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6th INTERNATIONAL CONFERENCE OF CONTEMPORARY AFFAIRS IN ARCHITECTURE AND URBANISM CONFERENCE PROCEEDINGS

A COMPILATION OF ABSTRACTS



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Editors: Assoc. Prof. Dr. Hourakhsh Ahmad Nia
Assoc. Prof. Dr. Rokhsaneh Rahbarianyazd

INTERNATIONAL CONFERENCE

CONFERENCE PROCEEDINGS

BOOK OF ABSTRACTS ICCAUA 2023

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Introduction

The 6th International Conference on Contemporary Affairs in Architecture and Urbanism is organized by Alanya University with the collaboration of the International University of East Africa and the Journal of Contemporary Urban Affairs. ICCAUA 2023's mission is to bring together leading academic scientists, researchers and research scholars to exchange and share their experiences and research results about all aspects of the contemporary concerns, methods and approaches to architecture and urbanism. It also provides the premier interdisciplinary forum for researchers, practitioners and educators to present and discuss the most recent innovations, trends, concerns, practical challenges encountered and the solutions adopted in the field of Architecture and Urbanism.

Accordingly, the conference brings together all the theories, manifestos and methodologies on contemporary architecture and urban spaces to raise the understanding for the future of architectural and urban planning. Overall, the conference aimed to establish a bridge between theory and practice in the built environment. Thus, it reports on the latest research findings and innovative approaches, methodologies for creating, assessing, and understanding contemporary built environments.

A broad outline of the conference's scope includes peer-reviewed original research articles, case and technical reports, reviews and analyses, papers, and short communications. This conference proceeding is the combination of scholars, practitioners, professionals, researchers and policymakers with a common interest in the field of architecture and urban design from different disciplines, such as Art, Architecture, Landscape, Urban planning and Urban Design. The scopes of this conference include:

Architecture and Technology

Environmental Sustainability
Smart Buildings
Smart Skin, envelope, Building facade
Green Architecture and Urban Planning
Climate and building
Climate Change Adaptation
Interior Architecture
Architectural History and Theory
Architectural Planning and Design
Sustainable Environmental Design and Technology
Biophilic Architecture
Design and Technology of Building Structures
Computers in Architecture
Energy Conservation
Genius loci
Education
Artificial Intelligent (AI)
Space and Place Studies

Sustainability and Urban Design

Landscape Architecture and Urbanism
Sustainable Urban Development
Smart City, Digital Age
Urban ecology
Economic Dimension
Housing and Urban Environments
Urban Aesthetics
New Urbanism
Urban Transport Planning, management, and Strategies
Disaster Risk Management

Urban Sprawl

Healthy and Productive Economy
Chemicals, Waste and Air Quality
The Urban and architectural philosophy
Landscape
Social and behavioural studies
Public Places Urban Spaces

Heritage and Cultural Landscapes

Revitalization
Gentrification
Cultural studies
Adaptive reuse
Regeneration and Urban Renewal
Morphology
Urban Identity, Authenticity
Tourism Management Perspectives
Archaeology, Reconstruction and Restoration
Conservation
Computer and Digital Applications
Space and Place Studies

Habitat Studies / Infra Habitation

Infra Habitation
Emerging cities
Gated communities
Conflict and divided territories.
Slums
Affordable houses.
Resilience, Disaster and Conflicts
Pandemic and disease management
Vernacular studies
Agricultural Studies
Housing Studies
Demographic studies
Rural Studies

Salutogenic Architecture

Public Health
Beyond health Architecture
Visual Comfort
Wellbeing in architecture and built environment
Healing Environment
Aesthetic Design and Health sustainable acoustic design system
Thermal comfort
Comprehensibility in architecture
Indoor air quality
Manageability in architecture
Meaningfulness in architecture
Sick Buildings

Civil Engineering

Theoretical and Advanced Technology of Engineering Structures
High-rise Buildings and Large-span Structures
Bridge and Tunnel Engineering
Newer Structures and Special Structures
Engineering Structure Safety and Disaster Prevention
Structural Reliability, Durability and Health Monitoring
Project and Construction Processes
Educational Topics in Civil Engineering
Reuse and Recycle Wastewater
Traffic Engineering
Geographic Information Systems (GISs)
Construction Management Engineering

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 Prof. Dr. Islam El Ghonaimy, Department Of Architecture and interior design, College of Engineering, University of Bahrain, Bahrain
 Prof. Dr. Aykut Karaman, Department of Architecture, FEA, Altinbas University, Türkiye
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Keynote Speakers' Self-Biography



Prof. Dr. Masi Mohammadi is an experienced scientist with a demonstrated history of working in higher education and collaborating with industry. Skilled in health architecture, smart living, and public and academic (keynote) lectures, she heads two chairs, Smart Architectural Technologies (Eindhoven University of Technology) and Architecture in Health (HAN University), in the Netherlands. Her research program, Empathic Environments, explores the basic and applied mechanisms of how socio-technological developments influence our living environment and how those are shaped by architecture. Her research has been carried out in various real-life projects throughout the Netherlands. As such, she is the Scientific Director of the DEEL Academy, a national joint venture between several universities, citizen initiatives, housing associations and care organisations in the Netherlands. She also performs as a member/chair of several (editorial) boards and research networks.



Prof. Dr. Islam El Ghonaimy did the honors of setting forth the consultation services in City Urban Planner for TEAM International office, Iraq - Kurdistan Region, 2012-2016. And as urban consultant for World Institute for Development Economics Research of the UNU-WIDER, Helsinki, Finland on 2007 & 2012 and as City Development Strategy Consultant, for World Bank projects with Arab Urban Developing Institute(AUDI), Arab Towns Organization, Riyadh, SA Academically, in 2000 he has been accredited the Doctoral of philosophy degree. Formerly, in 1995 he has been approved the M.Sc. and B.Sc. of Architect on 1988 In 2014, he was assigned to hold down a professor rank by High commission of Universities in Egypt. has been affiliated as moderator for the academic program for many universities. Since 2012, he has been affiliated with the University of Bahrain, College of Engineering, Department of Architecture and Interior Design and External reviewer in Higher Education for many universities in Gulf Region.



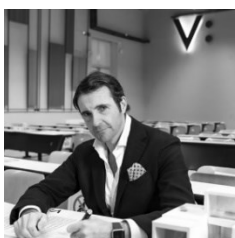
Prof. Dr. Aykut Karaman is graduated from Istanbul Mimar Sinan Fine Arts University, Department of Architecture in 1973. Earned PhD degree in architecture from University of Pennsylvania in 1983 specialized in Urban Design. Taught Urban Design Theories and Studios at Faculty of Architecture at Mimar Sinan Fine Arts University (MSFAU) 1984-2014. He was head of the department of City and Regional Planning and Urban Design at MSFAU. Director of the Urbanism Research Center of MSFAU. Designed several neighborhood units, university campus and won Urban Design Competition in Istanbul. He is the author of Site Management Plan of Aphrodisias Ancient City (2014 -2018) and co-author of Site Management Plan of Istanbul Historical Peninsula heritage area (2008-2012). Presently teaches at Istanbul Altinbas University Department of Architecture and postgraduate program Cyprus Near East University Department of Architecture. His areas of specialty and publications includes theories and principles of urban design, urban morphology, urban heritage management plans, urban regeneration and ecological planning and design, design methods.



Dr. Paolo De Martino is a researcher at Delft University of Technology (TU Delft) and PostDoc at Venice University IUAV. He moved to the Netherlands in 2015 where he started as a PhD candidate at the Department of Architecture at TU Delft under the supervision of prof. dr-ing. Carola Hein. He received is PhD diploma in May 2021 within a joint PhD program between the Department of Architecture of Delft University of Technology and the University of Naples Federico II. His research interest – which touches upon the complex relationship between ports, cities and regions – deals with port cities as a spatial and institutional perspective. He has investigated the port city of Naples in comparison to port city territories along the Hamburg-Le Havre range, with particular reference to the cities of Rotterdam, Antwerp and Le Havre. Since August 2021 he has teaching position at the Department of Architecture of TU Delft. In April 2022 he started as PostDoc at Venice University IUAV supporting the development of Maritime Spatial Plan for the Campania Region.



Prof. Dr. Muhammad Zahid is a Professor, Dean of the Faculty of Management Sciences, and Director of the Center for Sustainability Studies at City University of Science & Information Technology in Pakistan. He holds a Ph.D. in Management from Universiti Teknologi PETRONAS, Malaysia. With a background in banking, where he served as a branch and customer services manager for eight years, his expertise lies in corporate sustainability and financial performance. He has authored two books and published several research papers in indexed journals. Muhammad Zahid has received notable recognition for his research, including the "Award for Excellence-2016 Outstanding Journal Papers" from Emerald Group Publishing and the Best Paper Award at the International Symposium on Research in Innovation and Sustainability 2014 (ISoRIS' 14) in Malaysia. He serves as an editor for the City University Research Journal (CURJ) and as a reviewer for esteemed journals in various fields. Additionally, he has proficiency in designing sustainability reports for both business and academic sectors. He can be contacted at zahid@cusit.edu.pk and mianmz11@gmail.com.



Associate Prof. Dr. Arch. Lorenzo Capobianco is President at Ordine Architetti Pianificatori Paesaggisti Conservatori di Napoli e Provincia; Phd in Urban Design; Associate Professor of Architectural Design at the Department of Architecture and industrial Design of University of Campania “Luigi Vanvitelli”; ICAR/14, Member of the Academic Board of the Phd in Architectural and Urban Design of University of Campania “Luigi Vanvitelli”; he carries out researches on contemporary city and sustainable architecture themes. He leads project research taking part in planning competitions in which he has earned acknowledgements and prizes. In 2006 he was between the 20 guests of the Italian Pavilion of the X Architecture Biennial of Venice; in 2007 he is between the twenty guests at the exhibition “20.07 Neapolis in forum versus”, promoted Architecture and City Annals Foundation in the Royal Palace in Naples, in 2009 he’s part of the section “Manifesti per una metropoli che cambia” within the exhibition Dreaming Milano (april 2009) and among the protagonists of “12xMILANO. Visioni della nuova architettura italiana per una metropoli che cambia” promoted by Urban Center of Milan. Besides many articles and essays, he published: Sven Markelius – Architecture and City (Electa, Naples, 2006), Lo Spazio della Città (Il Melangolo, 2012), Correzioni, esercizi di riprogettazione della città (letteraventidue edizioni, 2022). Lorenzo Capobianco, Prof. Dr. Arch., currently holds the leading position as President c/o “Ordine Architetti Pianificatori Paesaggisti Conservatori di Napoli e Provincia”, in the higher charge of executive in the jurisdiction of Napoli for this profession, by the Ministry of Justice of Italy.



