

CUMULUS CONFERENCE

SOUTH AFRICA

26 - 28 NOVEMBER 2025



CALL FOR ABSTRACTS : 20 JAN 2025



Cumulus Conference 2025 | Johannesburg | South Africa

26-28 November 2025

Call for Abstracts | Design Intelligence and 5IR

The bi-annual Cumulus conference, titled 'Design Intelligence and 5IR' will take place from 26-28 November 2025 in Johannesburg, South Africa. This double-blind peer-reviewed conference is hosted by the University of Johannesburg in corporation with the Cape Peninsula University of Technology.

The central theme of the conference focuses on the evolving role of design in the context of the Fourth Industrial Revolution (4IR) and beyond. As designers and design educators, we are at the forefront of technological revolutions that are transforming society, education, workplaces, and homes. These shifts challenge us to rethink our concepts of work, daily life, and societal structures. As we adapt to the ongoing changes of the Fourth Industrial Revolution (4IR), we must also prepare for the emerging Fifth Industrial Revolution (5IR).

A critical question emerges: **How will designers and design education evolve to develop the knowledge and intelligence needed for this new revolution?**

While 4IR focuses on achieving technological efficiency, 5IR aims for a more profound integration of humans and machines, fostering collaboration and co-existence. With the rise of Artificial Intelligence and the Internet of Things, it is crucial to revisit the



importance of Design Intelligence – a uniquely human capability essential for navigating this new landscape. Design Intelligence emphasizes human-centred and humanity-focused innovations, driving the creation of personalised, virtualised products and environments where humans and machines work together seamlessly.

We invite academic papers that explore the intersections of design education, theory, and practice within our rapidly evolving contexts. To this end, the conference is organised around three key sub-themes: **Ubuntu**, **Metaverse**, and **New Materiality**. These sub-themes explore how design can navigate and shape the future, emphasising human-centred approaches, the fusion of digital and physical realities, and the innovative use of materials in response to technological advancements.

Ubuntu

The Southern African philosophy of Ubuntu (loosely translatable as ‘humanity’) shapes how people engage with each other and the world, emphasizing care, compassion, and mutual sustenance within communities and between humans and nature. This relational ontology highlights the interconnectedness of all beings, fostering a sense of collective responsibility as we navigate new realities. As M’Rithaa, Moalosi, and Rapitsenyane (2023) describe, Ubuntu promotes tolerance and deep respect for others, enriching society through the shared gift of humanity.

This theme invites exploration of how Ubuntu influences design, particularly when integrating data-driven decision-making, technology, and artificial intelligence into design thinking and problem-solving. Revisiting Ubuntu and similar forms of indigenous knowledge is crucial in fostering life-affirming and culturally sustainable approaches in the face of technological advancements. We welcome papers that investigate:

- Ubuntu’s Collectivist Worldview: How does Ubuntu counter individualistic approaches in design, and what implications does this have for the creation of design objects?



- Integration of Design Intelligence and Ubuntu: Exploring the synergy between Design Intelligence and Ubuntu in shaping human-centred innovations and solutions.
- Ubuntu in Design Education and Practice: How can Ubuntu principles be embedded in design curricula to cultivate socially conscious designers?
- Ethical AI and Human-Centric Design: What ethical dilemmas arise when AI presupposes agency, and how can Ubuntu inform these discussions?
- Afrofuturism and Indigenous Knowledge: The role of traditional and future-focused philosophies in promoting inclusive and sustainable design.
- Participatory Design and Inclusivity: How can participatory design foster representation and inclusivity, guided by Ubuntu's principles?

Metaverse

The Metaverse embodies the convergence of physical reality and digital virtuality, creating a multi-dimensional universe where augmented reality and artificial intelligence facilitate seamless interactions and collaborations between humans and machines. This integration serves various purposes, from meeting specific needs to producing innovative material solutions. As an expansive realm that transcends traditional boundaries of interactive and virtual realities, the Metaverse enables designers to explore new frontiers. By leveraging the synergy between human and artificial intelligence, designers can craft visionary futures that reflect both human and post-human experiences.

This sub-theme invites an exploration of the Metaverse as a transformative space, encouraging designers to rethink the possibilities and responsibilities of their craft in a rapidly evolving digital landscape. We invite papers that delve into design intelligence in theory, practice, and education, including the following areas:

- Interactive and Virtual Realities: Enhancing user engagement through AR and VR technologies.



- **Extended Realities:** Expanding the scope of immersive experiences and their applications in design.
- **Human and Posthuman-Machine Collaborations:** Exploring the dynamic interplay between humans and intelligent systems in creative processes.
- **Moral and Ethical Considerations:** Addressing the ethical implications of AI and virtual environments, including privacy, agency, and societal impacts.
- **Collaborative Ethos with Cobots:** Investigating the partnership between humans and collaborative robots (“Cobots”) in design (Peshkin & Colgate, 1999).
- **Critical Design:** Challenging conventional design paradigms and proposing speculative alternatives.
- **Artificial Intelligence:** Examining AI’s role in shaping design methodologies and outcomes.
- **Relational Goods, Social Systems, and Resilience:** Analysing how the Metaverse can bolster community resilience and foster social innovation.
- **Displacement and Disruption:** Understanding and interrogating the transformative effects of the Metaverse on traditional practices and societal structures.

New Materiality

In the context of 4IR and 5IR, materiality – the exploration of the tangible – takes on new dimensions within virtual spaces. Historically driven by capitalism and economic expansion and exploitation, the concept of materiality now requires re-examination through the lens of design intelligence to realign meaning-making with the imperative to sustain life on Earth.

We invite papers that address design theory, practice, and education in response to this evolving landscape, including the following themes:

- **Biomimetics or Biomimicry:** Exploring nature-inspired designs and innovations that offer sustainable solutions.



- New Materials, Compounds and Innovative Applications: Investigating the development and use of novel materials in design.
- Critical Heritage Conservation and Restoration: Reevaluating approaches to preserving and restoring cultural heritage through contemporary design practices.
- Material Exploration in Design Artefacts: Delving into the role of materiality in the creation and interpretation of design objects.
- Indigenous Design Intelligence and Materiality: Highlighting the contributions of indigenous knowledge systems to material innovation and sustainable practices.
- Meaning-Making, Sense-Making, and Theoretical Engagement: Addressing critical issues in design practice, emphasizing the importance of theory in shaping and understanding materiality.

Contributions may address these themes directly or investigate the spaces that exist around and between them, shedding light on how design can continue to innovate and respond to the challenges and opportunities of 5IR.

Key Dates

- Abstract submission deadline: **24 March 2025**
- Notification of acceptance **14 April 2025**
- Full paper submission: **4 July 2025**

Abstract Submission Guidelines

Abstracts should be 300-500 words and must include a working title. The abstract should clearly outline the problem statement, methodology, results, conclusions, and contributions to the field. Additionally, please include three to five keywords. For the blind review process, ensure that all author details are removed. Submissions must be in PDF format.

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Enquires

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We look forward to your contributions that will advance the discourse on Design Intelligence and its pivotal role in shaping a future where humans and machines thrive together.

