# International Conference 2025:
# Towards Resilient and Sustainable Cities and Communities
# 4-5 September 2025

The Atrium, 0.08 and 0.10 Hugh Aston Building

## Programme

### 4th September 2025

### Welcome address – HU0.08

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| 9am – 9.30 | Participant pack collection from the Atrium |
| 9.30-9.35 | Conference inauguration – HU0.08 – Prof. Subhes Bhattacharyya |
| 9.35-9.45 | Welcome by Prof. Shushma Patel, PVC Dean, Faculty of Technology, Arts and Culture |
| 9.45-9.55 | Welcome by Prof. Siobhan Keenan, ADRI, Faculty of Technology, Arts and Culture |

### Keynote Address – HU0.08

### All presentations and papers for the first day will be active on 4th September 2025

Chair: Prof. Subhes Bhattacharyya

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|---|---|---|
| 10.00-10.30 | Keynote address by Prof. Darren Woolf, Chair of Resilient Cities Group, CIBSE – A Wicked Collaboration: What we're not talking about | DOI 10.5281/zenodo.17042148 |
| 10.35-11.05 | Keynote address by Mr. Michael Seager, Economics and Commercial Manager, Storegga – Hydrogen - driving demand | DOI 10.5281/zenodo.17046210. |
| 11.05-11.15 | Questions and answers | |

**Break 11.15-11.30 – The Atrium**

**11.30-12.30 Morning Parallel session 1 – Urban Resilience - HU0.08**

Chair: Dr Vijay Pakka (DMU)

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|---|---|---|---|
| 11.30-11.45 | Application of Digital Twins for Low Carbon Development and Resilience: A comparative Analysis of Smart City Evolution in New Delhi, New York and London – Arnav Mathur, Kings College, London | Presentation DOI 10.5281/zenodo.17043062 | Link to paper DOI 10.5281/zenodo.17011606. |
| 11.50-12.05 | Rethinking end-of-life renewable energy assets as components of sustainable urban infrastructures – Abhishek Tiwary, De Montfort University | DOI 10.5281/zenodo.17043112. | DOI 10.5281/zenodo.17020603. |
| 12.05-12.30 | Questions, answers and discussions | | |

**11.30-12.30 Morning Parallel Session 2 – Net-zero transitions- HU0.10**

Chair: Prof. Subhes Bhattacharyya (DMU)

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|---|---|---|---|
| 11.30-11.45 | Achieving Net-Zero Targets: Technologies and Economics – Govinda Timilsina, The World Bank | DOI 10.5281/zenodo.17043142. | DOI 10.5281/zenodo.17020959. |
| 11.50-12.05 | Accelerating Progress to Net Zero in UK Local Government – Daniel Kerr, De Montfort University | DOI 10.5281/zenodo.17043248. | DOI 10.5281/zenodo.17021373 |
| 12.05-12.30 | Questions, answers and discussions | | |

**Lunch break 12.30-13.30**

## 13.30-15.00 – Afternoon Parallel Session 1 – Resilient Built Environment – HU0.10

Chair: Prof. Subhes Bhattacharyya (DMU)

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| 13.30-13.45 | Mapping Synergies and Trade-offs Among Climate Resilience Indicators: A Systematic Review Based Cross-Impact Framework for Buildings – Ashmin Aryal (Linnaeus University) | DOI 10.5281/zenodo.17046316 | DOI 10.5281/zenodo.17021561. |
| 13.50-14.05 | A framework for holistic cross scale resilience – Christopher Medland, University of Surrey | DOI 10.5281/zenodo.17047550 | DOI 10.5281/zenodo.17022259 |
| 14.10-14.25 | Design of Resilient Smart Systems for Sustainable Cities and Communities – Dharmesh Shah, Indrashil University, Gujarat, India | DOI 10.5281/zenodo.17047633. | DOI 10.5281/zenodo.17022610 |
| 12.05-12.30 | Questions, answers and discussions | | |

## 13.30-15.00 – Afternoon Parallel Session 2 – Workshop – Civic Research and Collaboration on Sustainability – HU2.08

How can our research partner with and address the needs of our local area and the local government, businesses and organisations in our place? This workshop will hear from the experience of the South Yorkshire Sustainability Centre and provide space to discuss recent DMU collaborative sustainability projects and future opportunities.