Antonio Coppola is a versatile professional with extensive experience in teaching, architecture, and consultancy. He has worked as a technical consultant, architect, and project manager, handling various responsibilities such as property valuation, safety coordination, and design. Antonio has also served in senior roles for organizations providing technical assistance and monitoring services. Currently, he is a counselor for the professional order of architects in Naples, focusing on training programs and representing the views of members. With a wide range of expertise and a commitment to professional development, Antonio plays a significant role in promoting ethical practices and advancing the field. Antonio Coppola is an experienced professional involved in teaching, architecture, and consultancy. He has served as a technical consultant, architect, and project manager, handling responsibilities such as property valuation and safety coordination. Antonio is currently a counselor for the professional order of architects in Naples, focusing on training programs and representing members' views. His extensive expertise and commitment to professional development contribute to promoting ethical practices and advancing the field of architecture.

Preface by the Local Organizing Committee Chair

On behalf of the organizing committee of the 6th International Conference of Contemporary Affairs in Architecture and Urbanism at Alanya University, I am honoured and delighted to welcome you to this annual conference. Referring to the essence of this conference, I would say that this event has been organized to provide and share the latest manifestos, methodologies, and developments, to raise the understanding of the future of architecture and urban planning. Bringing together leading academic scholars to exchange and share their research results is also the main concern of this conference. We have launched this annual conference about five years ago. During organizing ICCAUA2023 based on our global advertisement, we received 416 papers from 60 countries and after doing all the review and registration process, 288 high-quality manuscripts from 45 different countries have been accepted for publication in the proceedings of the conference. So looking at the statistics we can see that the conference has reached its aims of providing a global platform to discuss contemporary affairs in architecture and urbanism. Gathering 532 highly cited scholars from 45 countries is a dream of each organizer to transfer the objectives of the conference. I hope the participants of this conference will be able to transfer recent findings presented in this conference to their own colleagues and students. Urbanization and sustainable urban development, Planning the Post-Covid Cities, Energy and Climatic Design, Sustainability and Urban Design, Design philosophy and Education, Architecture and Technology, Habitat Studies and Heritage and Cultural Landscapes are the hottest topics which will be discussed at this conference.

Our technical program for this conference is rich and varied with 5 Keynote Speeches and 288 Technical papers which have been splinted between 3 parallel onlin sessions and 3 parallee in-person sessions to be discourse during these two days.

As the conference chair of the ICCAUA2023, I know that the success of the conference depends ultimately on the many people who have worked with us in planning and organizing the program. In particular, I thank the Rector of Alanya University, professor Prof. Dr. Mesut Güner, Professor Dr. Erol R. SAYIN and Asst. Prof. Dr. Elif Gizem Yetkin who respectively are the Dean of the faculty of architecture and Head of the department of architecture at Alanya University. I thank them for all their advice, support and partnership. I have also thank all the organizing committee members specifically Prof. Dr. José Manuel Pagés Madrigal and Dr. Rokhsaneh Rahbarianyaz who support us as conference co-chairs and all the reviewers of the Journal of Contemporary Urban Affairs for their detailed and timely reviewing of the papers.

My acknowledgement also goes to:

-Prof. Dr. Masi Mohammadi, Eindhoven University of Technology & HAN University, Netherlands

-Prof. Dr. Islam El Ghonaimy, Department Of Architecture and interior design, College of Engineering, University of Bahrain, Bahrain

-Prof. Dr. Aykut Karaman, Department of Architecture, FEA, Altinbas University, Türkiye

-Prof. Dr. Muhammad Zahid, Dean Faculty of Management Sciences, Director City University Center for Sustainability Studies (CUCSS)

-Dr. Paolo De Martino, University IUAV, Venice, Italy / Delft University of Technology, Netherlands.

- Professor. Dr. Arch. Lorenzo Capobianco, Vanvitelli university, Italy

- Antonio Coppola, Counsellor c/o "Ordine Architetti Pianificatori Paesaggisti Conservatori di Napoli e Provincia, Italy

for the delivery of their insightful keynotes, I am sure these talks will invoke profound intellectual discoveries. So, ladies and gentlemen, I hope you enjoy the excellent academic and cultural atmosphere of the ICCAUA2023 and wish you all a productive conference ahead. Only on my own personal note, I just would like to say it has been a real privilege to be the chairman of this conference and thanks for all of your amazing work and patience that I appreciate.

Dr. Hourakhsh A. Nia
Alanya University, Türkiye
June 14, 2023

BOOK OF ABSTRACTS

ICCAUA-2023

SESSION A: Architecture and Technology

Session Chairs:

Dr. Salar Salah Muhy Al-Din
Dr. Iynes Laouni
Dr. Jong-Jin Kim
Dr. BOUKARTA Soufiane
Dr. Concetta Tavoletta
Dr. Nadia Ahmed
Dr. Francesco Del Sole
Dr. Dilek Yasar

Yingting Chen
Dr. Philippe Devillers
Dr. Gözde Gali Taşçı
Dr. Mazen Mohamed Nassef
Dr. Yakouta Djamaa
Dr. Dong Hu
Dr. Mennat-Allah El-Husseiny
Dr. Ana Bordalo

Dr. Professor Dr. Yung Yau
Dr. Hana SALAH-SALAH
Dr. Yaprak ARICI USTUNER
Dr. Md. Asaduzzaman
Abdollah Mobaraki
Dr. Maryam Iranfar

Manuscript ID: ICCAUA2023EN0002

The Concept of Home – Liminal Experiences of Young People With a Second-Generation Migratory Background

* Ph.D. Candidate **Petra Funk**
Nottingham Trent University, UK
E-mail: petra.funk2021@my.ntu.ac.uk

Abstract

Traditional normative concepts of home as a stable, settled place and identity have been unsettled through contemporary social processes such as globalisation, technological advances and increasing global, transnational movements of people. The collection of narratives and visual representations of the concept home experienced by young people with a second-generation migratory background, a systematic inquiry and methodology based on qualitative research using grounded theory, will extend existing research through the addition of new, previously unheard voices. The main research concern will be to uncover the participant group's spatial experience within their urban architectural/ built environment, and the associated material and imaginary aspects of the concept home. In conversations, participant observations and video/ photography or art workshops the participants will be encouraged to express their ideas and concepts – to understand and uncover shared fundamental themes uniting the spatial experiences of home for young second-generation migrants from diverse backgrounds and life situations.

Keywords: Home; Dwelling; Architectural Phenomenology; Space, Place; Transnational; Migration; Spatial design.

Manuscript ID: ICCAUA2023EN0022

The Bioclimatic Architecture of Algerian Ksour: Ksar El-Boukhari Case Study

*¹ Dr. **Yamina Necissa**, ² Dr. **Najet Aroua**
Professor, University of Blida, Laboratory "Environment and Technology for Architecture and Cultural Heritage". ETAP¹
Professor associate, Laboratory of Architecture and Environmental Design (LaCoMoFa), University of Biskra (Algeria)²
E-mail¹: aminanecissa65@hotmail.com, E-mail²: arouanajet@yahoo.fr

Abstract

Drawing inspiration from vernacular architecture and its bioclimatic qualities is a highly recommended approach today as part of the strategy for adapting to the effects of climate change. For instance, this paper's aim is to show how much the typical architecture of the High Plateaux ksour in Algeria may provide good inspiration nowadays though few studies compared with saharan ksour. The pre-Saharan regional climate of arid type, which results in a cold winter and a dry and hot summer. The average annual rainfall is 400mm. Ksar el-Boukhari is formulated as a demonstrative case study. It is a fortified establishment, built on a hill facing southwest. The urban center includes some facilities such as the mosque, the bath, the oven, and some shops. Traditional houses, generally with attics, are built of earth and/or stones, the thermal performance of which is well known. This urban architecture reflects an obvious climatic concern at the scale of the house, the district and the city. In these arid and dry regions, the compact urban fabric offers good protection against sand winds. For example, the siting of the houses is such that each provides shade and protects its neighbours against the effects of strong sunlight, while the materials and construction technique provides effective thermal insulation. Consequently, the objective of this article is to characterize the architecture of the ksar through that of the traditional house then to analyze the organization of the urban space on the scale of the district and the city, in relation to the assets and regional climate constraints.

Keywords: Bioclimatic Architecture; Vernacular Architecture; Climate Change; Algerian Ksour.

Manuscript ID: ICCAUA2023EN0028

Grafting Construction Thinking: An Action-Based Approach to Course Redevelopment

*¹ Assist. Professor Dr. **Bahar Aktuna**, ² Dr. **Esra Karahan**
*Yeditepe University, Department of Architecture, Istanbul, Turkey*¹
*Yeditepe University, Faculty of Architecture, Istanbul, Turkey*²
 E-mail ¹: bahar.aktuna@yeditepe.edu.tr, E-mail ²: esra.karahan@yeditepe.edu.tr

Abstract

Construction courses are an essential part of architectural education as they equip students with the knowledge to realize design ideas. However, learning and appropriating construction knowledge in design thinking is a challenge for many architecture students. Having witnessed this hardship in their teaching practice, the authors of this paper developed the hypothesis that an "experiential facilitation approach," which employs and crosses back and forth among multiple modes and scales of engagement with knowledge, including full-scale building, has the potential to increase the reception of construction knowledge. To evaluate their hypothesis, the authors have designed action research that tracks, measures, and reflects on the effects of these multiple methods, scales, media, and tools through first-hand observation, short surveys, semi-structured in-depth interview questions, and reflection on course outputs such as portfolios and exam papers. The research outcome contributes to the teaching of construction courses in architecture schools.

Keywords: Construction Thinking; Architectural Pedagogy; Experiential Learning; Building.

Manuscript ID: ICCAUA2023EN0032

Critical Analysis of Design Studios Adopting a Narrative Methodology as a Means to Fragmenting Knowledge within Architectural Pedagogy

*¹ Assoc. Prof. Dr. **Mennat-Allah El-Husseiny**, ² Prof. Dr. **Aly Gabr**
Architecture Department, Faculty of Engineering, Cairo University, Egypt.^{1&2}
 E-mail ¹: mennatallahelhusseiny@gmail.com, E-mail ²: ahgabr@gmail.com

Abstract

The purpose of this paper is to critically analyze a pedagogical approach adopted in graduation design studios at Cairo University. The methodology used is a qualitative analysis of the approach and critique of the methods of teaching and learning with application on the outcomes. The approach introduced in the before mentioned studio relies on narrative storytelling, as a means of fragmenting knowledge leading to identifiable, pluralistic and inclusive architecture. This methodology of teaching depends on "outside-in" design to create unique public buildings materializing a narrative expressed by each student and developed through layers of investigation and research in order to translate this narrative into an architectural form. This narrative is implemented additionally on the spatial experience of the interior composition. The originality of this paper lies in analyzing the outcomes of the design studio between creative and critical thinking fragmented modes of perception through the outcomes of three consecutive cycles.

