BOOK OF PROCEEDINGS

1st International Conference on Built Environment

ICBE 2026

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

ISBN: 9789928347282

DOI: 10.37199/c4100031

CIP Katalogimi në botim BK Tiranë

Universiteti Polis

1st international conference on built environment (icbe) :

may 08th-09th, 2026 : book of proceedings / POLIS University,

Tirane. - Tiranë : Universiteti Polis, 2026. 1 burim në linjë (... f.)

ISBN 9789928347282

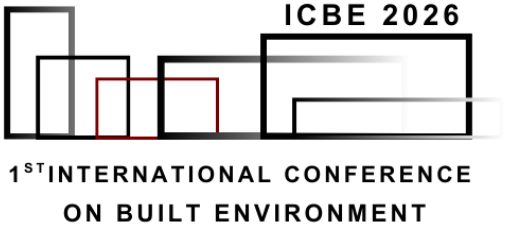
1.Arkitektura 2.Konferenca

72 (062)

BOOK OF PROCEEDINGS

1st International Conference on Built Environment

ICBE 2026



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

ISBN: 9789928347282

DOI: 10.37199/c4100031

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)

Committees

Scientific Committee

Prof. Dr. José Turmo / Universitat Politècnica de Catalunya · BarcelonaTech (UPC), Spain
Prof. Dr. José Antonio Lozano-Galant / University of Castilla-La Mancha (UCLM), Spain
Assoc. Prof. Dr. Francisco Javier Castilla Pascual / University of Castilla-La Mancha (UCLM), Spain
Prof. Emeritus Dr. Pantoleon Skayannis / University of Thessaly, Greece - POLIS University
Acad. Prof. Dr. Gëzim Hoxha / Academy of Sciences of Albania
Acad. Prof. Dr. Stefan Çapaliku / Center for Arts Studies, Academy of Sciences of Albania
Prof. Dr. Roberto Di Giulio / Department of Architecture, University of Ferrara, Italy
Assoc. Prof. Dr. Theo Zaffagnini / Department of Architecture, University of Ferrara, Italy
Prof. Emeritus Dr. Sherif Lushaj / POLIS University
Prof. Thoma Thomai / POLIS University
Prof. Dr. Besnik Aliaj / POLIS University
Assoc. Prof. Dr. Mario Ferrari / POLIS University
Dr. Elona Karafili / POLIS University
Assoc. Prof. Dr. Merita Toska / POLIS University
Dr. Manjola Hoxha / POLIS University
Assoc. Prof. Dr. Skënder Luarasi / POLIS University
Assoc. Prof. Dr. Llazar Kumaraku / POLIS University
Adjunct Prof. Dr. Svetlana Brzev / University of British Columbia, Canada
Andrew Charleson, Adjunct Research Fellow / Victoria University of Wellington, New Zealand
Dr. Seyyed Behrad Emadi / Imperial College London
Dr. habil. Eng. Jarosław Górecki / Bydgoszcz University of Science and Technology, Poland
Prof. Giuseppe Mincolleli / Department of Architecture, University of Ferrara, Italy
Prof. Dr. Panagiotis Kyriatsis / University of Western Macedonia, Greece
Dr. Ledian Bregasi / POLIS University
Assoc. Prof. Dr. Merita Guri / POLIS University
Dr. Sonia Jojiç / POLIS University
Dr. Ilda Rusi / POLIS University
Dr. Klodjan Xhexhi / POLIS University
Dr. Keti Hoxha / POLIS University
Dr. Kristiana Meço / POLIS University
Dr. Endri Duro / POLIS University
Dr. Malvina Istrefaj / POLIS University
Dr. Ornela Sen / POLIS University
Dr. Nikolla Vesho / POLIS University
Dr. Blerim Nika / POLIS University
Dr. Genti Avdija / POLIS University
Dr. Marsela Plyku Demaj / POLIS University

Organizer Committee

Chairs:

Dr. Ilda Rusi / POLIS University

Dr. Klodjan Xhexhi / POLIS University

Dr. Sonia Jojiç / POLIS University

Co-Chairs:

Dr. Endri Duro / POLIS University

Dr. Kristiana Meço / POLIS University

Members:

Acad. Assoc. Prof. Dr. Rrapo Ormeni / Academy of Sciences of Albania

Acad. Prof. Dr. Gëzim Hoxha / Academy of Sciences of Albania

Acad. Prof. Dr. Stefan Çapaliku / Center for Arts Studies, Academy of Sciences of Albania

