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ICBE 2026

MAY 08th-09th, 2026
POLIS University, Tiranë

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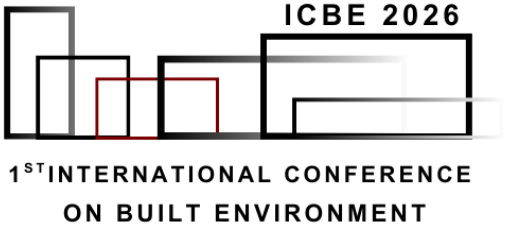
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1st International Conference on Built Environment

ICBE 2026

Conference Theme and Rationale

The 1st International Conference on Built Environment (ICBE 2026) was conceived as an international and interdisciplinary forum for advancing knowledge, critical discussion, and innovation across architecture, urban planning, engineering, construction, materials, design, and the wider built environment. Organized by POLIS University in collaboration with the National Agency for Scientific Research and Innovation in Albania (AKKSHI), the Academy of Sciences of Albania and the University of Ferrara in Italy, the conference brought together academics, researchers, practitioners, students, and industry representatives to exchange research findings, professional experience, and emerging perspectives on the transformation of contemporary cities and territories.

The conference theme reflected the increasingly complex challenges shaping the built environment, with particular attention to sustainability, resilience, technological innovation, heritage preservation, and socially responsive design. Contributions addressed sustainable architecture and green building, innovative construction technologies and materials, climate-responsive and energy-efficient design, disaster risk reduction, circular approaches to construction, and the integration of renewable energy. Equal emphasis was placed on digital transformation through Building Information Modeling, Geographic Information Systems, artificial intelligence, data analytics, automated solutions, digital fabrication, and advanced manufacturing.

ICBE 2026 also recognized that the future of the built environment cannot be approached through technological innovation alone. Urban transformation, cultural heritage, adaptive reuse, inclusive design, ecological thinking, art, and interdisciplinary research were therefore integral to the conference rationale. The scientific sessions examined topics ranging from seismic resilience, geotechnical engineering, and structural safety to urban fragmentation, public space, heritage conservation, adaptive environments, and new relationships between human and non-human systems.

Through keynote lectures, scientific presentations, case studies, and interdisciplinary debate, the conference encouraged connections between research and practice while promoting approaches capable of responding to environmental, social, cultural, and technological change. The breadth of contributions demonstrated the value of bringing engineering, architecture, urbanism, design, heritage, and emerging technologies into a shared academic framework for more resilient, sustainable, adaptive, and human-centered environments.

Held on 8-9 May 2026 at POLIS University in Tirana, with in-person and online participation, ICBE 2026 welcomed guest speakers and participants from Albanian and international universities, research institutions, professional organizations, and industry. Its sessions established a platform for presenting current research, exchanging expertise, strengthening meaningful collaboration, and identifying future directions for the built environment.

The event

The **1st International Conference on Built Environment (ICBE 2026)** is an interdisciplinary academic and professional forum dedicated to exploring contemporary challenges, emerging research, and innovative approaches shaping the future of the built environment. Bringing together researchers, academics, architects, engineers, urban planners, designers, practitioners, and industry professionals, the conference promotes the exchange of knowledge and encourages collaboration across traditionally interconnected disciplines. Its thematic scope encompasses sustainable and resilient construction, technological innovation, advanced building materials, urban transformation, cultural heritage, and interdisciplinary design approaches. Particular attention is given to the growing role of digital technologies, data-driven methodologies, intelligent design processes, and advanced analytical tools in supporting more informed and responsive approaches to architecture, engineering, and urban development. At the same time, ICBE 2026 recognizes the importance of environmental responsibility, cultural identity, social needs, and human-centered design in shaping contemporary cities and territories. Through keynote lectures, scientific sessions, case studies, and interdisciplinary exchange, the conference provides a platform for presenting current research, discussing professional experiences, and developing new perspectives capable of contributing to **safer, more sustainable, adaptive, inclusive, and resilient built environments**.