This session will be led by Andrew Reeves (DMU) and Jess Thomas, Operations Director, South Yorkshire Sustainability Centre

## 15.00-15.30 - Coffee/ tea break and networking (The Atrium)

## 15.30-17.00 - Post-tea Parallel Session 1 – Sustainable Urban Planning and Living - HU0.08

Chair: Dr Amal Abuzeinab (DMU)

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|---|---|---|---|
| 15.30-15.45 | Reimagining Coastal Prosperity through landscape-led climate adaptation in Lagos, Gulf of Guinea – Esan Oluwasegun Babatunde, University of Lagos, Nigeria | DOI 10.5281/zenodo.17047903 | DOI 10.5281/zenodo.17023274 |
| 15.50-16.05 | Adaptive Façades in Practice: Investigating Predesign Challenges and Opportunities for Sustainable Architecture – Sahar Abdalrahman, De Montfort University | DOI 10.5281/zenodo.17047945. | DOI 10.5281/zenodo.17023421 |
| 16.10-16.25 | Ecologies Beyond Humans: Reimagining Nature-based Solutions through Relational and More-than-Human Perspectives – Shweta Salvi, DMU | DOI 10.5281/zenodo.17048019 | DOI 10.5281/zenodo.17023591 |
| 16.25-17.00 | Questions, answers and discussions | | |

## 15.30-16.30 -Post-tea Parallel Session 2 – Resilient Energy Systems – HU 0.10

Chair: Prof. Muyiwa Oyinlola (DMU)

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| 15.30-15.45 | Alternative Railway Line/Points Heating using thermoelectric Heating – Martin Woodcock, Jacobs Engineering, Birmingham, UK | DOI 10.5281/zenodo.17048108 | DOI 10.5281/zenodo.17023799 |
| 15.50-16.05 | Study of Analyzing the Sustainability of DRE Mini grids in India the Context of Large-Scale Grid Electrification – Gopal K Sarangi, TERI SAS, New Delhi (India) | Not received yet | Not received yet |
| 16.05-16.30 | Questions, answers and discussions | | |

## 05 September 2025 – Second day

### 09.00-09.15 - Networking

### 09.15 – 11.00 – Parallel Morning Session 1 – Liveable and Sustainable Cities and Communities – HU0.08

Chair: Dr Andrew Reeves

All presentation and paper links will be active on 5th of September 2025 for the second day.

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| 09.15-09.30 | Working from home environments to enhance wellbeing and productivity – Amal Abuzeinab, DMU | DOI 10.5281/zenodo.17048180 | DOI 10.5281/zenodo.17041816 |
| 09.35-09.50 | Improving Disposable Income for Micro entrepreneur in the Rural India for Sustainable Community – Vishvjit Thakar, Indrashil University, India | DOI 10.5281/zenodo.17048243. | DOI 10.5281/zenodo.17022610 |
| 09.55-10.10 | An expansion too far? The Contested Space of Environmental Policy Discourses – Andrew Mitchell | DOI 10.5281/zenodo.17048279 | DOI 10.5281/zenodo.17041954. |
| 10.15-10.30 | Enhancing Basic Education as a Foundation for Resilience and Sustainability in Low-Income Mega-Cities: the Case of Lagos, Nigeria – Silifat Okoya, DMU | DOI 10.5281/zenodo.17048402 | DOI 10.5281/zenodo.17041982 |
| 10.30-11.00 | Question and Answer session | | |

### 09.15-11.00 – Parallel Morning Session – Online Session – HU0.10

## Microsoft Teams Need help?

## Join the meeting now

Meeting ID: 326 441 799 991 9

Passcode: Xc7SM7zQ

Chair: Prof. Subhes Bhattacharyya

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|---|---|---|---|
| 09.15-09.30 | Climate Vulnerability and Urban Resilience in Seville: Bioregional Interdependencies and Strategies Towards 2030 – Carlos Tapia Martin, University of Seville, Spain | DOI 10.5281/zenodo.17048456 | DOI 10.5281/zenodo.17042023 |
| 09.40-09.55 | Sustainable Urban Design and People's Perceptions – Ashlesha Passi, TERI SAS, New Delhi (India) | DOI 10.5281/zenodo.17048499 | DOI 10.5281/zenodo.17042037 |
| 09.55-10.10 | Local Government Autonomy and the Urban Political Settlement: Implications for Resilient Cities in Lagos, Nigeria. – Damilola Agbalajobi, Obafemi Awololo University, Nigeria | DOI 10.5281/zenodo.17048564 | DOI 10.5281/zenodo.17042089 |
| 10.15-10.30 | Regulatory Impact of Prepaid Metering on Sustainable Urban Living – Fauzia Tanko, Secretary, Public Utilities Regulatory Commission, Ghana | DOI 10.5281/zenodo.17048912 | DOI 10.5281/zenodo.17049429 |
| 10.30-11.00 | Question and Answer Session | | |