Mirela Muça, MA / General Director, National Agency of Scientific Research and Innovation (AKKSHI), Albania

Assoc. Prof. Dr. Sotir Dhamo / POLIS University

Assoc. Prof. Dr. Merita Guri / POLIS University

Dr. Ledian Bregasi / POLIS University

Keynote Speakers

Adjunct Prof. Dr. Svetlana Brzev / University of British Columbia, Canada

Assoc. Prof. Dr. Markel Baballëku / Polytechnic University of Tirana, Albania

Eng. Daniel Naterop / DNGeo Consulting - SISGEO, Switzerland

Eng. Skënder Allkja / ALTEA & GEOSTUDIO 2000, Albania

Dr. Stefano Romano / Center for Arts Studies, Academy of Sciences of Albania

Assoc. Prof. Dr. Alessandro Massarente / Department of Architecture, University of Ferrara, Italy

Industry & Construction Partners

Lindner Albania / Interior Fit-Out, Building Envelope & Construction Solutions

Saint-Gobain Albania / Sustainable Construction Materials & Building Solutions

ALUMIL Albania SHPK / Architectural Aluminum Systems & Building Envelope Solutions

Scientific Secretariat

Dr. Kristiana Meço / POLIS University

Msc. Eng. Erjon Çobani / POLIS University

Msc. Tekla Tasho / POLIS University

Msc. Vjola Ziu / POLIS University

Web Designer

Msc. Altin Sula / POLIS University

MSc. Nikol Doda / POLIS University

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

Table of Contents

SESSION I 14

Urban Planning and Societal Impact 14

The Fading Public Realm: 5

From Expansive Open Spaces to Morphological Compression in Durres' Rapid Urban Growth

Arjola SAVA 5

Spontaneous Architecture as Adaptive Metabolism in Post-Socialist Cities Renis Batalli 18

The ground floor as an urban interface: the human-building relationship and the Loss of Urban Contact Avrili MESHI 35

Urban Blueprint and Compatible Growth: 45

A Multi-Scalar Morphological Method for Sustainable Transformation in 45

Erseke, Albania **Mario DINE** 45

Examining the Internal Anatomy of Socialist-Era Hotels in Albania: 58

Spatial organisation, Geometry, Structure, Circulation, and Function**Malvina Istrefaj(KOLIÇI)** 58

Urban Construction Through Destruction Sotir DHAMO 73

SESSION II 87

Sustainable Materials, Resilient Construction & Smart Design 87

Human Centered Design in Civil Engineering Ilda RUSI, Albi ALLIAJ 88

The courtyard as a climate-responsive and resilient spatial strategy: the case of Novi Pazar Elma MAHMUTOVIĆ, Dragana KONSTANTINOVIĆ 103

Numerical assessment of the thermal performance of a heated and cooled floor containing upgraded phase change materials Oumayma BABAHARRA, Khadija CHOUKAIRY 121

Eco-Friendly Building Envelopes: 132

Thermal, Energy, Cost, and Time Performance of Prefabricated Lightweight MRC Panels in Residential Construction **Erjon ÇOBANI, Flogerta KROSI, Ornela ŞEN** 132

SESSION III 156

Technological Advancements and Seismic Design for Resilient Places 156

Identification and assessment of resident-driven façade interventions in prefabricated large panel buildings: 157

the case of Tirana Flogerta KROSI, Alma GJONAJ, Merita GURI, Ornela ŞEN, Endri DURO 157

Tirana_ toward a (non) resilient city of the future 173

Re-shaping mobility and bring back "La raison d'être of the city" **Ina MUSAI** 173

A Seismic Hazard Model of Albania 187

Case study: Kukes, Berat and Himarë **Anila XHAHYSA, Neki KUKA** 187

Phenomeno-Parametrism: 203

Translating Place Experience into Parametric **Markeljan LLESHI** 203

SESSION IV 217

Cultural Heritage 217

Preserving and Adapting Sacred Architecture: 218

A Case Study of the Jazak Monastery **Una RADIVOJEVIĆ**.....218

Monumentality Reconsidered: Heritage Preservation and Adaptive Reuse through the Theories of Robert Venturi and Aldo Rossi **Harika SHEHABI** 233

