

## **Editorial**

*Mehmet Topçu (Editor in-Chief)*

JOURNAL of DESIGN for RESILIENCE in ARCHITECTURE & PLANNING (DRArch) is an open access journal which means that all content is freely available without charge to users or institutions. Users can read, download, copy, distribute, print, search, or link to the full texts of the articles, or use them for any other lawful purpose without asking prior permission from the publisher or the author. All publications in this journal are licensed by the Creative Commons Attribution 4.0 International License. DRArch journal has been indexed; EAAE (Architectural periodicals database), BASE (Bielefeld academic search engine), Dimensions (A comprehensive database), Google Scholar (Academic search engine), IdealOnline (Academic search engine), Microsoft Academic (Academic search engine), Open Archives (OAI-PMH registered data providers), Scilit ("scientific" and "literature" academic search engine), Worldcat-OCLC (The world's largest library catalog), ICI (Index Copernicus master journal list), OpenAIRE, Core - Collection of open(access research papers), Sherpa Romeo(Presents journal open-access policies), Asos Indeks (A comprehensive database), Norwegian Register (The Register for Scientific Journals, Series, and Publisher), Dimensions (A comprehensive database), EZB: Electronic Journals Library, URLICHSWEB(Global serials directory), Internet Archive Scholar, KOAR: Korea Open Access platform for Researchers, SemanticScholar (Research tool for scientific literature).

As DRArch team, we came again with good news on this issue. DRArch also managed to take place in the following abstracting, databases & indexing; DOAJ (Directory of Open Access Journals), TRDizin - TR Index (Tubitak, Ulakbim Türkiye), EBSCO, these developments raise our hopes that our path is correct.

DRArch has published Volume 4, issue 1, with articles of high scientific quality. The article "Resilience in the shadow of systemic risks" by Seda Kundak provides a broader perspective and a systematic review focusing on the commons of resilience and systemic risks in the frame of risk mitigation. Considering the earthquake that took place in Turkey on February 6, 2023, the importance of this article increases. DrArch plans to issue a special issue.

The second paper is titled "Agglomeration of population and employment in the urbanization - industrialization interaction: The case of İzmir," comes from Emine Yetişkul and Fahrettin Kul. The article focuses on recent agglomeration and dispersion processes in the settlement pattern from the relationship between urbanization and economic growth. They investigate spatial agglomeration in the İzmir city region and metropolitan area by using population and employment data from 2009 and 2019. Based on empirical results, they discuss new sub-regions, urban centers, and clustering that emerged due to economies of scale and positive and negative externalities of agglomeration. The article "Citizen science projects in the context of participatory approaches: Case of İzmir" by Pelin Özden and Koray Velibeyoğlu again focused on İzmir. This article will contribute to better manage natural resources, monitor endangered species, and maintain protected areas, decision-makers, and non-governmental organizations.

The fascinating piece of work comes from Hasan Mutlu, Başak Billur Mutlu and Vedia Dökmeci with the article titled "Comparison of spatial distribution of pharmacies in Istanbul between 1997-2022". In this study, the spatial distribution of pharmacies is investigated in Istanbul by taking into consideration their important role for the health care delivery system. Suggestions has been made for more balanced distribution of pharmacies in order to prevent bankruptcies while sufficient accessibility provided for the customers, and for future research.

The authors, Elif Vurucular Kesimci and Ayşen Ciravoğlu aim to investigate the impact of urban public space on the consciousness, interaction and gathering of city dwellers and urban movements. This research has investigated the impact of urban public space on the consciousness, interaction and gathering of city dwellers as well as urban movements. Within the scope of the research, eight "rebel cities-Tunis, Cairo, Barcelona, London, New York, Dublin, Paris, and Hamburg-" had been analyzed. The places where urban movements were visible in urban space and their surroundings have been analyzed using the Space Syntax method, and the gathering/unification/integration potential of public space has been spatially investigated by determining the characteristics of urban patterns.