Objectives

- Promote interdisciplinary collaboration among researchers, academics, practitioners, and professionals in architecture, engineering, urban planning, construction, design, heritage, and related fields of the built environment.
- Advance the use of digital technologies and innovative methodologies, including BIM, GIS, artificial intelligence, data analytics, digital fabrication, and parametric approaches, in research and professional practice.
- Encourage sustainable, resilient, and climate-responsive approaches to architecture, construction, and urban development through innovative materials, energy-efficient strategies, and environmentally responsible design.
- Address contemporary challenges affecting cities, buildings, and infrastructure through scientific research, applied case studies, evidence-based approaches, and innovative design solutions.
- Promote the conservation, transformation, and adaptive reuse of cultural heritage, balancing cultural identity, contemporary needs, structural safety, and responsible urban development.
- Support human-centered and socially responsive urban transformation, considering public space, mobility, ecological systems, community needs, and the wider social and economic impacts of the built environment.
- Provide a platform for knowledge exchange and emerging research, enabling scholars, young researchers, professionals, and students to present innovative ideas, strengthen international collaboration, and contribute to future directions in the built environment.

Main Conference Themes

- Sustainable architecture and green building practices.
- Innovations in construction technologies and materials.
- Heritage preservation and adaptive reuse in the built environment.
- Digital tools and smart technologies in architecture and construction (e.g., BIM, GIS).
- Climate-responsive and energy-efficient design.
- Disaster risk reduction and resilience in the built environment.
- Circular economy approaches in construction and material usage.
- Integration of AI and data analytics in building design.
- Acoustic and thermal performance in building design.
- Renewable energy integration in building systems.
- Advanced manufacturing techniques in construction, such as 3D printing.
- Innovations in construction technologies and materials.
- Heritage preservation and adaptive reuse in the built environment.
- Disaster risk reduction and resilience in the built environment.
- Digital tools and smart technologies in architecture and construction.
- Advanced manufacturing techniques in construction.
- Geotechnical Engineering for Sustainable Development.
- Cartography and Geographic Information System.
- Computer Automated Solutions for Built Environment.
- Reliability in Civil Engineering.
- Urban planning strategies for resilient cities.
- Climate-responsive and energy-efficient design.
- Regulatory frameworks and policies impacting construction and urban development.
- Design in the Era of Anthropocene (Rethinking the Relation between Human and Non-Human Species)
- Speculative Design (with Attention to “Discursive” and “Critical” Design)
- Design and Cross-Disciplinarity (with Emphasis on Processes rather than Design Outputs)
- Inclusive Design
- Art and Urban Regeneration (Focus on Participatory, Collaborative, and Research-Based Practice)
- Relational Art and Architecture
- Monuments and ‘Anti-Monuments’ (Particular Attention to the Process of Designing and Building the City)

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The conference is structured around six thematic sessions, each addressing a specific area of research and practice within the built environment.
Each session is coordinated by experts in the relevant disciplinary field and is open to professors, researchers, PhD candidates, and other scholars and professionals contributing to the conference themes.

SESSION I
Urban Planning and Societal Impact

Chair: Dr. Gent Avdija

This session examines the relationship between urban transformation, spatial development, and their social implications within contemporary cities. Contributions address rapid urbanization, urban fragmentation, the transformation and loss of public space, informal and spontaneous development, and the challenges associated with balancing growth and modernization with human-scale urban environments. Particular attention is given to the evolving conditions of Albanian cities and to planning approaches capable of supporting more inclusive, sustainable, socially responsive, and livable urban environments.

SESSION II
Sustainable Materials, Resilient Construction & Smart Design

Chair: Dr. Endri Duro

This session explores innovative approaches to sustainable construction, resilient structural systems, and environmentally responsive design. Particular attention is given to sustainable materials, energy-efficient and climate-responsive strategies, prefabricated and lightweight construction technologies, and human-centered approaches to structural and architectural design. The session investigates how material innovation, technological development, and responsible design practices can contribute to safer, more efficient, adaptable, and environmentally sustainable built environments.

SESSION III
Technological Advancements and Seismic Design for Resilient Places

Chairs: Dr. Seyyed Behrad Emadi & Dr. Ornela Şen

This session examines the role of technological innovation and advanced engineering methodologies in developing safer, more resilient, and adaptable built environments. Contributions address seismic hazard and risk assessment, digital fabrication, parametric and computational approaches, transformations of building envelopes and prefabricated housing systems, and emerging concepts for future urban mobility. The session highlights how the integration of engineering knowledge, digital technologies, and resilience-oriented design can strengthen the capacity of buildings, infrastructure, and urban environments to respond to contemporary and future challenges.