Seismic Performance Assessment of Historic Stone Masonry Buildings: 245

The Case of the Angonate Residence, Gjirokastër **Alma GJONAJ, Merita GURI, Endri DURO**... 245

Future Heritage by Design: 258

New Design Approaches to Heritage Reuse **Gregor ANDONI, Kristiana MEÇO** 258

SESSION V.....267

Spaces of Connection: Art and Design for an Interspecies and Interdisciplinary Environment 267

Heritage as Narrative:.....268

Building City Image Through Adaptive Reuse in Durrës **Vjola ZIU, Remijon PRONJA** 268

The Extraordinary Everyday Children's Spatial Agency as Anti Monumental Practice **Xhoi MUSLIAKA** 281

'Liminal Architectural Bodies' in Post-Industrial Kuçova:.....298

From an Ecological Perspective to an Aesthetic realm **Dorina XHERIMEJA, Aishe BITRI**.....298

IN Illyria, Episode I: Apollonia 311

A Pixel-Art Game Framework for Archaeological Interpretation and Cultural Heritage Learning **David KRYEMADHI, Nikolla VESHO, Skervi BAUSHI, Remijon PRONJA, Kujtim HALILI**.....311

In the Age of Material Transformation: Textile Design and Upcycling **Armela LAMAJ**.....326

AI as a Designer:.....336

The Future of Taste and Creativity in Automotive Design **Gregor ANDONI** 336

The Secondary Archive: 342

Collective Memory, Mental Images and AI-Assisted Representations in a Transforming Tirana **Dejvi DAUTI** 342

SESSION VI.....352

Next-Generation Pioneers of the Built Environment 352

Performance-Based Bioclimatic Design of a Kindergarten in Tirana: Integration of Passive Systems and Dynamic Simulation **Erald MEÇE, Afërdita MUHAMEDI, Verona HYSI, Klodjan XHEXHI**.....353

Integrated Flood Risk Management in Albania: 363

Human drivers, Basin dynamics and Policy gaps **Zejd BUSHATI, Esad MALAJ, Erjon ÇOBANI, Merita GURI** 363

Steel frame technology for residential buildings:.....383

A comparative thesis-antithesis study versus reinforced concrete systems **Elton AHMETAJ, Erjon ÇOBANI, Merita GURI** 383

DOUBLE SKIN:.....394

How does the "Double Skin" concept interact with our body in the field of fashion design? **Desara LLESHI**.....394

Chairs as instruments in the construction of social roles and human bodies Aurora BALLA 401

Autonomy as a Value:.....409

Design and Branding in the Post-Fordist Era **Irena ALIAJ, Erson RAMAJ**.....409

SESSION V

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

Art, architecture and interdisciplinary design: Art–architecture relationships / Cross-disciplinary practice / Experimental design / Research-based creative processes.

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.

H Adaptive and post-industrial environments: Adaptive reuse / post-industrial landscapes / Urban regeneration / Transformation of existing spaces.

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

The Secondary Archive:
Collective Memory, Mental Images and AI-Assisted Representations in a Transforming Tirana

DOI: 10.37199/c4100056

Dejvi DAUTI
ORCID 0009-0003-0662-1860
POLIS University, Albania
dejvi_dauti@universitetipolis.edu.al

Abstract

Tirana, the capital of Albania, has experienced an intense phase of urban transformation over the last two decades. Large-scale redevelopment, densification and the redesign of public spaces have significantly altered the physical configuration of the city and, consequently, the ways in which its inhabitants perceive and remember urban places. This paper investigates how collective memory can function as a secondary archive for understanding rapidly transformed urban environments. Focusing on selected central areas of Tirana that have undergone significant physical reconfiguration, the research examines the relationship between contemporary architectural interventions and residents' memories of the same urban fragments. Grounded in theories of mental mapping, mental representation and collective memory, the study considers individual recollections not as subjective accounts external to architectural knowledge, but as spatial evidence capable of revealing forms of continuity, disappearance and transformation that are not necessarily contained within official archives. Memory-based narratives, drawings and mental maps are therefore proposed as primary research material and are compared with historical archival sources and the contemporary urban condition. The paper further proposes an AI-assisted methodology for processing and relating these heterogeneous sources. Rather than replacing historical documentation, artificial intelligence is understood as an analytical and generative instrument capable of identifying recurring spatial references and visualizing relationships between documented and remembered environments. The resulting framework contributes to a broader understanding of urban resilience by positioning memory, identity and belonging as dimensions of the built environment that should be considered alongside physical transformation.