**11.00-11.30 - Tea/ Coffee break – The Atrium, Hugh Aston Building**

**11.30-13.00 – Expert Consultation Workshop (see below) – HU2.08**

**13.00-13.15 – Closing remarks by Subhes Bhattacharyya – HU2.08**

*Expert Consultation: Toward a Composite Resilience Indicator: Exploring Interactions Among Climate Resilience Indicators for Buildings*

**Organized by:** Linnaeus University (LNU)in association with De Montfort University (DMU)

## Overview

As climate-induced stressors such as heatwaves, floods, storms, wildfires, and cold spells intensify, the need to embed resilience into building design and renovation has become increasingly urgent. However, current renovation practices remain largely mitigation-focused, lacking systematic approaches to assess and enhance resilience. There is also no standardized or integrated method to evaluate the climate resilience of buildings.

Currently, there is no widely accepted method for assessing a building's climate resilience, which can make it challenging for decision-makers to identify and prioritize resilient renovation measures. To help address this need, our team is developing a composite resilience indicator framework and a companion scorecard tool designed to support practitioners and policymakers in benchmarking buildings across various climate resilience dimensions.

To address this gap, a research initiative is underway to develop an indicator-based framework for evaluating building resilience, leading to a composite resilience indicator. This workshop serves as a critical step in this process by engaging experts to assess, refine, and explore relationships among resilience indicators across five key domains: thermal, energy, flood, fire, and wind.

We are seeking collaboration with De Montfort University (DMU) to co-host this workshop, provide venue and outreach support, and contribute to advancing this vital area of climate adaptation research.

## Workshop Objectives

1. Present the conceptual framework of integrated resilience indicators developed through a systematic literature review.
2. Facilitate expert review and refinement of a preliminary set of **building-level climate resilience indicators** across four hazard domains.
    a) Flood

   b) Heat Wave and Cold Snap
   c) Fire Resilience
   d) Wind/Storm Resilience
3. Explore potential **interactions, overlaps, and trade-offs** between indicators to inform the development of a robust composite indicator.

## Workshop Design

The workshop will use an interactive format designed to encourage engagement and cross-disciplinary exchange. It will bring together small-group thematic discussions and a shared plenary session, helping participants collectively review and refine the indicator set.

## Workshop Activities

- Introductory briefing on the conceptual framework and rationale for a composite resilience indicator.
- Breakout group discussions by hazard domain (thermal, flood, fire, wind/storm, energy) to review, critique, and refine indicator sets.
- Cross-domain integration session where groups reconvene to identify synergies, conflicts, and potential weighting approaches for a composite metric.

## Expected Outcomes

- A refined and expert-validated set of climate resilience indicators for buildings.
- Expert insights on **indicator interactions and integration** for composite scoring.
- Strengthened **interdisciplinary collaboration** on resilience assessment
- Follow-up engagement through an **online feedback process** to finalize the composite indicator framework.

## Target Participants

- Urban planners, climate adaptation researchers, architects, engineers, policymakers, energy experts, and insurance/risk analysts with experience in resilience and the built environment.

## Workshop Format:

| Time | Activity |
|---|---|
| 11:00-11:15 | **Opening:** Climate Resilience and Buildings - providing the background and guide for workshop |
| 11:15-11:45 | **Group Discussion Round 1**: Cross-domain discussion to finalize refined indicator set |
| 11:45-12:15 | **Group Discussion Round 2:** Discussion finalization of Integrated Resilience Indicators |
| 12:15-13:00 | **Closing Remarks and Next Steps:** Summary of outcomes and outline of online follow-up process |

Note: Outcomes will be further refined through post-workshop feedback, forming the basis of a composite indicator system.