In Celal Erdoğan's study titled "Beyond luck: The key to profitable residential real estate investments for individual investors in Turkey," does the individual housing investor see all the opportunities in the housing market? What types of buyers are taking advantage of these opportunities? It started with two basic questions.

This study aims to create tools to help individual residential investors identify opportunity periods in the market, analyze such opportunities retrospectively and test consumer behaviors in response to these opportunities.

Since the advent and usage of artificial intelligence approaches in architecture, a significant number of studies have focused on integrating technological solutions to architectural issues. Buse Bölek, Osman Tural and Hakan Özbaşaran focused on this current issue in their study titled "A Systematic Review on Artificial Intelligence Applications in Architecture."

Zahra Zamani aims to fill the void of knowledge through an objective comparison of three science and research buildings' architectural, casework, and module properties in her article titled as "Analyzing design and planning trends in medical research laboratories and workplace environments: A benchmarking study" The focus was to retrieve and compare laboratory workspace metrics trends essential for planning decisions.

Hakan Ünal and Emrah Gökaltun's article titled "Alternative window wall ratio of glasses with different solar heat gain coefficient and solar transmittance and their effect on total energy consumption in alternative directions" in which they focused on the energy simulation model of the building, heating energy, indoor-outdoor environment and climate data were defined, energy consumption verification was carried out and a realistic model was achieved.

The last article of the issue written by Nilay Özsavaş Uluçay has the titled "Basic design course through art-based research in interior architecture education". This article presents the basic design course applications based on the design education of first-year interior architecture students. This study aims to emphasize the importance of education in the design-oriented thinking process with practice through the content of the basic design course. Within the scope of the study, art-based research in interior architecture education was carried out, and the intersections of its results are described. In the studio, basic design elements and principles were conveyed with the techniques commonly taught in schools, and architectural movements were given to students as term papers for research. The study directs the student to create 2D and 3D compositions by combining the studies he/she has done during the term and the research assignment. The findings show that students can reflect on their research on architectural movements to new three-dimensional abstract spaces by combining them with basic design education.

As the editor in-chief of 4th volume, first issue DRArch, I would like to extend my deepest gratitude to all participants and to all our readers for the support they provide to the Journal. And I would like to a special thanks to the referees. We look forward to your comments, contributions, suggestions, and criticisms.

Best regards...

Following names that provided valuable contribution as referees of articles in this issue are:

Aslı Ceyhan Öner, (Assoc. Prof. Dr.), İzmir Ekonomi University  
Betül Ergun Konukçu, (Dr.), Gebze Technical University  
Deniz Altay Kaya, (Assist. Prof. Dr.) Çankaya University  
Deniz Erinsel Önder, (Prof. Dr.), Yıldız Technical University  
Esra Aksoy, (Assist. Prof. Dr.), Aydın Adnan Menderes University  
Evren Ozus, (Dr.)  
Gökçe Önal, (Assoc. Prof. Dr.), Osmangazi University  
Gülen Cadges, (Prof. Dr.), İstanbul Technical University  
H. SerdarKaya (Assoc. Prof. Dr.), İstanbul Technical University  
İsmail Talih Güven, (Dr.), Kocaeli University  
Kerem Yavuz Arslanlı (Assoc. Prof. Dr.), İstanbul Technical University  
Kübra Müezzinoğlu, (Assoc. Prof. Dr.), Fırat University  
Mehmet Emin Şalgamcıoğlu, (Assoc. Prof. Dr.), İstanbul Technical University  
Meisam Soleimani, (Assist. Prof. Dr.), Bursa Technical University  
Neşe Dikmen, (Prof. Dr.), Isparta University of Applied Sciences  
N. Aydan Sat, (Prof. Dr.), Gazi University  
Serel Akyol, (Assist. Prof. Dr.), Kütahya Health Sciences University  
Sevim Pelin Öztürk, (Assist. Prof. Dr.), İzmir Democracy University  
Özlem Özer, (Assoc. Prof. Dr.), Gebze Technical University  
Yusuf Yıldız, (Prof. Dr.), Balıkesir University