Keywords: *Memory, Image, AI, Heritage*

1. INTRODUCTION

This research emerged from an international open call launched by the Albanian Ministry of Culture in 2024 to select the curatorial team for the Albanian Pavilion at the 19th International Architecture Exhibition of La Biennale di Venezia.

The *Impossible Archive* catalogue, on which this paper is based, is a collective work developed through a collaboration between two academic teams: POLIS University in Albania and Clemson University in the United States. The team members who collaborated in the generation and conceptualisation of the proposal were: Ledian Bregasi, Sonia Jojiç, Dejvi Dauti, Keti Hoxha, Francesco Scasciamacchia, James Stivens, Andreea Vasile-Hoxha, Ergys Hoxha, Montserrat Palomino, and England Likoni.

The diversity of perspectives and the convergence of multiple voices contributed to the proposal being shortlisted for the final selection. This process provided an important foundation for the present research and contributed to a broader architectural reflection on questions of memory, heritage, and development in Albania and the Western Balkans more generally.

Over the past two decades, Tirana has undergone one of the most intense phases of urban transformation in its contemporary history. As the capital of Albania and one of the principal urban centres of the region, the city has been shaped by rapid economic growth, demographic change, and different forms of investment. Large-scale architectural interventions, processes of densification, and the redesign of public spaces have progressively transformed the spatial structure through which the city is experienced, as well as the image of the city preserved in the collective imaginary of its inhabitants.

This condition, combined with the general theme of the 19th International Architecture Exhibition, curated by Carlo Ratti under the title *Intelligens. Natural. Artificial. Collective.*, was understood as an invitation to consider intelligence as a combination of different forms of knowledge and abilities capable of generating innovation in response to contemporary challenges. Within this framework, the research assumes that every place, city, and space possesses specific needs shaped by cultural and social factors, which cannot necessarily be addressed through homogeneous solutions or standardised architectural strategies.

In this sense, intelligence can be understood as a form of human ingenuity capable of deciphering the needs of a particular culture and translating them into inclusive and contextually appropriate design positions.

Urban transformation, however, does not take place exclusively at the level of physical form. Every modification of the built environment also affects the ways in which places are recognised, remembered, and socially understood. When a building is demolished, a street is reconfigured, or a public space is redesigned, the physical reference through which inhabitants previously oriented themselves may disappear. Yet the mental image and memory associated with these places may persist, remaining strongly embedded within collective memory and

processes of reminiscence. The disappearance of a place from the material city does not, therefore, necessarily imply its disappearance from individual or collective memory.

This tension between physical transformation and mnemonic persistence constitutes the starting point of this research. The paper asks: **How can collective memory function as a secondary archive for understanding the transformation of urban fragments in contemporary Tirana?** More specifically, it investigates how inhabitants remember places that have undergone significant transformation and how their mental representations can provide additional forms of knowledge for understanding future urban developments. It proposes that memories and mental images can contribute to the construction of the city's contemporary identity by revealing dimensions of the *genius loci* that may not be accessible through conventional archival sources alone.

The research is grounded in the assumption that individuals construct internal images of the city through their experiences and interactions with their surroundings. These images can be recalled, narrated, and, importantly for architectural research, represented graphically. Memory drawings and mental maps can therefore be understood not merely as illustrations of personal experience, but as forms of spatial documentation capable of recording relationships between people and places.

The proposed methodology combines three forms of knowledge: historical and official archival sources, the contemporary material condition of the city, and memory-based primary sources collected from residents. Artificial intelligence is subsequently introduced as an assisting instrument for comparing, interpreting, and processing these heterogeneous forms of material.

The objective is not to reconstruct an objectively “lost” Tirana, nor to suggest that memory is more accurate than archival documentation. Rather, the research proposes that memory may reveal another layer of the city: a layer composed of spatial associations, landmarks, routes, social practices, and meanings that may persist even after their physical references have been transformed or disappeared. In this sense, collective memory can be approached as a secondary archive—one that does not replace the material or historical archive, but complements it by making visible the intangible and mnemonic dimensions through which urban space continues to exist in the minds of its inhabitants.