Keywords: Storytelling; Architectural Pedagogy; Graduation Architectural Design Studios; Pluralism in Architecture; New Approaches in Pedagogy; Fragmenting Architectural Knowledge.

Manuscript ID: ICCAUA2023EN0037

Comparative Analysis between Egyptian and Syrian Bimaristans

*¹ Dr. **Maha AbouBakr Ibrahim**, ² Dr. **Hala Asslan**, ³ Dr. **Mazen Mohamed Nassef**
*Misr University for Science and Technology, Faculty of Engineering, Architectural Department, Cairo, Egypt*¹
*Expert of the International Council of Monuments and Historic Sites (ICOMOS), CIVVIH, CIAV and Cultural Heritage Consultant*²
*Misr University for Science and Technology, Faculty of Engineering, Architectural Department, Cairo, Egypt*³
 E-mail ¹: maha.ibrahim@must.edu.eg, E-mail ²: halaasslan2004@yahoo.fr, E-mail ³: mazen.mohamed@must.edu.eg

Abstract

Bimaristans are a building type emerged in the Islamic world equivalent to nowadays hospitals. Most of the Islamic architecture studies focus on mosques, then mausoleums. That make the research field open for more studies on building types like baths, wekalat ...etc. Bimaristans remain within the scope of structures that need more studies through comparatives and analytical analyses. This paper introduces comparative analysis between bimaristans in Cairo and Aleppo. This comparison highlights the points of similarity between the concepts that influenced the designers that time with respect to their different locations, surrounding context and historical background. Hence, contemporary architects in the Arab world can recognize the spiritual concepts behind the architectural and planning dimensions of bimaristans' discrete design. Also, the role of local artists in articulating such concepts using carved geometrical reliefs, in addition to the documentation role of decorating relieved texts on those structures.

Keywords: Islamic Architecture; Bimaristans; Health Institutions; Aleppo Old City; Cairo.

Manuscript ID: ICCAUA2023EN0043

Meeting Sustainability through a Bioinspired Adaptive Skin Computational Framework: Literature Review

*¹Ph.D. Candidate **Maryam Abdulrahman Mohamed Alfadhel**, ²Professor Dr. **Eslam Hamdi El-Ghonaïmy**
University of Bahrain, College of Engineering, Architecture and Interior Design Department, Isa Town Campus, Bahrain. ^{1 & 2}
E-mail ¹: 20033012@stu.uob.edu.bh, E-mail ²: eelghonaïmy@uob.edu.bh

Abstract

The capability of adaptive building skin in optimising its form and function in real-time prioritises its importance in future design approaches to meet sustainability targets and the 2030 vision. The concept of adaptability can be traced in nature to survive extensive environmental changes. Biomimicry evolved as a leading source of inspiration for adaptive architecture, especially with the aid of computational designs. Therefore, bioinspired adaptive skin is vital in reducing energy consumption and carbon gas emissions. Considerable research proposed some bioinspired adaptive skin models and frameworks. In this context, this research aims to compare and evaluate the existing proposals to identify similarities and differences, then builds upon existing knowledge to propose a comprehensive computational approach toward designing bioinspired adaptive building skins. Moreover, it will map existing biological adaptation systems mimicked into architecture to generate a database of adaptative biological solutions for future design developments.

Keywords: Bioinspired Adaptive Skins; Sustainable Design; Computational Framework; Biological Systems Database; Literature Review.

Manuscript ID: ICCAUA2023EN0046

Exploring Mid-Journey's Outputs and Analyzing its Result for a New Design Approach in Architecture

*¹Ph.D. Candidate. **Maryam Jalal Obaid**, ² Professor Dr. **Islam Elghonaïmy**
Ph.D. in Architecture, Department of Architecture and Interior Design, University of Bahrain, Isa Town, Bahrain.
Prof in Department of Architecture and Interior Design, College of Engineering, The University of Bahrain, Isa Town, Bahrain
E-mail ¹: 20052319@stu.uob.edu.bh, E-mail ²: eelghonaïmy@uob.edu.bh

Abstract

In the era of Metaverse, as a concept of a persistent, online, 3D universe that combines multiple virtual spaces, the Mid-journey is an interactive bot that plays a significant role in Architecture. It is a machine tool that uses artificial intelligence to produce unique images based on the text input given by the user. It uses a machine learning algorithm trained on a massive amount of image data to create amazing images. It converts what you want to see in your mind through visuals. This research aims to explore the possibilities of Artificial Intelligent (AI) technologies and combine them with Architecture design to identify a new design approach. This will be done by reviewing some impressive designs that were generated through Mid-journey and created by different Architects, analyzing how they work and how they could be used in the architecture field. This may bring attention to a new design approach and expand the human species' imaginative powers.

Keywords: Mid journey; Artificial Intelligent (AI); Architecture; Design; Imagine.

Manuscript ID: ICCAUA2023EN0048

Energy Performance of Vernacular Architecture in Various Desert Climates

¹M.A. **Magali Massia**, *² Professor Dr. **Philippe Devillers**
École Nationale Supérieure d'Architecture de Montpellier, 179 rue de l'Espérou 34 093 Montpellier cedex 5, France ¹
Laboratoire Innovation Formes Architectures Milieux, École Nationale Supérieure d'Architecture de Montpellier, France ²
E-mail ¹: magali.massia@montpellier.archi.fr, E-mail ²: philippe.devillers@montpellier.archi.fr

Abstract

Summer 2022 is officially the 2nd hottest summer in France since 1900. It resulted in three episodes of heat waves over a total of thirty-three days. In France, despite new thermal standards, the thermal comfort of new housing in hot weather remains very bad. Vernacular architecture has demonstrated its perfect environmental adaptation through its empirical development. The objective of this work is to study the design strategies of four vernacular houses located in four deserts (Algerian Sahara, Arizona, Libyan desert and Yemen) to ensure summer comfort in hot environment. The behavior of these four constructions has been described with dynamic simulations developed by the software ArchiWIZARD, under the same climate conditions. The results show how vernacular architecture, sited in desert climates has tackled the issue of climatic regulation and efficiency. The impact of night ventilation on the thermal comfort of vernacular buildings under warm and arid climates is also discussed.

Keywords: Vernacular Architecture; Desert Climate; Thermal Simulations; Night Ventilation; Design Strategies.

Manuscript ID: ICCAUA2023EN0054

The Environmental Labeling of Sustainable Buildings: A Focus on International Certifications

¹ M.A. Hocine **TEBBOUCHE**, ² Professor Dr. **Ammar BOUCHAIR**, ³ M.A. **Mustapha Blibli**

^{1,2,3*} *Research laboratory « Cadre Bâti et Environnement » Faculty of Science and Technology,
Department of architecture, University Mohamed Seddik Benyahia, Jijel, Algeria*

E-mail : tebbouche.h@gmail.com , *E-mail* : abouchair@gmail.com, *E-mail* : musbibli@gmail.com

Abstract

The environmental labeling of sustainable buildings has become a major concern for the architectural design. Numerous building sustainability assessment methods were developed in various countries, namely the British BREEAM, the American LEED, the German DGNB, the French HQE and the United Arab Emirates ESTIDAMA. The present study aims to find the most appropriate approach that suits the Algerian context. A comparative study is conducted using an analytical procedure. The study focuses on the objectives, the evaluation procedures, the assets, and the qualitative assessment indicators for the environmental performance of the buildings. As a result, HQE of France and ESTIDAMA of the United Arab Emirates appeared to be best suited to the Algerian context.

Keywords: Environmental Labels; Building; Sustainability; Assessment; BREEAM; LEED; DGNB; HQE; ESTIDAMA.

Manuscript ID: ICCAUA2023EN0059

Architectural Space - Where to Start?

*Professor Dr. **Ana Bordalo**

Instituto Superior Manuel Teixeira Gomes – ISMAT, Portimão, Portugal

CIAUD, Research Centre for Architecture, Urbanism and Design, Lisbon School of Architecture, Universidade de Lisboa

E-mail: ana.bordalo@ismat.pt

Abstract

The Architectural teaching, like any other teachings, requires a perception of the Present. Today's architecture student has unlimited access to images and information up-to-the-minute from (almost) the entire world. When we ask to the students - who sits for the first time in a Project Studio classroom - to start their first work it is, almost, always necessary to start by "dismantling" the "preconceptions" of Architecture that they have and teach them how to create "architectural space" that could be identified by itself (for its characteristics and sensations) and not by its materiality or function. This process can be started in different ways. The important thing is that, at the end of the first year of Architectural studies, students could be able to tease "emotions" in those who moves through the Architectural Space and, thus, manage to start their journey to contribute to a more humanized territory.

Keywords: Architectural Studies; Architectural Space; Project Studio; Education; Architecture.

Manuscript ID: ICCAUA2023EN0061

Neo-Baroque Flowers in Contemporary Architecture: Hints for a New Aesthetic

*Assistant Professor Dr. **Francesco Del Sole**

Department of Cultural Heritage, University of Salento, Lecce, Italy

E-mail: francesco.delsole@unisalento.it

Abstract

The 17th century has always been called 'the century of flowers'. Apart from the invasion of exotic plants from the New World, the birth of the *Flower Garden* as a new type of exposition and the evolution of the art of gardening, the flower is a symbol of an era. Baroque architecture is defined precisely by the 'witty shapes' of the curved lines and the impressive 'decorative efflorescence'. This paper intends to highlight the neo-Baroque character intrinsically present in some of the greatest contemporary architects such as Paolo Portoghesi, Frank Gehry and Jean Nouvel who, in parallel with the rediscovery of the value of the Baroque period in the 20th century, have re-proposed neo-Baroque aesthetics and forms in their architecture, making their architecture "bloom" by proposing that dynamic of *folds* well described by Deleuze's philosophy. It is possible to reflect on a widespread contemporary aesthetic among the most important contemporary architects in which neo-Baroque flowers express the same qualities as the flowers found in 17th-century architecture: ephemerality and precariousness.

Keywords: Neo-Baroque; Flowers; Folds; Aesthetic.

