

International Congress on Architectural Technology
Friday 19th January 2024, Atlantic Technological University
Research Conference

Theatre 1000 – Welcome Address

Chair / MC: Irene Hayden ATU, Conference Chair

Opening address: Dr Orla Flynn, President ATU 9:30 – 9:40

Introduction: Dr Graham Heaslip, Head of Centre & Head of School of Engineering ATU 9:40 – 9:50

Keynote Speaker: Sean Canney TD 9:50 – 10:20

Break for Tea and Coffee in Café Foyer outside Theatre 1000 10:20-10:40

Sponsored by Unilin

Theatre 1000 – Presentation of Conference Papers

Chair #1: Emer Maughan, ATU

Dr. Barry Mc Carron and Adrian Podgorski. *Bungalow Retrofit: The EnerPHit in the Room – Opportunity for Scale.*

Presentation 10:40-11:00

Q&As 11:00-11:10

Brian Considine, Ying Liu, and Aonghus McNabola. *Determination of the optimum insulation thickness for dormer roof designs: An Irish case study.*

Presentation 11:10-11:30

Q&A 11:30-11:40

Lana Opeoluwa. *A comparison of energy-effective wall options.*

Presentation 11:40-12:00

Q&A 12:00-12:10

Chukwuweike Okom and Dr Tahar Kouider. *The impact of airtightness and low ventilation on air quality in domestic buildings and their effect on occupants.*

Presentation 12:10-12:30

Q&A 12:30-12:40

Lane Mooney. *Circular economy design strategies to achieve Enerphit and Passive House standards.*

Presentation 12:40-13:00

Q&A 13:00-13:10

Theatre 994 – Presentation of Conference Papers

Chair #2: Dr Malachy Mathews, TU Dublin

Killian Markey, Sameer Mehra, David Palmer, Timothy O’Leary, and David Knight. *An investigation on the physical and thermal properties of Irish hemp fibres as a loose fill insulation.*

Presentation 10:40-11:00

Q&A 11:00-11:10

Oisín Power and Dervilla Niall. *An Exploration of Limestone Calcined Clay Cement (LC3) as a Low-Carbon Alternative to Ordinary Portland Cement in an Irish Context.*

Presentation 11:10-11:30

Q&A 11:30-11:40

Szymon Grabowski, Sameer Mehra, David Palmer, David Knight, Timothy O’Leary, and Darren Bergin. *Cross Laminated Timber vs Concrete – A Comparative Life Cycle Assessment of a Residential Case Study Building in Ireland.*

Presentation 11:40-12:00

Q&A 12:00-12:10

Brad Whyte O’Hara, Sameer Mehra, Timothy O’Leary, Darren Bergin, and David Knight. *An Evaluation of the Physical and Mechanical Properties of Concrete using Eggshell Waste and Glycerine.*

Presentation 12:10-12:30

Q&A 12:30-12:40

Paul Andreas Jensen. *Continuous Moisture control of building materials.*

Presentation 12:40-13:00

Q&A 13:00-13:10

Lunch break. 13:10-14:10

Theatre 1000 – Presentation of Conference Papers

Chair #3: Gareth Alexander, Ulster University

Seamus Farrell. *An Investigation into the Potential to Reduce the Impact of Extreme Flooding in Dublin, using Blue-Green Roofs with Smart Control Devices.*

Presentation 14:10-14:30

Q&A 14:30-14:40

Jack Dempsey. *An investigation into the solar analysis of the Columban Hall, Galway, to implement good daylight strategies and solar gains using a range of software tools.*

Presentation 14:40-15:00

Q&A 15:00-15:10

Joaquín López-Torres, Antonio Galiano-Garrigós, and Carlos Pérez-Carramiñana. *Thermal comfort and energetic rehabilitation in elderly people buildings: Case study of a building in Alicante.*

Presentation 15:10-15:30

Q&A 15:30-15:40

María Almagro-Lidón, Antonio Galiano-Garrigós, and Ángel González-Aviles. *Comparative analysis of the perception of thermal comfort in children and adults: implications for the architecture of educational centers.*

Presentation 15:40-16:00

Q&A 16:00-16:10

Samuel Sabatell Canales, Carlos Pérez Carramiñana, and Ángel Benigno González Avilés. *Study and parameterisation of the effect of solar galleries on the thermal behaviour of dwellings in BShs climate.*

Presentation 16:10-16:30

Q&A 16:30-16:40

Theatre 994 – Presentation of Conference Papers

Chair #4: Andy Mc Namara, ATU

Brian Hand. *Moving away from a Linear Economy towards a Circular Economy, Material Passports are seen as an essential tool to optimise design for greater circularity. How can BIM software aid this paradigm shift in an Irish architectural project?*

Presentation 14:10-14:30

Q&A 14:30-14:40

Rebecca O'Reilly. *History BIM Workflow Russborough House Interiors A Case Study.*

Presentation 14:40-15:00

Q&A 15:00-15:10

Eilis O'Hare. *The Potential for Digital Construction Technologies to Enhance Fire Evacuation Procedures.*

Presentation 15:10-15:30

Q&A 15:30-15:40

Mikkel Toppel Andersen, Ronald Ed Toliver, and Kasper Egel Andersen. *Realtime Digital Augmented Construction – A Technological Readiness analysis with a practical and technological approach.*

Presentation 15:40-16:00

Q&A 16:00-16:10

Chamara Panakaduwa, Paul Coates, and Mustafa Munir. *How artificial intelligence will change the housing retrofit process.*

Presentation 16:10-16:30

Q&A 16:30-16:40

Theatre 1000 – Presentation of Conference Papers

Chair #5: Irene Hayden, ATU

Olivia Golden. *A Methodological Framework for Conducting Qualitative Research to understand the Role of Design Professionals involved in Energy Retrofit and the associated Knowledge and Skills.*

Presentation 16:40-17:00

Q&A 17:00-17:10

Oliver Cleary. *An Investigation into Optimising the Visual Appearance and Thermal Performance of Windows in a Protected Structure with the aid of Modelling and Analysis Software.*

Presentation 17:10-17:30

Q&A 17:30-17:40

Cal Henderson and Dr. Malachy Mathews. *Augmented Reality in Deconstruction: Assessing the Potential for Advancing Circular Methods.*

Presentation 17:40-18:00

Q&A 18:00-18:10

Theatre 1000 – Awards and Closing Remarks

MC / Chair: Irene Hayden, ATU

Summary from Chair #1: Emer Maughan, ATU 18:10-18:02

Summary from Chair #2: Gareth Alexander, Ulster University 18:02-18:04

Summary from Chair #3: Dr Malachy Mathews, TU Dublin	18:04-18:06
Summary from Chair #4: Andy McNamara, ATU	18:06-18:08
Summary from Chair #5: Irene Hayden, ATU	18:08-18:10
Presentation of Awards: Dr Malachy Mathews, TU Dublin, ICAT Chair	18:10-18:25
Closing remarks: Dr Malachy Mathews, TU Dublin, ICAT Chair	18:25-18:30

Event Close