ERBE Centre for Doctoral Training

Energy Resilience in the Built Environment

MaREI PhD Studentship Call 2022

**APPLICATION FORM FOR PHD STUDENTSHIPS 2022**

**Please complete all sections of this form**. The closing date for receipt of the completed Application Form and CV is 5.00 p.m. Tuesday, 22nd March 2022 (GMT). Interviews will be held in the following weeks, with the studentship commencing in September 2022. Please complete all 3 sections of this form, otherwise the application will not be considered.

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| **1. PERSONAL INFORMATION** |
| Email: |  |
| Surname: |  |
| First Name: |  |
| Nationality: |  |
| Current Country of Residence: |  |
| Bachelor Degree Title & Specialisation: |  |
| Bachelor Thesis Title: |  |
| Masters Degree Title & Specialisation (if applicable): |  |

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| **2. PROJECT RANKING**Please rank your top 5 projects 1 – 5. In this ranking process, 1 is your most preferred project, and 5 is your least preferred: |
| Ranking | Project Number (1-21)(see summary of Projects on last page) |
| 1. |  |
| 2. |  |
| 3. |  |
| 4. |  |
| 5. |  |

**3. MOTIVATIONAL STATEMENT**

Submit a Statement of Motivation (max 500 words) outlining your motivation for pursuing a PhD in the ERBE CDT and detailing the reasons for your preferred project choice, institution and supervisor.

Please submit this completed application form, along with a copy of your CV to ERBE@ucc.ie by 5.00 p.m. Tuesday, 22nd March 2022 (GMT).

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| **Summary of Projects for 2022 MaREI ERBE PhD Studentship Call** |
| Project No.1: | Assessment of how smart hot water controls responding to excess wind, could provide free hot water to fuel-poor households to create a flexible citizen-owned, just energy system asset. |
| Project No.2: | Sustainable & Healthy Buildings: Development and cost-optimal scenario analysis of a real-time dwelling energy stock model to inform climate policy decisions. |
| Project No.3: | Powering houses and apartment blocks with wastewater |
| Project No.4: | Applying Digital Twins to assess the potential of Demand Response programmes on industrial sites. |
| Project No.5: | Resilient classrooms for the future – Exploring lean and agile techniques for sustainable and healthy learning environments |
| Project No.6: | Innovative façade systems for indoor environmental quality in energy efficient buildings |
| Project No.7: | On-demand Grid Energy Services from Buildings Aggregated at the Neighbourhood and Energy Community Level |
| Project No.8: | Resilient Passive Cooling Strategies for Nearly Zero Energy Buildings |
| Project No.9: | Decarbonization and Energy Conservation for Different Generation Modalities in Smart Building |
| Project No.10: | Carbon Neutral Planning for Industrial Manufacturing Sites |
| Project No.11: | Advancing Measurement and Verification techniques (M&V 2.0) to nurture energy saving projects and ensure benefits. |
| Project No.12: | Utilising Data Driven Digital Twins to monitor and maintain Indoor Air Quality (IAQ) in a sustainable way in high occupancy buildings |
| Project No.13: | Development of cost-effective IOT sensors for evaluating the performance of smart, energy efficient buildings |
| Project No.14: | Cost-effective and low-embodied carbon self-healing smart materials for retrofitting heritage buildings |
| Project No.15: | Sustainable & Healthy Buildings: Optimising Indoor Environmental Quality and Building Energy Efficiency in a post COVID-19 era through Indoor Sensing and Digital Twin Capabilities |
| Project No.16: | The built environment in a net-zero emissions energy system |
| Project No.17: | Achieving universal access to clean fuels and technologies within households: synergies and trade-offs with climate action goals |
| Project No.18: | Optimal demand side management of domestic water heating using highly efficient solar heat energy collection and storage |
| Project No.19: | DRONES-ASSESS: Disruptive Remote-controlled drOnes with Embarked Sensors to Assess Building Performances against Building Regulations Test Protocols and Standards. |
| Project No.20: | Intelligent Energy Efficient Solar Assisted HVAC system Cleaning Air for Health and Indoor Comfort (iCleanAir) |
| Project No.21: | Switchable Windows for Indoor Thermal and lighting Comfort, Health, Energy-efficiency and Safety |