Manuscript ID: ICCAUA2023EN0066

Energy Evaluation of a High Energy Performance Building: Cultural Center in the City of Bab Ezzouar as a Case Study

*¹ Ph.D. Candidate **BOUDJEMA Sara**, ² Dr. **BOUKARTA Soufiane**, ³ M.S **ZEDDAM Youssef**
Architecture and Urbanism institute, BLIDA 1 SAAD DAHLEB University, BLIDA, Algeria. ^{1,2&3}
E-mail ¹: boudjema.sara@etu.univ-blida.dz, E-mail ²: boukarta.soufiane@univ-blida.dz

Abstract

Buildings consume energy and cause more pollution when the bioclimatic potential is not taken into account. The present communication focuses on the passive strategies that allow making the best use of the climate and reducing energy demand. The method is based on the identification of the best strategies obtained from the bioclimatic analysis carried out with Climate consultant, followed by a mono-variant based-approach conducted with dynamic thermal simulation campaign performed with Ecotect analysis software. The results let to classify the parameters according to their importance with each other and identify the potential energy savings for each parameter variation. The external walls reduce energy demand by up 61.74 %, followed by windows quality, the thermal resistance of the floor and finally the orientation. The use of the best strategies reduces the energy demand of the cultural center to 32.582 KWh/m² which allowed us to certify the building with low energy consumption.

Keywords: Sustainable Environment; Passive Strategies; Numerical Simulations; Optimized Energy.

Manuscript ID: ICCAUA2023EN0068

Investigating the Socio-Economic Sustainability within The Egyptian Museums over The Last Decade

*¹ Dr. **Mazen Mohamed Nassef**, ² Dr. **Nadia Ahmed Mohammed**, ³ Dr. **Maha AbouBakr Ibrahim**
Misr University for Science and Technology, Faculty of Engineering, Architectural Department, Cairo, Egypt. ^{1,3}
The Valley Higher Institute of Engineering and Technology, Architecture and Design Department, Cairo, Egypt ²
E-mail ¹: mazen.mohamed@must.edu.eg, E-mail ²: Nadya.ahmed@sva.edu.eg, E-mail ³: maha.ibrahim@must.edu.eg

Abstract

Over the last few decades, contemporary museums have undergone a radical change into public places that promote socio-economic sustainability by impeding recreation, commercial, and cultural activities. This shift altered public perception of museums globally and had a profound impact on today's museums, resulting in new prototypes that differed significantly from prior ones. As a consequence, the study attempts to explore how far Egyptian museums have adapted to this fundamental change. As a result, the study intends to trace the evolution of Egyptian museum design over the last decade compared with the findings of the author's previous thesis in 2012. The study used qualitative methods and comparative analysis. The findings revealed that the recent Egyptian museums adapt to this change while the old museums continue to focus exclusively on the exhibition function, ignoring the public role. The article outlines clear criteria for architects to enhance the social and economic role of museums.

Keywords: Contemporary Museums; Egyptian Museums; Museum Architecture; Museum Design Criteria; Socio-Economic Sustainability.

Manuscript ID: ICCAUA2023EN0069

Optimization of Passive Strategies in an Approach Toward Net Zero Energy Buildings under Future Climate Changes

*¹ Ph.D. Candidate. **MAKHOULFI Abdelhakim Walid**, ² Dr. **LOUAFI Samira**
Department of Architecture and Urban Planning, University of Constantine 3 – Salah Bounider, Constantine, Algeria. ^{1&2}
Laboratory of Bioclimatic Architecture and Environment (ABE), University of Constantine 3 – Salah Bounider, Constantine, Algeria. ^{1&2}
E-mail ¹: walid.makhloufi@univ-constantine3.dz, E-mail ²: samira.louafi@univ-constantine3.dz

Abstract

Climate change has emerged as one of the most pressing issues confronting the world today. With the residential sector accounting for one-third of global energy consumption and greenhouse gas emissions, improving energy efficiency has become a primary goal in order to achieve Net Zero by 2050. Several measures will need to be implemented to achieve this goal. This article aims to study three architectural passive strategies: windows-to-wall-ratio, orientation, and shadings, in order to find their relationships and influences on energy consumption and greenhouse gas emissions in residential buildings in three different types of Algerian climates, in current time, and with future Representative Concentration Pathways (RCP), using a multi objective optimization methodology, calibrated against collected energy consumption data. The simulation results using future RCP revealed that energy consumption will rise dramatically over time. Improving these parameters has been shown to reduce residential building energy consumption and emissions by up to 20%.

Keywords: Passive Strategies; Representative Concentration Pathways; Residential Buildings; Energy Consumption; Greenhouse Gases; Net Zero Energy.

Manuscript ID: ICCAUA2023EN0076

Shopping Mall Design Features and Public Wellbeing

*¹ Ph.D. Candidate **Yingting Chen**, ² Professor Dr. **Charlie Xue***Department of Architecture and Civil Engineering, City University of Hong Kong, Kowloon, Hong Kong, China. ^{1&2}**E-mail ¹: ychen735-c@my.cityu.edu.hk, E-mail ²: bscqx@cityu.edu.hk*

Abstract

The COVID-19 pandemic has dramatically affected all aspects of public life and further stimulated awareness of public wellbeing. Yet in the realm of architectural design, shopping malls, as the type that carries the most integrated and concentrated public activities, have received little attention on this topic. To fill in the gap, this review first provides a general overview of 500 papers on mall design evaluation through bibliometric analysis, applying CiteSpace 5.0 to visualize the keyword co-occurrence and clustering timeline, illustrating key knowledge domains, research evolution, frontiers, and recent hotspots. Then, 20 studies on mall design features and public wellbeing are screened out and summarized and analyzed in-depth from five dimensions: study design, mall design metrics, public wellbeing metrics, evaluation methods, and findings. This review provides a reference for mall design development and future studies and enhances awareness of people-oriented sustainable urban construction in the post-pandemic era.

Keywords: Shopping Mall Design; Public Wellbeing.

Manuscript ID: ICCAUA2023EN0088

About the Regulatory Framework for Improving the Energy Efficiency of Buildings: An Overview of the Algerian Context

*¹ Dr. **Hana SALAH-SALAH**, ² Ph.D. Candidate **Ikram HARBI***Department of architecture, Universite 8 Mai 1945, Guelma, Algeria ¹**Department of architecture, Laboratory de Genie Civil & Hydraulique LGCH, Universite 8 Mai 1945, Guelma, Algeria ²**E-mail ¹: salahsalah.hana@univ-guelma.dz, salahsalahhana@gmail.com, E-mail ²: harbi.ikram@univ-guelma.dz*

Abstract

Algeria is initiating a green energy dynamic by launching an ambitious program to support the renewable energy sector, and energy efficiency. This support program named “*Taka Nadhifa*” is part of the strategic partnership on energy between the European Union and Algeria. The intermediate results of the program have led to the introduction of regulatory energy efficiency measures in the design and renovation of buildings. This paper reviews the inputs of the new thermal regulation related to the building sector through the examination of the produced proposals. This new vision aims on the one hand to alleviate the difficulties of implementation of the existing thermal regulation and on the other hand to integrate the attributes of the energy performance. Examples illustrating the interest of the proposals of this new building thermal regulation will also be presented. Finally, the expected results of this new regulation will be the verification of the thermal conformity of the buildings with a first attempt to establish an energy labelling.

Keywords: Energy Efficiency; Building; Thermal Regulation; Energy Labelling; Algeria.

Manuscript ID: ICCAUA2023EN0091

The Intra-Action Between Educational Space and Student’s Performance within University City School of Architecture in Mexico

*¹ Ph.D. Candidate **Karen Arzate Quintanilla**, ² Professor **Gehan Selim**, ³ Dr. **Pamela Birtill***School of Civil Engineering, School of Psychology. University of Leeds, United Kingdom.**E-mail ¹: cnkaq@leeds.ac.uk, E-mail ²: g.selim@leeds.ac.uk, E-mail ³: P.Birtill@leeds.ac.uk*

Abstract

This research aims to investigate intra-action between educational space and physical performance within the context of higher education institutions. We use the Baradian concept of intra-action to build an understanding of non-human entities as important as human ones. The hypothesis is how the physical characteristics of space such as materials, light, colour, etc., are essential for undergraduate students. The case study selected for this research is the National Autonomous University of Mexico which is an example of how materiality may influence students experience, in addition to the university’s architectural significance had led it to be listed as World Heritage. The collected data will show the importance of materiality within undergraduate students. The methods to facilitate this research include 50 surveys and 5 semi-structured interviews. The possible outcomes of this study will lead to adding value to the physical aspects that are involved within a Higher Education Institution.

Keywords: Intra-Action; Educational Spaces; Higher Education Institutions.

Manuscript ID: ICCAUA2023EN0097

Defining Nearly Zero-Energy Buildings (nZEB) for Turkey in Terms of Boundary Conditions

*Assistant Professor Dr. **Gözde Gali Taşçı***Beykent University, Faculty of Engineering Architecture, Istanbul, Turkey**E-mail: gozdetasci@beykent.edu.tr*

Abstract

The European Union has presented that the building sector is responsible for 36% of greenhouse gas emissions due to energy consumption and 40% of all energy consumption. Within the framework of the EPBD directive followed to reduce fossil energy consumption in EU countries, the commission recommendation in 2016 (2016/1318) is to ensure that by 2020 all new buildings are nZEB. The current directive has further steps. In Turkey, the Regulation on Energy Performance in Buildings follows EPBD. However, the definition of nZEB in Turkey should be reviewed within its own boundaries. There are 5 different climatic regions in Turkey with different architectural characteristics. Therefore, different ways will have to be followed in terms of meeting the heating-cooling needs. This research deals with the boundary conditions that may be encountered while developing the nZEB definition for Turkey and proposes climatic definitions, additionally with a development in sectoral operation in building sector.

Keywords: nZEB; Energy Performance; Regulation; Green Building; Climatic Design.

Manuscript ID: ICCAUA2023EN0098

Natural Intelligence: Criticizing Architecture in the Digital Age

¹M.Sc. **Yara Mohamed**, * ²M.Sc. **Taher Abdel-Ghani**, ³B.Sc. **Alaa Ahmed***UIC Barcelona International University of Catalonia, Barcelona, Spain ¹**October University for Modern Sciences & Arts, Cairo, Egypt. ^{2&3}**E-mail ¹: yara.mohamed@uic.es, E-mail ²: tahmahmoud@msa.edu.eg, E-mail ³: alaa.ahmed14@msa.edu.eg*

Abstract

We are currently living the post fourth industrial revolution era where digitalism and machine learning dominate our everyday ecology. Within architectural education, students are developing different digital techniques to express their projects in terms of plans, sections, elevations, and 3D models. Yet, with all this advanced level of information, there is a gap when it comes to critical thinking. This paper aims to put forward the foundational steps towards analyzing and criticizing architecture with an addition of human perspective to consider the natural surroundings intelligence in the design morphology, materiality and fabrication that is subject to digital infrastructure. The objective is to highlight the students' cognitive skills reinforced with digital thinking as a way to move further steps ahead of the trending market.

