEA candidates should note Ireland's requirements for study visas.

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 traveling 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>.



Trinity College Dublin
Coláiste na Tríonóide, Baile Átha Cliath
The University of Dublin

Application Procedure

Application Deadline: **29 June 2026**

Applicants should submit a completed application package to:

Name: Gareth W. Young, Assistant Professor (Graphics and Vision)

School: School of Computer Science and Statistics, Trinity College Dublin.

Email Address: gareth.young@tcd.ie



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