The transformation of Tirana needs to be understood within the broader evolution of the city. The transition from a socialist urban system towards a market-oriented and increasingly globally connected capital has produced significant changes in its physical and social structure. As described by Dhamo, Thomai and Aliaj in *Tirana – Qyteti i munguar*, the city has developed through processes of rapid and, at times, discontinuous urbanisation. More recently, Dhamo's discussion of emergent urbanism identifies Tirana as a case in which urban development cannot be understood exclusively through conventional models of planned growth.

These processes have produced a city in which different historical periods coexist, overlap, and compete for spatial visibility. Existing buildings and urban fragments are frequently

incorporated into new development processes, while other elements disappear completely. Consequently, the contemporary city contains multiple temporal conditions simultaneously.

This condition can be read through the concept of the urban image developed by Kevin Lynch. In *The Image of the City*, Lynch argues that inhabitants construct mental images of urban environments through recognisable spatial elements, including paths, edges, districts, nodes, and landmarks. The city becomes legible not only through its physical organisation, but also through the internal representations constructed by its users.

This proposition becomes particularly relevant in a city experiencing rapid transformation. If the physical elements supporting an individual's mental image are altered, the relationship between material environment and mental representation becomes unstable. A place can therefore change physically while continuing to exist in memory.

The research consequently focuses on selected central urban fragments of Tirana that have experienced significant reconfiguration, including the former train station, Skanderbeg Square, the New Bazaar, Rinia Park, the Pyramid, Mother Teresa Square, the National Stadium, and the Artificial Lake. Rather than treating the city as a homogeneous object, these fragments are considered specific sites where transformations can be observed and compared with residents' recollections.

Their value as research sites derives precisely from the coexistence of different temporal layers: the city that existed, the city that is remembered, and the city that exists today.

2. METHODOLOGY

The concept of memory has a long history within studies of architecture and the city. Lynch's understanding of the mental image provides a starting point for considering how individuals organise urban experience internally. However, individual memory cannot be understood independently from the social contexts in which it is produced and reconstructed.

Maurice Halbwachs' theory of collective memory is particularly relevant here. Memory is not simply an individual storage mechanism for past experiences; it is continuously reconstructed through social frameworks. Places contribute to this process because they provide physical references through which shared experiences can be organised.

Urban space therefore participates in the construction of collective memory. A square, building, street, or neighbourhood can become a reference point for multiple generations and communities. Even when the physical environment changes, the memory associated with a place may continue to circulate through stories, images, and personal recollections.

Aldo Rossi's understanding of the city further reinforces the relationship between architecture and memory. In *The Architecture of the City*, urban artefacts are considered in relation to permanence, collective memory, and the historical continuity of the city. Architecture is therefore not only a physical object occupying space; it also participates in the persistence of urban meanings.

This paper extends these ideas by considering collective memory as a secondary archive. The term “secondary” is important. Memory is not proposed as a replacement for official archives, maps, photographs, or planning documents. Instead, it is understood as an additional archive generated through lived experience.

The conventional archive records what was documented. The mnemonic archive records what was experienced and retained.

The distinction is significant because these two forms of knowledge do not necessarily coincide. An official plan may identify a building without recording its emotional or social significance. A photograph may document the appearance of a square without revealing which element residents used as their principal spatial reference. Conversely, a remembered element may have disappeared from the material city while continuing to structure inhabitants' understanding of the place.

The mnemonic archive is therefore neither objective nor stable. It is selective, subjective, and continuously reconstructed. Precisely because of these characteristics, however, it can provide access to forms of urban knowledge that conventional archives tend to exclude.

The proposed methodology combines three complementary domains of evidence: material, archival, and mnemonic.

The first domain concerns the contemporary physical environment. Existing buildings, streets, public spaces, and other urban elements are documented in order to establish the current spatial condition of each selected site.

The second domain consists of conventional archival sources, including historical photographs, maps, drawings, and other available urban documentation. These sources establish the documented history and physical transformation of the selected sites.

The third domain is the mnemonic archive. This is generated through memory-based primary research with residents who have experienced the selected urban environments. Participants are invited to describe places they remember and to represent these memories through interviews and visual material.

The use of oral accounts is particularly relevant to architectural research. When a memory is described, it generates a spatial image in both the speaker and the listener. This process introduces another layer of knowledge that can contribute to the interpretation and conceptualisation of urban transformation. The scale of an element, its position, its recurrence, or even its omission can provide information about its mnemonic significance.