Keywords: Nature; Bio-Learning; Bio-Organism; Artificial Intelligence; Critical Thinking; Growth.

Manuscript ID: ICCAUA2023EN0104

Modelling the Energy Demand of a Residential Building Using an Artificial Neural Network (ANN) Approach

*¹Dr. **BOUKARTA Soufiane**, ²Assoc. Prof. Dr. **Hourakhsh Ahmad Nia***Institute of architecture and urban planning, Blida university ¹**ETAP laboratory ¹**Faculty of Architecture, Department of Architecture, Alanya University, Turkey ²**E-mail ¹: sofiansasse@gmail.com, E-mail ²: hourakhsh_ahmadnia@yahoo.com*

Abstract

The consumption of fossil fuels accelerates and accentuates the formation and development of the climate change phenomenon. Understanding the energy demand in the early-stage design could lead to energy savings. This communication is interested in developing an energy demand prediction tool based on artificial neural network modelling ANN. For this purpose, and based on the scientific literature, a panel of parameters often used by architects at the time of architectural design was selected, which are, the thermal resistance of the external walls, the type and rate of glazing, the orientation, the prospect and the compactness. A campaign of 300 dynamic thermal simulations is then run under energy plus using the Latin Hypercube Sampling (LHS) approach. The model has a prediction potential of over 94.3%. The model also ranks each parameter according to its importance in the equation identifying the energy demand.

Keywords: Energy Demand; Artificial Neural Network; Architectural Design; Passive Approach; Modelling.

Manuscript ID: ICCAUA2023EN0109

Introducing Building Integrated Agriculture as Green/ Sustainable Building Concept in MENA Countries: Approach and Constraints

*¹ Ph.D. Candidate. **Yakouta Djamaa**, ² Dr. **Michele D'Ostuni**, ³ Dr. **Ouassila Bendjaballah**

Department of Architecture, University of Constantine3 –Salah BOUBNIDER-, Constantine, Algeria. ^{1 & 3}

Department of Agricultural Sciences and Technologies, University of Bologna Alma Mater Studiorum, Viale Fanin, 44, 40127 Bologna, Italy ²

E-mail ¹: yakouta.djamaa@univ-constantine3.dz, E-mail ²: michele.dostuni@unibo.it, E-mail ³: ouassila.bendjaballah@univ-constantine3.dz

Abstract

In recent years, the emergence of Building-Integrated-Agriculture (BIA) in developed countries has been seen as a possible solution to promoting models of sustainable and productive building in urban areas. This approach, which is based on the installation of food production systems that combine innovative technology and soil-less growing systems, permit to grow fresh fruits and vegetables in and on the building, while exploiting resources outputs from the building creating new synergies between the built environment and the food production system. In this scenario, MENA region has instituted an ambitious policy to promote and foster the concept of sustainable building construction in the coming years, but faces a variety of unique challenges. The main objective of this study is to explore and examine the possibility of implementing BIA as a new approach for sustainable building construction in the MENA region, particularly in Algeria, by presenting a future perspective of the practice, and investigate its conceptual, technological, governmental, social and economic barriers.

Keywords: Building-Integrated-Agriculture; The Middle East and North Africa (MENA); Sustainable Building; Hydroponics.

Manuscript ID: ICCAUA2023EN0116

Smart-Responsive Skins, A Valuable Strategy for Reducing Energy Consumption and Improving Indoor Thermal Comfort in Hot and Dry Climates

*¹ Dr. **Sara Khelil**, ² Dr. **Iynes Laouni**, ³ Ph.D. **Alla Eddine Khelil**

Mohamed Kheider University, Faculty of Technology, Department of Architecture, Biskra, Algeria. ^{1 & 2}

Degli Studi della Campania Luigi Vanvitelli University, Department of Architecture and Industrial Design, Italy ³

E-mail ¹: sara.khelil@univ-biskra.dz, E-mail ²: ines.laouni@univ-biskra.dz, E-mail ³: khelillaedine@gmail.com

Abstract

Through the definition and application of a biomimetic-computational design methodology to study and analyze natural organisms in terms of thermoregulation behavior, this research attempts to evaluate the introduction of building skins parameterization and smartness as a valuable strategy for reducing energy consumption and improving indoor thermal comfort in hot and dry climates. Furthermore, the study includes a compiled taxonomy of the biomimetic concepts investigated and studied in order to serve as a mini-data bank for architects or designers interested in this design approach to tackling thermoregulation challenges. A 1 degree of freedom bio-kinetic shading elements are developed for further application in a building skin by exploring and extracting thermoregulation mechanisms found in nature. The ongoing research is inserted in the generative technique typology of deployable structures, where we have combined biomimetics with origami paper pleat based on a parametric methodology to design a smart shading device interacting with sunlight.

Keywords: Building's Skin; Biomimicry; Energy Efficiency; Smart; Hot and Dry Climates; Kinetic Architecture; Optimization; Parametric Design; Thermoregulation.

Manuscript ID: ICCAUA2023EN0117

The Energy Efficiency of Buildings between Architectural Design and the Inhabitant Behavior, Case Study: A Residential Building Guelma (Algeria)

*¹ Ph.D. Student **Ikram Harbi** & ² Associate Professor **Hana Salah-Salah***Department of Architecture, University 8 Mai 1945 Guelma –Algeria. ^{1 & 2}**E-mail¹: harbi.ikram@univ-guelma.dz, E-mail²: salahsalah.hana@univ-guelma.dz*

Abstract

Since the implementation of the first energy saving measures after the oil crises, and then with the fight against climate change, the issue of energy efficiency in buildings has always been at the heart of energy and climate policies, whether at the European, national or local level. In this context, this article attempts to examine the energy efficiency of buildings by considering the synergy between urban design and occupant behavior. The main purpose of the paper is to highlight the relationship between occupant behavior and its implications in the design of residential buildings. This study examines a methodology that investigates energy practices in residential buildings through a survey. Energy efficiency offers governments, the private sector, and communities a cost-effective way to achieve a variety of goals, such as reduced energy consumption, lower emissions, financial savings, energy security, and positive health impacts.

Keywords: Energy Efficiency; Energy Security; Residential Building; Inhabitant Behavior; City of Guelma.

Manuscript ID: ICCAUA2023EN0118

The Design of a Psycho-Pedagogical Space for Autistic Children with Considerations of Spatial Criteria, such as Lighting and its Sensory Aspect

*¹ Dr. **Ilynes Laouni**, ² Dr. **Sara Khelil***Mohamed Kheider University, Faculty of Technology, Department of Architecture, Biskra, Algeria. ^{1 & 2}**E-mail¹: ines.laouni@univ-biskra.dz, E-mail²: sara.khelil@univ-biskra.dz*

Abstract

Through this research, we are aiming to provide recommendations and spatial design considerations of a psycho-pedagogical space for autistic children in order to ensure their education in the best possible conditions. This intention is achieved by guaranteeing their comfort and well-being in a healthy psycho-pedagogical space and the effectiveness and integration of the autistic child in his environment and to prepare him for the future life. The need for an adequate architectural space and an appropriate architectural environment is primordial, which aims to establish the difficult relationship of the child with his environment, to improving spatial characteristics and achieving sensory well-being through light. This research shows the conditions and criteria that ensure the well-being of the autistic child with his environment that he needs.

Keywords: Design; Psychopedagogical Space; Spatial Criteria; Lighting; Sensory Aspect; Autism.

Manuscript ID: ICCAUA2023EN0131

The Impact of the Use of Computer-Assisted Drawing Tools on the Productivity of the Architectural Design Process

*¹ Ph.D. Candidate **Khawla Mohammedi**, ² Professor Dr. **Abdelmalek Arrouf***Laboratory of architectural and urban phenomena modeling and studying (LEMPAU), Batna1 University, Algeria. ^{1 & 2}**Department of architecture and urbanism, University Batna1, Batna, Algeria²**Department of architecture, University of Biskra, Algeria¹**E-mail¹: mohammedikhawla@yahoo.fr, E-mail²: abdelmalek.arrouf@univ-batna.dz*

Abstract

This work falls within the empirical studies of the architectural design process. It aims to measure the impact that the use of computer-aided drawing tools (CAD tools), in the early phases of the design process, might have on the Productivity of the design activity. To achieve this goal, we use the protocol analysis method. A group of students, in third year of architecture, was asked to accomplish two design tasks. In the first, they used freehand sketches, and in the second, they employed CAD tools. A comparison of the two types of protocols shows that the use of CAD tools reduces the productivity of the process by decreasing its efficiency and effectiveness. It makes the design process longer due to hesitation and indecision of the subject and hinders ideational productivity. Furthermore, it also increases semic production, which becomes less effective and in return reduces morphic activity.

Keywords: Productivity; Architectural Design Process; Computer-Aided Drawing Tools; Design Activity; Protocol Analysis.

Manuscript ID: ICCAUA2023EN0134

Manufacturing Processes of Complex Shapes and Structures Using 3D Printing and Augmented Reality

¹M.A. Tobias Hanke, *²M.A. Jan Yoshio Kawasaki, ³Professor Dr. Gregor Grunwald
Jade University of Applied Sciences, Faculty of Architecture, Oldenburg, Germany. ^{1,2,3}

E-mail ¹: tobias.hanke@jade-hs.de, E-mail ²: jan.kawasaki@jade-hs.de, E-mail ³: gregor.grunwald@jade-hs.de

Abstract

The paper describes and evaluates the design and manufacturing process of complex shapes. A parametric structure is designed on the 3D-model, its shape is evaluated on the 3D-printed model, and is manufactured on a 1:1 scale using augmented-reality (AR). The following questions arise: where are the limits for 3D-printed shapes and the limits for implementation using AR? The 3D-printed model will be used to test and evaluate the structure. Using the HoloLens with Fologram software, an attempt is made to recreate the structure with high precision. This process is tested as a hypothesis based on the quantitative, practical investigation. The influence of the use of technical hardware and digital software on the precise implementation of complex forms in the design is shown, and how the influence of digitization and related handling in the field of architecture shifts the limit of feasibility and allows new approaches to the formation of forms.

Keywords: Augmented Reality (AR); 3D Printing; 3D Modeling (CAD); Computer-Aided Manufacturing (CAM); HoloLens; Fologram; Parametric.