SESSION IV

Cultural Heritage

Chairs: Dr. Nikolla Vesho & Dr. Marsela Demaj

This session addresses the preservation, interpretation, and transformation of cultural heritage within contemporary architectural and urban contexts. Contributions explore conservation strategies for historic buildings and sacred architecture, seismic assessment and strengthening of heritage structures, adaptive reuse, and the social implications of urban regeneration and heritage loss. Particular emphasis is placed on achieving a responsible balance between conservation ethics, cultural identity, structural safety, and the evolving functional requirements of historic buildings and urban environments.

SESSION V

Spaces of Connection: Art and Design for an Interspecies and Interdisciplinary Environment

Chair: Dr. Francesco Scasciamacchia

This session explores the intersections of art, architecture, design, technology, and the built environment through interdisciplinary and experimental perspectives. It investigates changing relationships between human and non-human systems, spatial perception, adaptive reuse, post-industrial landscapes, urban representation, digital heritage, and environmentally and socially engaged design practices. Through critical, speculative, participatory, and research-based approaches, the session examines how art and design can generate new forms of connection, reinterpret existing environments, and contribute to emerging cultural and spatial narratives within contemporary cities.

SESSION VI

Next-Generation Pioneers of the Built Environment

Chair: Dr. Flogerta Krosi

This session provides a dedicated platform for emerging researchers and students to present innovative, experimental, and forward-looking approaches to the built environment. Contributions span architecture, engineering, urban planning, environmental resilience, design, and related creative disciplines, reflecting the interdisciplinary character of a new generation of researchers and practitioners. Through projects addressing topics such as bioclimatic design, flood-risk management, structural technologies, architecture-inspired design, and critical interpretations of objects and social space, the session encourages critical inquiry, experimentation, and new perspectives on the future of the built environment.

Layout & Design:

Dr. Kristiana Meço

Msc. Erjon Çobani

POLIS University Contact:

Rr. Bylis 12, Autostrada Tiranë-Durrës, Km 5, Kashar

Kodi Postar 1051, Kutia Postare 2995

Tiranë, Albania

Tel: +355.(0)4.2407420 / +355.(0)4.2407421

Fax: +355. (0)4.2407422

Mob: +355 (0) 69 40 88 111

Email: contact@universitetipolis.edu.al

Website: www.universitetipolis.edu.al

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Spaces of Connection: Art and Design for an Interspecies and Interdisciplinary Environment

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Human and non-human environments: Interspecies design / Ecological relationships / Human–environment interaction / Alternative spatial narratives.

Critical and speculative approaches: Critical design / Speculative design / Spatial perception / Relational art and architecture.

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Representation, heritage and material experimentation: Urban photography / Digital heritage interpretation / Textile upcycling / Material reuse / New cultural narratives.

AI as a Designer:
The Future of Taste and Creativity in Automotive Design

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Gregor ANDONI
ORCID 0009-0005-2715-5867
POLIS University, Albania
gregor_andoni@universitetipolis.edu.al

Abstract

Artificial Intelligence (AI) is rapidly transforming design disciplines, introducing new possibilities for creativity, efficiency, and innovation. Within the automotive industry, AI-driven design tools are increasingly being employed to generate concepts, optimize performance, predict consumer preferences, and support decision-making processes. These developments raise fundamental questions regarding the future of creativity, aesthetic judgment, and the role of human designers in shaping automotive form and identity. This paper explores the emergence of AI as an active participant in automotive design and examines its implications for taste, authorship, and creative production. Through a review of current technological developments and theoretical perspectives on creativity, the study analyzes the opportunities and challenges associated with AI-generated design. The paper argues that AI should not be understood as a replacement for human creativity but rather as a collaborative design partner capable of expanding creative possibilities and transforming traditional design methodologies. The concept of machine-assisted creativity suggests a future in which human intuition and computational intelligence coexist, reshaping the design process and redefining the meaning of authorship in automotive design.

***Keywords**: Artificial Intelligence, Automotive Design, Creativity, Machine Learning, Design Innovation, Generative Design, Human-AI Collaboration, Aesthetic Judgment.*

1. INTRODUCTION

The automotive industry has long been recognized as one of the most influential fields of industrial design, combining engineering performance, technological innovation, and aesthetic expression. Throughout the twentieth century, automotive design evolved through the creative vision of designers who translated cultural values, technological aspirations, and consumer desires into physical products. From the streamlined forms of early modern automobiles to contemporary electric vehicles, design has played a critical role in shaping the identity and market success of automotive brands.

In recent years, however, the emergence of Artificial Intelligence (AI) has begun to challenge traditional understandings of design practice. AI systems are now capable of generating visual concepts, analyzing consumer behavior, predicting market trends, and proposing design solutions based on large datasets. These capabilities have introduced a new paradigm in which computational systems are not merely tools used by designers but active participants in the creative process.