For this reason, the research does not treat inaccuracies as failures. A distorted street, an oversized building, the displacement of a landmark, or the absence of an apparently important urban element may reveal how a place was mentally organised by its inhabitants.

The collected narratives and drawings can subsequently be compared with archival and contemporary evidence. Each site can therefore be examined through a sequence:

documented past → physical transformation → contemporary condition → remembered environment.

This comparison allows the research to identify three principal conditions. First, elements that have remained physically present and continue to be remembered. Second, elements that have disappeared physically but remain present within memory. Third, elements that remain materially present but have lost their mnemonic relevance.

This approach transforms memory from anecdotal material into a structured research source. Rather than asking whether a memory is factually accurate, the research asks what the memory reveals about the relationship between inhabitants and the urban environment.

The methodological framework introduces artificial intelligence as a tool for connecting and processing different forms of urban knowledge. The archives produced through this research are inherently heterogeneous: narratives are textual, drawings are visual, maps are cartographic, photographs are documentary, while the contemporary city provides material evidence. Rather than treating these sources as equivalent, the methodology uses artificial intelligence to identify relationships and recurring references across these different forms of evidence.

AI-assisted tools can support the analysis of these materials by identifying recurring spatial references within residents' narratives and drawings and by establishing relationships between these references and documented urban conditions. In this process, artificial intelligence functions primarily as a mediating and interpretative instrument rather than as an autonomous source of knowledge.

The first stage involves the processing of interview narratives. An AI text-to-text model (Fig.1) analyses the interview material and assists in identifying and connecting individual memories, experiences, associations, and ideas related to specific urban spaces. These narratives provide unique perspectives and emotional depth, forming the conceptual and experiential foundation for the subsequent visualisation process. Spatial references, recurring descriptions, landmarks, activities, and personal associations are extracted from the interviews and translated into structured textual descriptions.

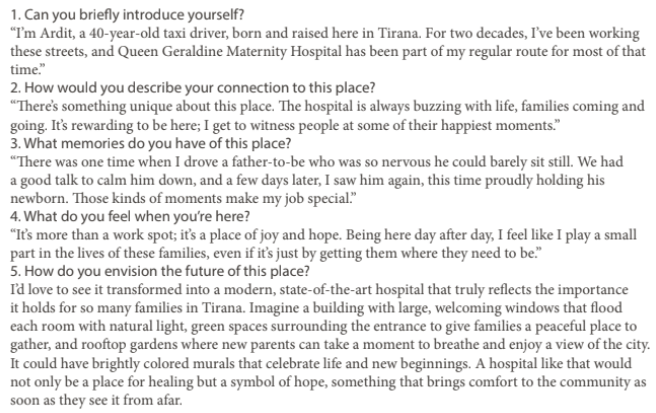

1. Can you briefly introduce yourself?
"I'm Ardit, a 40-year-old taxi driver, born and raised here in Tirana. For two decades, I've been working these streets, and Queen Geraldine Maternity Hospital has been part of my regular route for most of that time."
2. How would you describe your connection to this place?
"There's something unique about this place. The hospital is always buzzing with life, families coming and going. It's rewarding to be here; I get to witness people at some of their happiest moments."
3. What memories do you have of this place?
"There was one time when I drove a father-to-be who was so nervous he could barely sit still. We had a good talk to calm him down, and a few days later, I saw him again, this time proudly holding his newborn. Those kinds of moments make my job special."
4. What do you feel when you're here?
"It's more than a work spot; it's a place of joy and hope. Being here day after day, I feel like I play a small part in the lives of these families, even if it's just by getting them where they need to be."
5. How do you envision the future of this place?
I'd love to see it transformed into a modern, state-of-the-art hospital that truly reflects the importance it holds for so many families in Tirana. Imagine a building with large, welcoming windows that flood each room with natural light, green spaces surrounding the entrance to give families a peaceful place to gather, and rooftop gardens where new parents can take a moment to breathe and enjoy a view of the city. It could have brightly colored murals that celebrate life and new beginnings. A hospital like that would not only be a place for healing but a symbol of hope, something that brings comfort to the community as soon as they see it from afar.