Manuscript ID: ICCAUA2023EN0136

The Appropriateness of Standing Kitchen in the Indian Context

*¹ Associate Professor Archana Baghel, ² Assistant Professor Shreya Parikh
School of Architecture, Anant National, Ahmedabad, India. ^{1&2}

E-mail ¹: archana.baghel@anu.edu.in, E-mail ²: shreya.parikh@anu.edu.in

Abstract

Women used to sit and cook in the traditional Indian kitchen, which had floor-mounted fuel stoves. After the invention of gas cylinders, there was a significant change in the cooking position, which went from sitting to standing. Since Indian women spend the most hours cooking in the kitchen in the entire world (MUKHERJEE, 2015), standing while cooking is uncomfortable and might have negative health effects. Additionally, it makes older women dependent on other people. The objectives of this study include comparing standing and sitting cooking techniques and determining if a standing kitchen would be appropriate in an Indian setting. The paper adopts secondary data analysis, first-hand observation, and focus group discussion as part of the methodology. The paper brings out a need to reevaluate the design of Indian kitchens so that women of all ages can work independently and comfortably.

Keywords: Cooking Styles; Health Issues; Sitting Kitchen; Standing Kitchen; Indian Traditional Kitchen.

Manuscript ID: ICCAUA2023EN0144

Architectural Design with A Phenomenological Approach: A Case of Museum Sensory Experience

*¹B.S. Maryam Al-Madhi, ² Professor Dr. Najla Allani

University of Bahrain, College of Engineering, Department of Architecture & Interior Design, Bahrain. ^{1&2}

E-mail ¹: 20172680@stu.uob.edu.bh, E-mail ²: nallani@uob.edu.bh

Abstract

The role of the phenomenological Approach is to implement human perceptions where humans exist by perceiving and observing the surrounding in a body relation with the built environment and world surroundings, as addressed by Ponty's philosophy. Furthermore, architecture is the overall image of emerging human life aspects connected with all human sensations that reflects perceptions, experiences, and ideas. Significantly, attributes of daily experiences exist through architecture and social aspects. The purpose of the study stands in understanding bodily experience through phenomenological approaches in a museum. For instance, surrounded built environment and designed atmosphere in architectural design and human sensation concerning phenomenological characteristics. In addition, phenomenological methodology through focus groups is properly considered while practicing the museum's journey that attracts the user's sensory experience and perceptions. Moreover, the study analysis results are promising concerning human sensations and design aspects in a museum experience.

Keywords: Museum; Phenomenology; Experience; Perception and Senses; Phenomenological Characteristics.

Manuscript ID: ICCAUA2023EN0145

Applying the Phenomenological Approach to Educational Place: A Case Study Analysis of a College Experience through Time

*¹ B.S. Ahmed Ameen Aqeel, ² Professor Dr. Najla Allani*Department of interior design and architecture, college of engineering, University of Bahrain. Kingdom of Bahrain**E-mail¹: 20124619@stu.uob.edu.bh, E-mail²: nallani@uob.edu.bh*

Abstract

Applying the phenomenological approach to architecture relies on integrating human experiences and sensory aspects into the designed space, materials, and light to create a place that has a lasting impact on the memory in the human mind. This experience can change if the person experiences the space at a different time. This case study focuses on some students' sensory experiences of the college of engineering at the university of Bahrain who attended college during their academic years and then visited it after a long detachment period. This study relies on interviews with the students focusing on their previous and actual college experience to discover the changes in the experience of the same space through different times. The results are promising and showcase that mental images have changed, and students' attachment has become more substantial due to detachment and time.

Keywords: Phenomenology; Educational Place; Case Study; Sensory Experience; Analysis.

Manuscript ID: ICCAUA2023EN0146

Using a Phenomenological Approach for the Analysis of Two Different Houses in Bahrain

*¹ M.A. Hala Abushaqra, ² Professor Dr. Najla Allani*The University of Bahrain, College of Engineering, department of architecture & interior design.**E-mail¹: 20105552@stu.uob.edu.bh, E-mail²: nallani@uob.edu.bh*

Abstract

Phenomenological practices in the design process will create the quality of spaces where the users will feel a sense of place and will last in their memory. Furthermore, it will encourage the user to revisit the place in contrast with the places not achieving a phenomenological approach. Through a phenomenological approach, this study aims to investigate the bodily and sensory experiences of the users in two different houses in the kingdom of Bahrain. The first selected house is one of the cultural heritage sites located on the String of pearl bath, specifically in the old city of Muharraq. The second house is a contemporary one, located in Sharq al Hid, designed by one of the authors. The findings of this analysis are promising.

Keywords: Sensory; Experience; Bodily; Heritage; Culture; Phenomenological; Senses.

Manuscript ID: ICCAUA2023EN0158

Evaluation of the Energy-Positive Aspects for Optimal Construction Efficiency through Material Realism

*¹ Pratik Mour, ² Prof. Ar. Manali Deshmukh*SMEF's BRICK School of Architecture, Pune, Maharashtra, India¹**SMEF's BRICK School of Architecture, Faculty of Architecture and Design, Pune, Maharashtra, India²**E-mail¹: mour.pratik@gmail.com, E-mail²: manalideshmukh@brick.edu.in*

Abstract

Developing upon the tenets of SDG 7 and SDG 11, this paper studies the relationship between materials used in 21st-century construction and their characteristic scope for energy-positive application in the housing sector against criterias of 'optimal construction efficiency through material realism' (OCEMR). On account of climate change being grossly influenced by the construction sector and both further decrementing affordability in housing, there is a need to study the optimum construction efficiency of a material by studying its many aspects to encourage a realistic reduction in energy consumption, and a realistic increase in energy generation. The proposition of a gradation (OCEMR) is analyzed and later formulated based on material choice, regionality of materials, mode of application of materials, alternative technology, material lifecycle studies, etc. The mentioned factors are deduced through case studies which show a co-variation between the factors for gradation but an informed co-relation between optimized energy efficiency.

Keywords: Energy Positive; Climate Positive; Optimum Efficiency; Construction Materials; Optimization.

Manuscript ID: ICCAUA2023EN0164

Building Assessment Tool to Create Islamic Geometric Patterns Applications in Contemporary Designs

¹Dr. Karima Mohammed Al Shomely, *²Dr. Nadia Ahmed, ³Dr. Iman Ibrahim, ⁴Roaa Harb

The University of Sharjah, College of Fine Arts and Design, Fine Arts Department, Sharjah, United Arab Emirates ¹

The Valley Higher Institute of Engineering and Technology, Architecture and Design Department, Cairo, Egypt ²

The University of Sharjah, College of Fine Arts and Design, Applied Design Department, Sharjah, United Arab Emirates ³

The University of Sharjah, Research Institute of Humanities and Social Sciences ⁴

E-mail ¹: k Abdelaziz@sharjah.ac.ae, E-mail ²: Nadya.ahmed@sva.edu.eg, E-mail ³: iibrahim@sharjah.ac.ae, E-mail ⁴: U17100322@sharjah.ac.ae

Abstract

Islamic geometric patterns (IGPs) represent one of the most substantial design elements in the Islamic heritage. The last few decades have witnessed a great appeal in social sustainability so, several endeavors have been made to preserve Islamic heritage through contemporary design and art. This paper attempts to answer the debate on how the IGPs are defined in contemporary applications, and how far they evolved thanks to technology. Therefore, the paper's purpose is to build an assessment tool to create contemporary IGPs applications in architecture and art adhering to sustainable strategies. The paper follows a qualitative methodology and case study to analyze worldwide-recognized cases of architectural designs and art applications implementing IGPs in the last decade. The findings provide clear criteria derived from the analytical results, for designers and artists to consider in applying IGPs in contemporary applications. The paper contributes to promoting the use of IGPs creatively in a sustainable manner.

Keywords: Islamic Geometric Patterns; Contemporary Applications; Art Application; Social Sustainability; Digital Technology.

Manuscript ID: ICCAUA2023EN0168

The Transition to Integrated Renewable Energy: A Framework for Low Energy Building Design

*¹ Ph.D. Candidate Amal KIRATI, ² Ph.D. Candidate Zineb MEDJELDI, ³ Dr. Assoude DECHAICHA, ⁴ Pr. Djamel ALKAMA

8 Mai 1945 Guelma University, Department of Architecture, Guelma, Algeria. ^{1, 2, 3 & 4}

E-mail ¹: kiratiamal@gmail.com, E-mail ²: zinebmedjeldi1@gmail.com

E-mail ³: assoudech@gmail.com, E-mail ⁴: dj.alkama@gmail.com

Abstract

Following the Paris Agreement in 2015, global attention to global warming countermeasures has intensified, as climate change is a major threat to human societies, fundamentally linked to energy consumption and greenhouse gas emissions. Given the huge impact of buildings on energy consumption, changes must take place towards a sustainable energy transition by using renewable energies such as solar energy in order to push buildings to near zero energy consumption. In this context, our work consists of clarifying the nearly zero energy building (NZEB) concept and of reviewing research articles focusing on the use of renewable energy sources (RES) in an efficient way, based on solar energy.

Keywords: Energy Consumption; Greenhouse Gas Emissions; Impact Of Buildings; Renewable Energies; Solar Energy; Nearly Zero Energy Building.

Manuscript ID: ICCAUA2023EN0208

Energy Performance and Sustainability of High-Rise Buildings

* Dr. Jong-Jin Kim

University of Michigan, Taubman College of Architecture and Urban Planning, Ann Arbor, Michigan, USA

E-mail: daylight@uomich.edu

Abstract

This study is to examine methods of enhancing energy efficiency and self-sustainability of tall buildings. The current levels of energy consumption of high-rise buildings were investigated. The alternative methods of producing onsite energy that can be harnessed from tall buildings were reviewed. Comparing the quantities of renewable energy produced from and the energy demand of a test-bed building, the energy self-sufficiency of the building was analyzed. It was found that, with current technology, renewable building systems can meet only a small fraction, less than 8%, of the building's energy demand and 10% of its electricity demand. From this study, it was concluded that energy self-sufficiency of tall buildings must be approached by enhancing the energy efficiency of various building systems of tall buildings.

Keywords: Building Energy Performance; Renewable Energy Technology; Solar Energy; Energy Self-Sufficiency.

