



TU RISE PhD Scholarship

Project Title: Interwoven Networks - Interactive Art Installations through Edge-Cloud Computing for Industry5.0

Faculty of Engineering, Nimbus Centre

About the Project

We invite applications for a fully-funded 4-year PhD project as a full-time programme of study. This PhD (insert project title) is funded by MTU supported by TU RISE funding. This PhD program offers an exciting opportunity to explore the intersection of edge-cloud computing, Industry 5.0, and the integration of creative practices relating to interactive art and collaborative design. The research aims to harness edge-cloud technologies to create innovative, real-time responsive art installations while simultaneously advancing manufacturing processes within Industry 5.0.

This research will explore the use of edge-cloud networks and real-time data as part of dynamic responsive digital art installations that react to environmental changes and human interactions. This research will explore how artistic and design thinking can innovate manufacturing processes and enhance industry sustainability and resilience. This research will also investigate effective co-design frameworks that foster collaboration between artists, technologists, and designers, leveraging edge-cloud networks to address challenges at the intersection of art and technology.

This PhD will contribute to the development of new methodologies for merging physical and digital spaces within Industry 5.0, offer groundbreaking insights into sustainable, human-centric industrial processes, and extend knowledge about collaborative practices across STEM and creative arts disciplines.

The successful candidate will have the opportunity to work with state-of-the-art edge computing hardware, advanced IoT sensors, and cutting-edge cloud platforms, joining a vibrant, interdisciplinary research community with access to world-class facilities, including advanced fabrication labs, immersive virtual and mixed reality suites, and industrial partnerships for real-world testing and implementation of their innovative ideas and research outcomes.

Requirements:

Applicants must have achieved at least a second class higher level (2H1) classification or equivalent in an appropriate discipline area relevant to the research field from a recognised degree awarding body OR possess a Master's Degree in an appropriate discipline area relevant to the research field from a recognised degree awarding body.

The ideal PhD candidate for this program will have a strong interdisciplinary background, blending technical expertise in edge-cloud computing with an interest in creative and artistic practices. They should have an interest in exploring innovative ways to merge technology with artistic expression. Familiarity with real-time data processing, networking or human-computer interaction is essential as the research focuses on developing edge-cloud networks capable of supporting responsive art that interacts with environmental stimuli.

This PhD position offers the candidate an opportunity to push the boundaries of both creative and industrial innovation, developing cutting-edge methodologies to merge physical and digital spaces, while fostering human-centric and sustainable practices in Industry 5.0.

For applicants whose first language is not English, the English language requirements accepted by MTU for entry into postgraduate studies are:

- IELTS Academic 6.0 (No less than a 5.5 in any one band)
- PTE Academic 51 (Minimum 45 in each component)
- TOEFL IBT 80 min (score of 18 in each component)
- Duolingo score Min of 100

Please refer to: <https://www.mtu.ie/international/eu-applicants/>

Terms and conditions of this PhD scholarship award

Start date & location: This PhD starts no later than **1 Jan 2025**. The student will be based primarily at the Nimbus Centre, MTU, Cork. The student will be registered at MTU, working under the supervision of Dr Susan Rea (Nimbus MTU) in association with Juan Martinez, Denise (Nimbus MTU), Dr. Paul Green and Dr. Helen Farrell (CCAD MTU). The PhD Scholar is required to spend **at least 12 weeks on placement with an enterprise partner** within the four-year term of their doctoral programme. The project supervisor/PI (in conjunction with the PhD scholar) is responsible for arranging the student placement with a suitable enterprise partner.

Funding: The scholarship funding is tax free and includes payment of University PhD fees (EU or non-EU) and a student stipend at a flat rate of €25,000 per annum which is tenable for 4 years.

To Apply:

Please send a **single PDF file** consisting of the following to Susan.Rea@MTU.ie with 'TU RISE PhD Application' in the subject heading:

1. Resume/Curriculum Vitae (CV), including:
 - Education History
 - Relevant skills

- Research projects/publications
- 2. A cover letter (2-pages max) including a description of the applicant's research interests, reasons for applying for the position. The Cover letter must clearly indicate how the applicant's profile and skills fit the requirements of this PhD position.
- 3. Scanned copies of relevant academic transcripts and English language certificates.
- 4. A minimum of two recommendation letters and/or contact information for referees.

Further information or queries please e-mail Susan.Rea@MTU.ie

Closing date for applications: 31st October 2024

Interviews (on-line) anticipated to be held early/mid November 2024

PhD commencement date latest by 1st January 2025.

Funding Acknowledgement

MTU TU RISE PhD scholarship funding is co-financed by the Government of Ireland and the European Union through the ERDF Southern, Eastern & Midland Regional Programme 2021-27 and the Northern & Western Regional Programme 2021-27.



Rialtas na hÉireann
Government of Ireland



Arna chomhchistiú ag
an Aontas Eorpach
Co-funded by the
European Union



Tionól Réigiúnach
an Deiscirt
Southern Regional
Assembly

HEA | HIGHER EDUCATION AUTHORITY
AN UUDARAS UM AFD-CIDTAC IAS