Page | iii



Cover photo: Image copyright ©Sena Özfiliz, İstanbul, (2016). The image on the left is detail " Overlooking to Bosphorus from Asian side to European side of İstanbul" Cover and logo design: Mojtaba Karimnezhad

## **DRArch's objectives are:**

- to question how future building technologies are revolutionizing architectural design, city planning, urban design, landscape design, industrial design, interior design and education,

- to catalyze the processes that lean on interdisciplinary and collaborative design thinking, creating a resilient thinking culture,

- to improve the quality of built environment through encouraging greater sharing of academicians, analysts and specialists to share their experience and answer for issues in various areas, which distributes top-level work,

- to discover role of the designers and design disciplines -architecture, city planning, urban design, landscape design, industrial design, interior design, education and art in creating building and urban resilience,

- to retrofit the existing urban fabric to produce resilience appears and to support making and using technology within the building arts,

- to discuss academic issue about the digital life and its built-up environments, internet of space, digital in architecture, digital data in design, digital fabrication, software development in architecture, photogrammetry software, information technology in architecture, Archi-Walks, virtual design, cyber space, experiences through simulations, 3D technology in design, robotic construction, digital fabrication, parametric design and architecture, Building Information Management (BIM), extraterrestrial architecture, , artificial intelligence (AI) systems, Energy efficiency in buildings, digitization of human, the digitization of the construction, manufacturing, collaborative design, design integration, the accessibility of mobile devices and sensors, augmented reality apps, and GPS, emerging materials, new constructions techniques,

-to express new technology in architecture and planning for parametric urban design, real estate development and design, parametric smart planning (PSP), more human-centered products, sustainable development, sustainable cities, smart cities, vertical cities, urban morphology, urban aesthetics and townscape, urban structure and form, urban transformation, local and regional identity, design control and guidance, property development, practice and implementation.

## **Editorial Team**

### **Editor-in-Chief**

Mehmet Topçu (*Assoc. Prof. Dr.*), Konya Technical University, Turkey

### **Co-Editors**

Havva Alkan Bala (*Prof. Dr.*), Çukurova University, Turkey

Ayşe Sema Kubat (*Prof. Dr.*), İstanbul Technical University, Turkey

### **International Editorial Board**

Yasushi Asami (*Prof. Dr.*), Tokyo University, Japan

T. Nur Çağlar (*Prof. Dr.*), TOOB ETÜ University of Economics & Technology, Turkey

Nuran Zeren Gülersoy (*Prof. Dr.*), Işık University, Turkey

Hakan Gürsu (*Assoc. Prof. Dr.*), Middle East Technical University, Turkey

Mattias Kärholm (*Prof. Dr.*), Lund University, Sweden

Stanislaw Korenik (*Prof. Dr.*), Wroclaw Economy University, Poland

Katarzyna Miszczak (*Assoc. Prof. Dr.*), Wroclaw Economy University, Poland

Akkelies van Nes (*Prof. Dr.*), Western Norway University of Applied Sciences, Norway