Manuscript ID: ICCAUA2023EN0210

A Novel Kinetic Shading Using Threefold Symmetrical Bricard 6R Mechanism: Investigating the Daylighting Performance and Lighting Efficiency

*¹ Assoc. Prof. (Ph.D.) **Yenal Akgün**, ² B.A. **Canberk Kavuncuoğlu**, ³ B.A. **Pınar Neşeliler**
Yaşar University, Faculty of Architecture, Izmir, Turkey. ^{1, 2, 3}

E-mail ¹: yenal.akgun@yasar.edu.tr, E-mail ²: canberkkavuncuoglu@gmail.com, E-mail ³: pinarneseliler@gmail.com

Abstract

This paper aims to introduce a novel kinetic façade shading using the threefold symmetrical Bricard 6R mechanism and reveal its environmental performance at different daylight conditions. To arrive at this aim, first, the main design principles of the proposed kinetic shading system have been introduced, kinematic analysis has been performed, and the construction details have been explained. Then, a parametric model of the proposed system has been created in Grasshopper®, a visual programming language that runs in Rhinoceros®. This parametric model allows the simulation of geometric transformations of the system simultaneously. Finally, using this parametric model, the lighting performance of the different geometric configurations of the proposed system has been tested and simulated in Climate Studio® in different daylight conditions. The results obtained from the analyses have been compared with other existing shading systems in the literature and the advantages and shortcomings of the proposed system have been revealed.

Keywords: Kinetic Architecture; Façade Design; Parametric Design; Bricard Mechanism; Daylight Analysis.

Manuscript ID: ICCAUA2023EN0211

Exploring Inclusivity of Storytelling Museums in Cairo through Developing an Educational Adventure in the Built Environment

* ¹ Assoc. Prof. Dr. **Mennat-Allah El-Husseiny**, ² Dr. **Ahmed Eldessouki**, ³ Dr. **Ahmed El-Husseiny**
Architecture Department, Faculty of Engineering, Cairo University, Egypt. ^{1, 2, 3}

E-mail ¹: mennatallahelhusseiny@gmail.com, E-mail ²: aeldessouki1978@yahoo.com, E-mail ³: husseiny33@hotmail.com

Abstract

Storytelling museums in Cairo play a crucial role in preserving memory, culture, and heritage values. This typology selectively has been chosen to create an adventure for young architecture students to explore the built environment associated with the inclusivity of various user groups. Interesting stories experienced by the architecture students reflect the reality of whether storytelling museums play their intended roles or not, in addition to whether they are inclusive for various user groups. The paper aims to unveil the experiences witnessed by the students in their attempts to explore how architectural design promotes the preservation of collective memory and addresses various user groups. The selected case studies vary from museums preserving the memory of late public figures or national events or museums preserving antiquities that behold unique myths. The methodology used is qualitatively assessing the theory bonding the spatial experience of the museum with the story it beholds through the adventures of exploration held by the groups of students. The paper concludes with recommendations to enhance the experience of this typology to play a more effective role in cross-cultural values exchange.

Keywords: Built Environment Education; Story-Telling Museums; Inclusivity; User-Groups; Interactive learning.

Manuscript ID: ICCAUA2023EN0215

A New Life for 'Repudiate' Architecture

* (Ph.D.) Researcher Dr. **Concetta Tavoletta**

Università degli studi della Campania "Luigi Vanvitelli", Dipartimento di Architettura e Disegno Industriale, Aversa, Italy

E-mail: concetta.tavoletta@unicampania.it

Abstract

The research, promoted by the Green & Innovation REACT EU project, focuses its analysis on the international situation of incomplete private architecture. In particular, in addition to an observation of the literature that has been interested in the phenomenon of unfinished architecture for years, this work is based on the possibility of granting to buildings considered ordinary -and which haven't completed their construction process- a second chance. «Therefore, to eliminate the unexpected», wrote Michel de Certeau, «or to expunge it from calculation as an illegitimate accident and subverter of rationality, means to prevent a living and "mythical" practice of the city. [...]. Accidental time is what is told in the effective discourse of the city: an indeterminate fable, better articulated on metaphorical practices and stratified places with respect to the empire of evidence in functionalist technocracy» (de Certeau, 2001). In the plots of "indeterminate fairy tale", this work tries to categorize the possible actions which, aiming at the zero demolition, have delivered good practices that can become a project method on the existing.

Keywords: Architectural Design; Reuse; Upcycling; Second Life.

Manuscript ID: ICCAUA2023EN0218

Comparative Study of Indoor Environmental Performance of Church Buildings in Northeast Nigeria

*¹JOHN Ayuba Bassa, ²Prof. (Mrs.) S. N. Zubairu, ³Prof. R. E. Olagunju, ⁴Dr. O. K. Akande
E-mail: john.pg915609@st.futminna.edu.ng

Abstract

Today, Christianity in Nigeria has increased in churches in large cities. As a result, there is an increasing demand for church buildings, to the point where Nigeria now has the highest number of churches per capita globally. The seating capacity of Nigeria's most recently constructed churches ranges from 3000 to 550,000 worshippers at any given time. As good as that is, the concern of this thesis was whether building professionals consider indoor environmental indices performance about worshippers' comfort and well-being. This thesis aimed to compare the indoor environmental performance of church buildings to develop design guidelines for improved environmental indices performance of churches in northeastern Nigeria. Ten church buildings were purposefully chosen, and the effects of temperature, CO, CO₂, RH, PMs, HCHO, TVOCs, Radon, Sound, Ventilation, Moisture, Dewpoint, and Lighting were investigated using a questionnaire, observation schedule, and indoor environmental detectors. A case study evaluation was used to evaluate this pragmatic approach. The study found that seven out of fourteen parameters had low performance, one had a medium performance, and six had a high performance on church members in northeastern Nigeria. As a result, it became necessary to create a design guideline to improve worshippers' comfort and well-being.

Keywords: Comfort; Comparative; Design; Environmental Indices; Performance.

Manuscript ID: ICCAUA2023EN0241

Greening Healthcare Spaces to Stimulate Healing: Biophilic Design in Hospital Spaces

*¹Wouroud TURKI, ²Amal Bouaziz

Higher institute of arts and crafts of Sfax, Tunisia, University of Sfax, Tunisia. ^{1&2}
E-mail ¹: wouroudturki@gmail.com, E-mail ²: amal-bouaziz@hotmail.fr

Abstract

Biophilic Design is a concept used in the interior design sector to increase the connection of users to the natural environment. Used at both the building and city levels, this technique is claimed to have health, environmental and economic benefits for space occupants and urban environments. The biophilic design focuses on human well-being to improve physical and mental health, performance and wellness. All this opens the way to an understanding of the solutions that the use of biophilic design in healthcare spaces could bring. Indeed, through this research and based on the analysis of health spaces whose use of biophilic design has been ubiquitous, we will develop the notion of biophilic health care design and how this new way of space design will affect positively mental health, and subsequently, physical health of the person concerned by the health care in these health centres, hence its impact on the acceleration of healing.

Keywords: Biophilic Design; Health Care; Mental Health; Physical Health; Healing.

Manuscript ID: ICCAUA2023EN0247

Learning for Changing our World: FAR "Methodological Approach in Architectural Education

Architect **Hamdy El-Setouhy**

Lecturer at Arab Academy & Cairo University, Faculty of Engineering, Cairo, Egypt
E-mail: og5hamdy@hotmail.com

Abstract

Architectural education is a topic constantly under investigation by researchers who believe the advancement of the built environment will not be implemented unless future architects are subjected to the necessary knowledge and experiences. Alongside this, the architectural design studio is presented via educators as a real-life simulation for career expertise. However, the various disciplines necessary to inter-twine with the design process are usually taught in stand-alone islands. This already a complex process, but future challenges are different from any previous era, and need a perspective from future architects. The research aims to explore a design methodology introduced for six cycles of design studio, applied to allow future architects to react in unprecedented ways to complex problem-solving. Results will be critically analyzed exposing the criteria of comprehending and responding to futuristic issues, then highlighting the strengths and weaknesses of previous cycles. The results are enhanced framework for developing the educational process.

Keywords: Built Environment Education; Future Architects; Design Studio; Futuristic Architecture.

Manuscript ID: ICCAUA2023EN0255

Service Life Prediction of Paint Coating of Algiers Building Envelopes by Applying a Multiple Linear Regression Analysis

*¹ Dr. Aghiles HAMMAS, ² Prof. Ahmed BRARA*National Center of Studies and Integrated Research on Building Engineering (CNERIB), Soudania-Algiers. Algeria.* ^{1,2}*Email¹: hammasaghiles@yahoo.com, Email²: ahmedbrara@hotmail.com*

Abstract

The durability of a building is strongly related to the service life of its various components, including the coatings of its envelope. The paint on the building envelope is the first protective layer exposed to the harmful effects of the climate and environmental conditions. These effects are manifested over time by degradations such as color change, cracking, peeling, etc. In this contribution, a predictive model of the service life of paints coating, applied on cementitious materials of building envelopes located in Algiers, is proposed. The model is based on a multiple linear regression analysis of descriptive results of visual investigations combined with in situ tests on the degradation of the facade paints of 45 buildings sample, selected according to their age, their distance to the coast as well as their orientation with respect to the climatic factor exposures. The proposed predictive model satisfactorily reproduces the field results.

Keywords: Paint Coating; Degradation; Service Life Prediction.

Manuscript ID: ICCAUA2023EN0258

Analytical Assessment of the Dynamic Thermal Performance of Building Flat Roofs in Semi-Arid Climates of Algeria

*¹ Dr. M'hamed Mahdad, ² Dr. Dihia Djefel*National Centre of Studies and Integrated Research on Building Engineering CNERIB, 16021 Algiers, Algeria* ¹*University of Mouloud Mammeri, Campus Hessnaoua-BP.17, R.P, Tizi-Ouzou, Algeria* ²*E-mail¹: mahdadcnerib@gmail.com, E-mail²: dihia.djefel@ummto.dz*

Abstract

The work aims at the description of an analytical model, which allows the prediction of the thermal performance of the most commonly used buildings with flat roofs in the hot and arid climates of Algeria. The effect of an insulating layer in the flat roofs is addressed, by varying both its position and thickness. For this purpose, four insulation materials including expanded polystyrene, Glass wool, foamed polyurethane and foamed Palm Fiberboard are analyzed. Different thermal parameters, which are the time lag, decrement factor, factor surface, admittance and transmittance thermal, are investigated. Base on the results, it was determined that the best insulating performance was achieved in the case where three insulations of similar thickness were applied one on the roof's outside surface, the second was placed in the middle, and the third on the interior surface. These roof systems revealed a highest time lag point associated a lower decrement factor.

Keywords: Thermal Insulation; Flat Roofs; Dynamic Thermal Properties; Decrement Factor; Time Lag.

