



**SICAUD**  
F I F T H International Conference on Architecture and Urban Design



**SELF - SUFFICIENT CITY**

# ABSTRACT BOOK



NOVEMBER 16-18, Tirana 2023

Department of Architecture, Faculty of Architecture and Engineering, EPOKA University

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**Abstract Book of the  
FIFTH INTERNATIONAL CONFERENCE ON ARCHITECTURE AND URBAN DESIGN  
SELF-SUFFICIENT CITY**

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## **Welcome Speech**

Dear Madam, dear Sir,

It is our great pleasure to invite you to the Fifth International Conference of Architecture and Urban Design ICAUD 2023, in Tirana, Albania on November 16-18, 2023.

The 5ICAUD 2023 is organized by the Department of Architecture, Faculty of Architecture and Engineering, EPOKA University. We look forward to endure our academic practice and provide an excellent forum for scientists, researchers, and practitioners, not only from Europe, but from all over the world. Thereby, new ideas, latest developments, and potential directions in the fields of Architecture and Urban Design shall be presented and discussed under any of its specialized themes as shown below. The main focus of the conference will be on exploring the idea of self-sufficient cities in terms of social, economic and cultural aspects.

## **Conference Topics**

### **1 SELF-SUFFICIENT CITY**

- Circular economy in built environment
- Energy efficiency in built environment
- Food supply, agriculture and industry
- Green-Blue infrastructures
- ICTs, Data and the smart city
- Heritage, conservation and revitalization
- Sustainable residential environment

### **2 THE HUMAN DIMENSION IN CITIES**

- Walkability in cities
- 15 minute city
- Mixed use development
- Compact city
- City at eye level
- Children friendly city
- Gender perspective
- Elder friendly city

- Universal Design
- Sustainable Mobility

### **3 LANDSCAPE URBANISM**

- Nature Based Solutions for risk mitigation
- Green-Blue Infrastructures and reconnection of marginal areas
- Water-wise techniques in landscaping
- Ecological and naturalistic approaches in landscape design
- Tree planting and management in the urban environment
- Community gardens and foodscapes

### **4 ARCHITECTURE, INTERIOR AND SPATIAL DESIGN**

- Architectural Design practices
- Innovative technologies in Architectural Design
- Environment and user Behavior
- Housing and Design
- Material and Construction techniques
- Interior Design Considerations

### **5 BUILT ENVIRONMENT**

- Environment and Behaviour Relations
- Space Syntax
- Socio-Spatial Dimension of Built Environment
- Sustainable and Resilient Built Environment
- Placemaking in Built Environment
- Participation in Built Environment
- Digitalization of Placemaking

Thank you,

**Dr. Egin Zeka** / Chair of the conference

**MSc. Kreshnik Merxhani** / Co-Chair of the conference

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## ENVIRONMENTAL DESIGN THROUGH BUILDING INFORMATION MODELING

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### **ABSTRACT**

From the problem related to resource depletion, we have shifted to speaking more globally about the conditions of livability on Earth. This is a much more severe situation that compromises current conditions and the possibility for future generations to benefit from an atmosphere that maintains conditions compatible with survival.

The commitment to meet this critical challenge of our time is addressed to all sectors of human activity. The construction sector can make an essential contribution. Designers are called upon to modify their actions to consider environmental, social and economic impacts throughout the construction life cycle.

It is necessary to focus on a successful interposition between man and the natural environment, between man's biological and cultural needs and the characteristics of the place of settlement. There is an insistent call to design according to climatic conditions and to build entities harmoniously embedded in the environmental context. It calls for a move away from the idea of a building that can adapt to every situation and to return to adapting to the context and reusing the ancient practices that led to buildings that were instinctively arranged according to the most favourable orientation, to the use of materials to their function, to the use of passive techniques of regulating internal-external energy exchanges according to the needs imposed by the climate.

The paper reports a critical analysis of environmental design aimed at site preservation through a balanced relationship between human welfare needs and the preservation of the surrounding nature. Nowadays, architects can be supported in assessing the complex climatic conditions of the site and the built environment by new digital technologies and increased computing power. The digital revolution affecting all areas of human activity can be the right opportunity for a profound sustainability-oriented renewal from the earliest stages of project development.

**KEYWORDS:** Environmental Design, Sustainability, Sustainable Development, Building Information Modeling, Building performance