The integration of AI into automotive design raises significant questions. Can machines truly be creative? How does AI influence aesthetic decision-making? What happens to human authorship when algorithms generate design proposals? More importantly, how will AI reshape future notions of taste and creativity within the automotive industry?

This paper investigates these questions by examining the relationship between AI, creativity, and automotive design. It explores how AI technologies are influencing contemporary design practices and considers the broader implications for the future of the discipline.

2. AI AND THE EVOLUTION OF DESIGN PRACTICE

The history of design has always been closely connected to technological innovation. The introduction of computer-aided design (CAD) systems in the late twentieth century revolutionized industrial design by improving precision, visualization, and efficiency. Today, AI represents the next stage in this technological evolution.

Unlike traditional digital tools, AI systems can learn from data, recognize patterns, and generate original outputs. Machine learning algorithms can analyze thousands of design examples and identify relationships that may not be immediately visible to human designers. Generative AI systems can produce hundreds of design alternatives within seconds, allowing designers to explore a wider range of possibilities than ever before.

In automotive design, AI is being used for concept generation, aerodynamic optimization, material selection, and user experience design. Advanced algorithms can evaluate multiple performance criteria simultaneously, balancing aesthetic considerations with engineering requirements. As a result, the design process becomes increasingly data-driven and computationally enhanced.

This shift does not simply improve efficiency; it fundamentally changes how design problems are approached. Rather than manually developing individual concepts, designers can collaborate with AI systems to generate and evaluate numerous design solutions. Consequently, the role of the designer evolves from creator to curator, strategist, and decision-maker.

3. CREATIVITY AND ARTIFICIAL INTELLIGENCE

Creativity has traditionally been regarded as a uniquely human capacity involving imagination, intuition, emotion, and cultural understanding. Philosophers and psychologists have long associated creative thinking with originality and the ability to produce meaningful innovations.

The emergence of AI-generated art and design challenges these assumptions. Contemporary AI systems can create visual compositions, music, architecture, and product designs that appear highly innovative and aesthetically sophisticated. Generative Adversarial Networks (GANs), diffusion models, and large-scale machine learning systems can produce outputs that are often indistinguishable from human-created works.

However, whether these outputs constitute genuine creativity remains a subject of debate. Critics argue that AI does not truly understand meaning or intention. Instead, it recombines patterns extracted from existing datasets. According to this perspective, AI lacks consciousness, subjective experience, and cultural awareness, all of which are essential components of human creativity.

Supporters of AI creativity suggest that creativity itself may be understood as a process of recombination and innovation. If originality emerges through the creation of new relationships between existing elements, AI systems may indeed possess a form of computational creativity.

In automotive design, this debate becomes particularly relevant because vehicle aesthetics involve both functional requirements and emotional responses. While AI can generate innovative forms, human designers remain essential for interpreting cultural meanings, consumer aspirations, and brand identities.

4. AI AND AESTHETIC TASTE IN AUTOMOTIVE DESIGN

Taste plays a central role in automotive design. The success of a vehicle often depends not only on technical performance but also on its visual appeal and emotional resonance with consumers.

Traditionally, aesthetic taste has been shaped by designers, cultural trends, and market preferences. Designers rely on experience, intuition, and cultural awareness to create forms that reflect contemporary values and future aspirations. AI introduces a new dimension to this process by enabling the analysis of vast amounts of consumer data.

Machine learning algorithms can identify aesthetic preferences across different demographics, regions, and markets. By analyzing social media interactions, purchasing behavior, and consumer feedback, AI systems can predict emerging trends and suggest design features likely to appeal to specific audiences.

This capability has significant implications for the future of taste. On one hand, AI can help manufacturers better understand consumer desires and create products that align with market expectations. On the other hand, excessive reliance on data-driven design may lead to homogenization, reducing diversity and experimentation in automotive aesthetics.

A key challenge therefore lies in balancing predictive analytics with creative risk-taking. While AI can reveal what consumers currently prefer, transformative design often emerges from unexpected innovations that challenge existing tastes rather than simply reflecting them.

5. GENERATIVE DESIGN AND AUTOMOTIVE INNOVATION

One of the most promising applications of AI in automotive design is generative design. Generative design systems use algorithms to automatically create multiple design solutions based on predefined objectives and constraints.