Figure 1. Interview model

The second stage involves the transformation of these narratives into descriptive prompts. The AI text-to-text model (Fig.2) combines personal stories with spatial and architectural information, incorporating both documented characteristics of the site and the imaginative scenarios expressed by participants. The resulting prompts function as an intermediary layer between human experience and image production, translating memories, perceptions, and ideas into a format capable of guiding the subsequent generation of visual material.

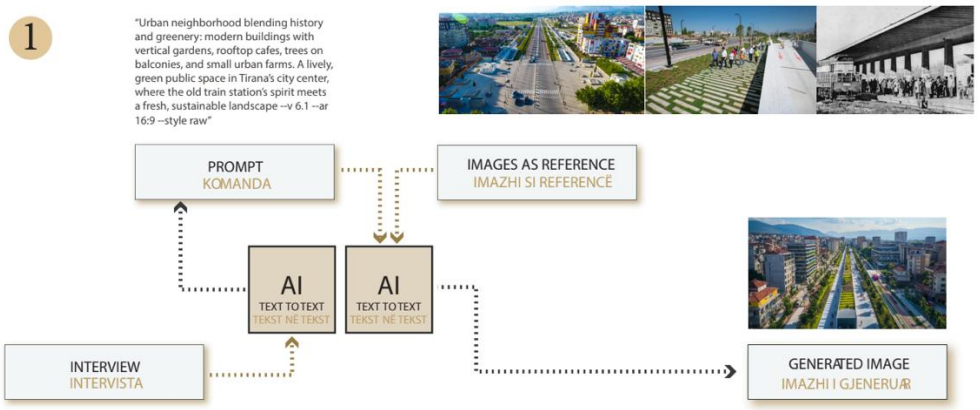


Figure 2. Intersection between interviews and archivistic source

The third stage involves the generation of visual scenarios. An AI text-to-image model uses the prompts developed from the interviews together with photographic and other visual references of the relevant locations. These inputs are synthesised to produce speculative images that combine the identifiable characteristics of the existing environment with the aspirations, memories, and possible future scenarios articulated by participants. (Fig. 3)



Figure 3. Images generated from AI text to image prompt.

The resulting images should therefore be understood as interpretative visualisations rather than direct representations of reality.

The use of photographic references is particularly important within this process. These images help anchor the generated visuals in the identifiable characteristics, spatial configuration, and atmosphere of each location, reducing the distance between the speculative image and the documented urban condition. They also provide a visual reference against which the AI-generated output can be critically evaluated.

The methodological sequence can therefore be understood as:

interview → narrative processing → spatial references → descriptive prompt → photographic references → AI-generated visualisation → critical comparison.

This sequence does not position AI as the author of the research. Instead, it establishes AI as a mediating layer through which different forms of evidence can be translated and compared.

For example, several residents may independently refer to the same building, tree, street, courtyard, landmark, or public activity. Such repetition may indicate that a particular element possesses collective mnemonic significance. Conversely, differences between individual representations may reveal that the same urban fragment is remembered through different spatial hierarchies, associations, or emotional relationships.

AI-assisted analysis can help organise these recurring and divergent references, making patterns across a large body of qualitative material more visible. However, the identification of patterns does not in itself establish their meaning. Interpretation remains dependent on the researcher and on the relationship between the AI-assisted analysis and the original source material.

AI-generated visualisations can subsequently be used as exploratory representations of these relationships. Their role, however, requires careful definition. An AI-generated image should not be presented as an objective reconstruction of historical reality. Rather, it represents a specific configuration of memories, archival references, spatial information, and speculative interpretations.

This distinction is essential because artificial intelligence may introduce information that was not present in the original source material. The resulting image may appear historically or architecturally convincing while simultaneously containing fabricated spatial configurations, architectural elements, materials, or environmental conditions. Visual plausibility should therefore not be confused with historical accuracy.

AI should consequently remain subordinate to the research archive and to the critical interpretation of the researcher. Its value lies not in producing an authoritative image of the past, but in assisting the comparison, organisation, and visualisation of relationships between documented and remembered space.

In this framework, artificial intelligence becomes a **mediating layer between memory, archive, and representation**, enabling otherwise heterogeneous forms of urban knowledge to be brought into dialogue without collapsing their differences.

3. RESULTS AND DISCUSSIONS

The relevance of this methodology extends beyond the documentation of urban history. It raises a broader question concerning resilience and the relationship between communities and their built environment.

