

ISUF International Conference

June, 17th/20th 2025

Politecnico di Torino, Torino (Italy), Castello del Valentino



URBAN MORPHOLOGY

IN THE AGE OF ARTIFICIAL INTELLIGENCE

CALL FOR ABSTRACT

TOOLS AND CONSCIOUSNESS: A THEORETICAL FRAMEWORK

In explaining urban form through building typologies, Gianfranco Caniggia describes two types of “consciousness” that influence typology: spontaneous consciousness, and critical consciousness. Spontaneous consciousness refers to design and construction strategies that evolve into a practice, establishing rules and codes of urban form. In contrast, critical consciousness describes the process of modifying these codes during a “codification crisis,” a moment when existing strategies can no longer adapt to urban transformation, leading to an awareness of the need for change.

This discussion emphasizes two main aspects of urban morphology: the evolution of form through new conceptual and representational tools, and the descriptions that enable us to define and understand the role of those tools.

URBAN MORPHOLOGY IN THE AGE OF ARTIFICIAL INTELLIGENCE

The conference "Urban Morphology in the Age of Artificial Intelligence" invites researchers and practitioners to explore how AI technologies (in all forms) are transforming the study of urban forms, spatial structures, and city dynamics. It also raises the question: **How do contemporary and emerging tools influence the evolution of urban form and the practice of urban morphology?**

THE URBAN FORM BETWEEN TRADITION AND NEW CHALLENGES

While the question of urban form can be answered through various definitions, it is important to note that in the twenty-first century, artificial intelligence has opened new avenues for both tools and the concept of urban form, which have yet to be fully explored. As AI becomes increasingly prevalent in urban analysis and planning, it is vital to examine not only its potential but also its limitations, ethical considerations, and broader socio-spatial impacts. We encourage papers that address AI from a reflective perspective, considering how it reshapes our understanding of urban forms and urban life, as well as how urban professionals can respond to its challenges and opportunities.

How do these advancements challenge or reinforce traditional urban morphology, and what new paradigms are emerging as a result?

ISUF 2025 encourages further investigation into these transformative influences and their implications for the future of urban morphology and its impact on design, research and pedagogy.

Theme 1

SHAPING THE CITY: Exploring Future Urban Forms

This discussion focuses on the changing physical form of future cities. The transformation of our urban areas often stems from historical events, changes in land use, shifts in population, economic and cultural trends, and political impacts. However, the rapid pace of urbanization, the rise of virtual connections, and technological advancements continually contribute to this process.

This session will delve into cutting-edge urban design concepts and their impacts on sustainability, quality of life, and efficiency in urban settings, ranging from vertical cities to mixed-use developments. Additionally, this session will critically examine the potential challenges and unintended consequences of integrating these concepts into urban planning and design.

Possible track keywords: urban design, AI in city planning, sustainable development, vertical cities, mixed-use developments, urban transformation.

Theme 2

MAPPING THE CITY: Evolving Tools to Study Urban Forms

As cities change, our techniques for studying their forms must also evolve. This session will explore the significant influence of technological advancements on mapping urban forms, morphological classifications, taxonomy, and urban morphometrics. Discussions will center on how these tools are transforming data collection, analysis, and visualization, allowing for deeper insights into urban structures and patterns.

This session will also consider the limitations of these tools and the potential risks of over-reliance on technology in urban decision-making.

Possible track keywords: geospatial analysis, AI-driven mapping, remote sensing, urban morphometrics, data visualization, urban taxonomy, multi-scenario criteria

Theme 3

ENVISIONING THE CITY: Enhancing Theoretical Models of Urban Forms

In the age of AI, the conceptual frameworks that shape our understanding of urban layouts are undergoing significant changes. As stated by Stanislas Chaillou in his 2022 work "Artificial Intelligence and Architecture," this technology is a crucial asset for architects in their planning processes.

This topic investigates the influence of all forms of AI and machine learning technologies on urban forms' transition, focusing on utilizing urban morphology theories to forecast city growth patterns. These new tools significantly aid in making informed planning and urban development decisions. Participants will examine various theoretical models to enhance their understanding of how urban structures are rapidly evolving in modern cities, investigating the use of tools in forecasting urban development and supporting informed planning decisions.

Possible track keywords: urban modeling tools, AI-driven modeling, urban growth prediction, machine learning, urban theories, complexity in urban systems.

Theme 4

AI APPLICATIONS ON URBAN FORMS: City as a Device (Agents & Experiments)

The study of urban morphology is essential in tackling contemporary urban issues. This session will explore how tools in urban morphology in the age of AI could better assist/ inform various sectors, including preserving urban heritage, promoting energy efficiency, and implementing sustainable urban planning strategies. Participants will present case studies and practical examples demonstrating the significant impact of morphological analysis in enhancing cultural heritage conservation, optimizing energy use, and promoting sustainable development initiatives. Additionally, they will engage in critical discussions about treating cities as "devices" optimized by AI while ensuring resilience, diversity, and social equity.

Possible track keywords: AI applications, heritage conservation, urban sustainability, energy efficiency, optimization, city as a device, teaching with AI (methodology and experiences)

CALL FOR ABSTRACTS

We are pleased to invite you to participate in the 2025 International Seminar on Urban Form. The 32nd edition will be held in Torino, Italy. We hope to receive numerous contributions on the topics highlighted in this outline.

The dates of the conference are from June 17th to 20th, 2025. The deadline to submit abstracts is February 3rd, 2025. Applicants will receive a response regarding the acceptance of their proposals by March 10th.

Abstracts must be written in English, with a word limit of 300 words. A template will be provided on the ISUF 2025 website.

To submit an abstract with a contribution proposal, please choose one of the following topics:

- 1. SHAPING THE CITY: Exploring Future Urban Forms**
- 2. MAPPING THE CITY: Evolving Tools to Study Urban Forms**
- 3. ENVISIONING THE CITY: Enhancing Theoretical Models of Urban Forms**
- 4. AI APPLICATIONS ON URBAN FORMS: City as a Device (Agents & Experiments)**

Applicants may submit more than one abstract for review. The abstracts will be peer-reviewed, and to facilitate the blind review process, individual authors and institutions should not be identified in the body of the abstract.

Abstracts should be submitted through the SYMPOSIUM platform via the link provided on the ISUF 2025 website. Registrations will also be managed through the SYMPOSIUM platform. Detailed information on registration fees is available on the SYMPOSIUM platform.