In automotive development, designers can specify parameters such as weight, strength, aerodynamics, sustainability, and manufacturing requirements. The AI system then generates numerous design alternatives optimized according to these criteria.

This approach significantly expands the design space available to designers. Solutions that might never have been considered through conventional methods can emerge through computational exploration. Complex structural geometries inspired by biological systems often result in lighter and more efficient components.

Generative design also supports sustainability objectives. By optimizing material usage and reducing waste, AI contributes to more environmentally responsible manufacturing practices. As electric vehicles become increasingly important, lightweight and efficient design solutions will play a critical role in improving vehicle performance and energy efficiency.

The integration of generative design demonstrates how AI can function not merely as an analytical tool but as a creative partner capable of proposing innovative solutions.

6. HUMAN-AI COLLABORATION IN AUTOMOTIVE DESIGN

Despite concerns regarding automation, most experts agree that the future of automotive design will involve collaboration rather than replacement. Human designers and AI systems possess different strengths that can complement one another.

AI excels at processing large datasets, identifying patterns, and generating alternatives at unprecedented speed. Human designers contribute emotional intelligence, ethical judgment, cultural sensitivity, and strategic vision. Together, these capabilities create opportunities for

enhanced creativity and innovation.

In collaborative design environments, AI can automate repetitive tasks, allowing designers to focus on conceptual development and creative decision-making. Designers become curators who evaluate, refine, and contextualize AI-generated proposals.

This collaborative model reflects broader shifts within contemporary design practice. Rather than viewing technology as a threat to creativity, designers increasingly recognize AI as a tool that expands creative possibilities and facilitates experimentation.

The success of this partnership depends on maintaining human oversight and ensuring that technological innovation remains aligned with social, cultural, and ethical values.

7. ETHICAL AND CULTURAL CHALLENGES

The growing influence of AI in design also raises important ethical concerns. Questions of authorship, intellectual property, transparency, and accountability become increasingly complex when design outputs are generated through machine learning systems.

Who owns an AI-generated design? Is the author the designer, the programmer, the company that developed the algorithm, or the AI system itself? Existing legal frameworks struggle to address these questions.

Bias represents another significant challenge. AI systems learn from historical datasets that may contain cultural, social, or aesthetic biases. Consequently, AI-generated designs may reproduce existing patterns rather than encouraging diversity and innovation.

Furthermore, excessive dependence on algorithmic decision-making risks diminishing the cultural richness that characterizes human creativity. Automotive design has historically served as a reflection of societal values and aspirations. Preserving this cultural dimension remains essential as AI becomes more deeply integrated into design processes.

Ethical governance and responsible implementation will therefore play a crucial role in ensuring that AI contributes positively to the future of automotive design.

8. TOWARDS A NEW DEFINITION OF CREATIVITY

The integration of AI into automotive design challenges traditional distinctions between human and machine creativity. Rather than replacing designers, AI encourages a broader understanding of creativity as a collaborative process involving multiple forms of intelligence.

Future creativity may emerge from interactions between human imagination and computational capabilities. Designers will increasingly work alongside intelligent systems that enhance exploration, support decision-making, and facilitate innovation.

This transformation requires a shift in educational and professional practices. Future designers will need not only artistic and technical skills but also an understanding of data science,

machine learning, and human-computer interaction. The designer of the future may function as both creator and orchestrator, guiding complex networks of human and artificial intelligence.

Such developments suggest that creativity itself is evolving. Instead of being defined solely by individual genius, creativity may increasingly be understood as a distributed and collaborative phenomenon.

9. CONCLUSION

Artificial Intelligence is transforming automotive design by introducing new forms of creativity, innovation, and decision-making. Through machine learning, generative design, and predictive analytics, AI enables designers to explore broader design possibilities and develop more efficient and responsive solutions.

This paper has examined the implications of AI for creativity, aesthetic taste, and design authorship within the automotive industry. It has demonstrated that AI challenges traditional understandings of design while simultaneously creating opportunities for new forms of collaboration between humans and machines.

The future of automotive design is unlikely to be defined by the replacement of human designers. Instead, it will be characterized by hybrid forms of creativity in which human intuition, cultural understanding, and ethical judgment are complemented by computational intelligence. In this emerging landscape, AI becomes not merely a tool but a creative partner.

Ultimately, the question is not whether AI can replace designers, but how designers and AI can work together to create meaningful, sustainable, and innovative automotive experiences. The future of taste and creativity in automotive design will depend on maintaining this balance between technological capability and human imagination.

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