Taner Oc (*Prof. Dr.*), University College London, UK

Sevil Sarıyıldız (*Prof. Dr.*), Delft University of Technology, NL

Michael Southworth (*Prof. Dr.*), University of California, Berkeley, USA

Giuseppe Strappa (*Prof. Dr.*), Roma University, Italy

### **International Advisory Board**

Hakan Anay (*Prof. Dr.*), Eskişehir Osmangazi University, Turkey

Kerem Yavuz Arslanlı (*Assoc. Prof. Dr.*), İstanbul Technical University, Turkey

Burak Asiliskender (*Prof. Dr.*), Abdullah Gül University, Turkey

Suzie Attiwill (*Assoc. Prof. Dr.*), RMIT University, Australia

Tüzün Baycan (*Prof. Dr.*), İstanbul Technical University, Turkey

Suha Berberoğlu (*Prof. Dr.*), Çukurova University, Turkey

Alper Çabuk (*Prof. Dr.*), Eskişehir Technical University, Turkey

Olgu Çalışkan (*Assoc. Prof. Dr.*), Middle East Technical University, Turkey

Fehmi Doğan (*Prof. Dr.*), İzmir Institute of Technology, Turkey

Ervin Garip (*Assoc. Prof. Dr.*), İstanbul Technical University, Turkey

Kağan Günçe (*Prof. Dr.*), Eastern Mediterranean University, N. Cyprus

H. Emre Ilgın (*Dr.*), Tampere University, Finland

Yasemin İnce Güney (*Assoc. Prof. Dr.*), Balıkesir University, Turkey

Feray Koca (*Assoc. Prof. Dr.*), Muğla Sıtkı Kocaman University, Turkey

Esra Kurul (*Dr.*), Oxford Brookes University, UK

Ozan Önder Özener (*Assoc. Prof. Dr.*), İstanbul Technical University, Turkey

Maria Rita Pais (*Prof. Dr.*), Universidade Lusofana Humanidades e Tecnologias, Portugal

Nikolas Patsavos (*Assoc. Prof. Dr.*), University of Ioannina, Greece

Ali A. Raouf (*Prof. Dr.*), HBK University, Qatar

Fazilet Duygu Saban (*Prof. Dr.*), Çukurova University, Turkey

Tasleem Shakur (*Dr.*), Edge Hill University, UK

Todor Stojanovski (*Dr.*), KTH Royal Institute of Technology, Sweden

Asuman Türkün (*Prof. Dr.*), Yıldız Technical University, Turkey

Tolga Ünlü (*Prof. Dr.*), Çukurova University, Turkey

Derya Yorgancıoğlu (*Assist. Prof. Dr.*), Özyeğin University, Turkey

### **Language Editor**

Mehmet Ulu, Selçuk University, Turkey

### **Copy Editor**

Oğuz Güven Ateş, Konya Technical University, Turkey

### **Publishing Coordinator**

Abdulkadir Saday, Selçuk University, Turkey

### **Photo Editor**

Sena Özfiliç, (Architect), İstanbul Technical University, Turkey

### **Graphic Designer**

Mojtaba Karimnezhad, Eastern Mediterranean University, N. Cyprus

## Table of Contents

<b>Research Articles</b>	<b>Pages</b>
<b>Editorial and Contents</b>	i-v
<b>Resilience in the shadow of systemic risks</b> Seda Kundak	01-15
<b>Agglomeration of population and employment in the urbanization - industrialization interaction: The case of Izmir</b> Emine Yetişkul, Fahrettin Kul	16-30
<b>Citizen science projects in the context of participatory approaches: The case of Izmir</b> Pelin Özden, Koray Velibeyoğlu	31-46
<b>Comparison of spatial distribution of pharmacies in Istanbul between 1997-2022</b> Hasan Mutlu, Başak Billur Mutlu, Vedia Dökmeci	47-52
<b>An inquiry on rebel cities: How spatial morphology sets the stage for urban movements</b> Elif Vurucular Kesimci, Ayşen Ciravoğlu	53-64
<b>Beyond luck: The key to profitable residential real estate investments for individual investors in Türkiye</b> Celal Erdogdu	65-90
<b>A systematic review on artificial intelligence applications in architecture</b> Buse Bölek, Osman Tural, Hakan Özbaşaran	91-104
<b>Analyzing design and planning trends in medical research laboratories and workplace environments: A benchmarking study</b> Zahra Zamani	105-121
<b>Alternative window wall ratio of glasses with different solar heat gain coefficient and solar transmittance and their effect on total energy consumption in alternative directions</b> Hakan Ünalın, Emrah Gökaltun	122-135
<b>Basic design course through art-based research in interior architecture education</b> Nilay Özsavaş Uluçay	136-147