Urban resilience is frequently discussed through physical infrastructure, environmental performance, accessibility, or the capacity of urban systems to respond to disruption. Yet communities also require forms of cultural and spatial continuity. When familiar urban references disappear, inhabitants may experience a disruption not only of physical orientation, but also of belonging.

Memory therefore represents a form of civic knowledge. Residents possess knowledge of urban environments that is generated through everyday experience and cannot always be recovered through conventional planning documentation. Their recollections may reveal social uses of spaces, informal landmarks, routes, and relationships that remain invisible in official representations.

In this sense, collecting memories can become a form of civic engagement. The resident is not simply consulted about a proposed intervention; the resident becomes a producer of knowledge about the city.

This proposition is particularly relevant to rapidly transforming urban environments. Instead of asking only what should be preserved physically, planning processes could also ask: What should remain recognisable? What should remain meaningful? Which elements constitute the mnemonic structure of a place?

Such questions do not imply that urban transformation should be avoided. Cities necessarily change. Rather, they suggest that transformation can become more socially resilient when it recognises the multiple temporal and mnemonic layers already embedded within urban environments.

The value of the mnemonic archive therefore lies not in preventing transformation, but in providing another form of knowledge through which transformation can be understood and negotiated.

4. CONCLUSIONS AND RECOMMENDATIONS

Tirana's recent transformation demonstrates that urban change is not only a process of modifying physical space. It is also a process of modifying the images through which inhabitants understand and remember the city.

This paper has proposed collective memory as a secondary archive capable of complementing conventional urban documentation. Through narratives, mental maps, and memory drawings, residents can provide evidence of spatial relationships and meanings that may not be contained within official archives. These materials make visible the gap between the city as documented, the city as materially transformed, and the city as remembered.

The methodological framework combines archival research, documentation of the contemporary city, and memory-based primary research. AI-assisted tools can further support

the analysis of these heterogeneous sources, provided that generated representations are treated critically and not as objective historical reconstructions.

The central proposition is therefore that the city possesses more than one archive. There is the archive of plans, photographs, maps, and official records, but there is also an archive carried by its inhabitants. This second archive is unstable, subjective, selective, and multiple. Precisely because of these characteristics, however, it can reveal dimensions of urban transformation that conventional documentation cannot fully capture.

For Tirana, a city undergoing continuous and accelerated transformation, recognising this mnemonic dimension may contribute to a more inclusive understanding of urban change. Resilience, in this context, is not only the capacity of buildings and infrastructures to adapt. It is also the capacity of communities to maintain relationships with place while the physical city changes.

To “resize” Tirana, therefore, may mean more than measuring its new buildings, streets, and densities. It may mean recognising the different scales through which the city exists: the material scale of architecture, the territorial scale of urban transformation, and the internal scale of memory. Between these scales lies an additional representation of the city—one carried by its inhabitants and capable of becoming an archive for its future.

The secondary archive is consequently not a fixed repository of the past, but a dynamic field in which memory, material evidence, archival documentation, and emerging technologies interact. Its purpose is not to recover a single, authentic image of the city, but to make visible the plurality of ways in which urban space is experienced, remembered, and imagined. In this sense, memory does not simply preserve the city after transformation; it becomes an active instrument through which alternative futures can be conceived.

5. REFERENCES

Batty, M. (2013). *The new science of cities*. MIT Press. https://doi.org/10.7551/mitpress/9399.001.0001

Dhamo, S. (2021). *Understanding emergent urbanism: The case of Tirana, Albania*. Springer. https://doi.org/10.1007/978-3-030-68704-9

Dhamo, S., Thomai, G., & Aliaj, B. (2016). *Tirana: Qyteti i munguar* [Tirana: The missing city]. POLIS Press.

Garbin, E. (2014). *In bianco e nero: Sulla materia oscura del disegno e dell’architettura*. Quodlibet.

Halbwachs, M. (1992). *On collective memory* (L. A. Coser, Ed. & Trans.). University of Chicago Press. (Original work published 1950)

Kostof, S. (1991). *The city shaped: Urban patterns and meanings through history*. Thames & Hudson.

Lynch, K. (1960). *The image of the city*. MIT Press.

Rossi, A. (1982). *The architecture of the city* (D. Ghirardo & J. Ockman, Trans.). MIT Press. (Original work published 1966)