Manuscript ID: ICCAUA2023EN0261

Living Space Needs of an Elderly Person: Towards a Healthcare Design

*¹ Dr. Donia Maâlej-Bouricha, ² Dr. Dorra Maâlej-Kammoun*higher institute of arts and crafts of Sfax, University of Sfax, Tunisia* ¹*The medical school of Sfax, Tunisia* ²*E-mail¹: dony.maalej@hotmail.com, E-mail²: dorramaalej1987@gmail.com*

Abstract

In the past, medicine has not been interested in artistic practices and design. These disciplines converge towards the same interest, which is the improvement of the quality of life of the users. This article will be a collaboration between a doctor and a designer to study the living space of an elderly subject to improve his quality of life, preserve his autonomy and avoid his institutionalization as much as possible. This research proposes the analytical study of an existing living space of an elderly person to study the experience of the user about his new needs. Based on this analysis and the previous scientific research, we will propose a professional guide for the rehabilitation of an elderly person's living space, based on a standardized geriatric examination, to maintain his or her autonomy as long as possible.

Keywords: Design Thinking; Healthcare Design; Geriatric; Elderly; Rehabilitation.

Manuscript ID: ICCAUA2023EN0262

Urban Building Energy Modeling (UBEM) and Analysis

¹ Asst. Prof. Dr. **Melik Ziya Yakut**, ² Ph.D. Candidate **Sinem Esen**
 Isparta University of Applied Sciences, Faculty of Technology, Isparta, Turkey. ^{1&2}
 E-mail ¹: ziyayakut@isparta.edu.tr, E-mail ²: snemesen@gmail.com

Abstract

Today, all countries need to offer solutions to the effective use of energy in terms of the negative environmental impacts of the resources used in energy supply and energy self-sufficiency. To this end, energy-efficient design needs to be added to the main framework of the urban planning discipline. In order to produce solutions to these headings, modeling urban structures that have a great contribution to energy consumption and simulating energy demand on an urban scale are of great importance for the effective use of energy. In this study, a modeling framework for UBEM (Urban Building Energy Modeling) production has been established to provide solutions to the factors mentioned. Through this, it is aimed to create a practical model framework for analysing energy consumption on an urban scale, with realistic results.

Keywords: Urban Building Energy Modeling; UBEM; UBEM Approaches; Urban Energy Modeling; Energy Efficiency.

Manuscript ID: ICCAUA2023EN0268

Paper-Based Structures & Pop-Up Architecture: Challenges and Opportunities

^{*1} B.A. **Mert Mısırlıoğlu**, ² Assist. Prof. (Ph.D.) **Mauricio Morales-Beltran**
 Architecture, Faculty of Architecture, Yaşar University, Turkey. ^{1&2}
 E-mail ¹: mert.misirlioglu98@gmail.com, E-mail ²: mauricio.beltran@yasar.edu.tr

Abstract

Pop-up architecture encompasses ephemeral structures, built to be disassembled and reassembled. Among several available materials, paper is extensively used to build these temporary structures due to fabrication and sustainable reasons. Although by applying adequate production techniques paper can be used as a load-bearing component, its strength and durability might be compromised when exposed to environmental conditions. This paper aims at identifying the challenges of designing and implementing paper-based structures, as well as at unveiling the design potentials of using paper in pop-up architecture. In the first part, related literature and examples are reviewed to evaluate how rapid assembly, convenience of transportation, low-cost, less specialized labour in the production of components and in the assembly process, are parameters weighing in the choice of paper as structural material. The second part discusses selected case-studies, to show how paper-based components, connections, envelope insulation, transportation and assembly constraints are addressed to shape these temporary structures, thus becoming a source of inspiration for pop-up architecture.

Keywords: Pop-Up Architecture; Paper-Based Architecture; Paper Structures; Cardboard Construction.

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Quasi-Material and Quasi-Things as Elements in the Making of Atmosphere in Architecture

^{*1} B.A. **Muhammad Rizky Syam**, ² Dr. **Rini Suryantini**, ³ Professor Dr. **Paramita Atmodiwirjo**
 Universitas Indonesia, Faculty of Engineering, Department of Architecture, Indonesia
 E-mail ¹: muhammad.rizky09@ui.ac.id, E-mail ²: r.suryantini@ui.ac.id, E-mail ³: paramita@eng.ui.ac.id

Abstract

This paper discusses two important elements of material that construct atmospheric architecture, namely quasi-material and quasi-thing. This paper aims to explore the existence of quasi-materials and quasi-things in affecting the human sense and forming the atmosphere. It is argued that the existence of quasi-materials and quasi-things is important as both elements could shift focus in designing material from form-based into amorphic, immateriality. This study utilized cases as precedents of atmospheric architecture, which is analyzed for every quasi-material and quasi-thing that plays role in the construction of the atmosphere. The findings from the precedent analysis revealed that some quasi-materials such as light can be manipulated either by using casual types of media or through sophisticated instrumentations to produce specific quasi-things. This research proves that the materiality of architecture could be pursued through immateriality with the appearances of quasi-materials and quasi-things in the making of the atmosphere.

Keywords: Atmospheric Architecture; Materiality; Quasi-Material; Quasi-Thing; Human Sensory; Immateriality.

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Spatial-Functional Organization of A Contemporary Apartment in Serbia

*¹ Ph.D. Teaching assistant Dr. **Vladana Petrović**, ² Ph.D. Associate professor Dr. **Branislava Stoilković**, ³ Ph.D. Assistant professor Dr. **Nataša Petković**,
⁴ Ph.D. Assistant professor Dr. **Hristina Krstić**

Faculty of Civil Engineering and Architecture, Niš, University of Niš, Serbia. ^{1,2,3&4}
E-mail ¹: vladana.stankovic@gaf.ni.ac.rs, E-mail ²: branislava.stoilkovic@gaf.ni.ac.rs,
E-mail ³: natasa.petkovic@gaf.ni.ac.rs, E-mail ⁴: hristina.krstic@gaf.ni.ac.rs

Abstract

The expansion of residential construction has marked the last two decades in Serbia. Contemporary housing construction is popularly called “investor construction”, and it is based on the investor’s influence on achieving the greatest possible capacity in relation to the area of the plot, the largest possible area for sale, as many apartments as possible per floor, the largest possible dimensions of the building on the plot, and the largest possible number of rooms within the smallest possible total square footage. The research’s aim is to discover how the aforementioned effects manifest themselves in the spatial-functional organization of the units. The analysis is performed on the case studies of residential construction in the largest urban areas of Belgrade, Novi Sad, and Nis. The findings of this research show that different authors repeat the same functional organization regardless of the location where they are constructed.

Keywords: Contemporary Apartment; Spatial-Functional Organization; Housing Unit Development; Housing Typology.

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The Process of Telling the Brand Story through Space Design in Interior-Brand Interaction: The Case of Decovita Etiler Showroom Store

* ¹ **Amara Köprülü**, ² **M.A. Yunus Emre Boz**

Istanbul Technical University, International Master of Interior Architectural Design, Istanbul, Turkey ¹
Mimar Sinan Fine Arts University, Interior Architecture PhD, Istanbul, Turkey ²
E-mail ¹: amara@gonyetasarim.com, E-mail ²: emre@gonyetasarim.com

Abstract

The design of spaces that create an interaction area with the brand concept that makes an organization visible and unique plays an essential role in brand success. Especially in showrooms where human interaction is at the maximum, the design of the space-brand connection is critical. The process of telling the brand story through space requires analysis and research to understand the brand's values, history, culture, and vision to be reflected in the space. The stages of designing the brand-space interaction were analyzed through Decovita Showroom Store. As a result, the examined design stages start with evaluating the brand's story and the concept development phases. Then, the concept idea is designed by focusing on the brand's abstract representations, which leads to the color-texture choices and detailed decisions to be made through the space fiction.

Keywords: Interior Architecture; Branding Design; Story Telling; Concept Development.

Manuscript ID: ICCAUA2023EN0284

An Evaluation of Luxury Fashion Brands' Collection Promotion through Threshold Space: The Case of ‘Yayoi Kusama and Louis Vuitton Collaboration’

* **Duygu YILDIZ**

Alanya HEP University, Faculty of Architecture, Antalya, Turkey
E-mail: duyguyildizahep@gmail.com

Abstract

The designed showcases and facades of Fashion Stores have the function of threshold filters that can create the perception of shopping. For shopping, it is important that these filters give an understandable impression of the store as well as its attractive designs. In this study, the definition of "threshold space" is used for the storefront, storefront, and store window, which establish the relationship between interior and exterior through threshold filters. The threshold, which is a part of the space, can generally be specified as the entrance or the front of that space. The subject of this study is an evaluation of the striking threshold space usage in the promotion of the new collection of the Louis Vuitton brand in collaboration with artist Yayoi Kusama in 2023. The aim of the study is to remind space and art through threshold spaces through architectural discipline by saving them from the purely visible.

Keywords: Threshold Space; Stores; Storefronts; Facades; Display Windows; Threshold Filter; Perception.

Manuscript ID: ICCAUA2023EN0289

3D Modeling the Work Space with a Lidar Sensor-Supported Camera and Designing the Designs with Genius Loci Concept in Design Programs

*¹ Asst. Prof. Melik Ziya YAKUT, ² Ercan TURGUT

Department of Mechatronics Engineering, Faculty of Technology, Isparta University of Applied Sciences, Isparta, Turkey. ^{1,2}

E-mail ¹: ziyayakut@isparta.edu.tr, E-mail ²: mmercanturgut@gmail.com

Abstract

Furniture, colors and designs used in work spaces affect working performance and quality of working life. This study works with the Genius Loci concept, which expresses the original atmosphere and air of the work space. The work space was scanned with a lidar sensor-supported camera as part of the study. The obtained scanning file was transferred to a computer platform and made usable with the relevant design program. The relevant design program made it easy to adjust and see the positive effects of the changes in the re-designed work space on work performance and the person using the work space after the changes in the re-designed work space were implemented. By referencing this study, the positive direct effect on performance increase in work space can be seen in the re-designed work space.

Keywords: Genius Loci; Lidar Sensor; 3D Designing; Architecture and Technology; Work Space.

Manuscript ID: ICCAUA2023EN0306

Architecture as Images: Using Collage as Space Construction Method

¹ B.Arch. Fiditya Daisy Charisma Aulia, *² Dr. Kristanti Dewi Paramita, ³ Professor Dr. Yandi Andri Yatmo

Department of Architecture Faculty of Engineering Universitas Indonesia, Indonesia ¹

E-mail ¹: kristanti.dewi@ui.ac.id

Abstract

This research investigates architecture as images, using collage as a method of constructing space. It argues that architecture based on images perceive space as an overlapping and multilayered fragment of spatial and material elements. This study is conducted through a case study by analyzing six collage images of utopian architectural projects, breaking down layers that overlaps and constructed the images. The findings in this study demonstrate how space is having different narrative meanings which appear as foreground-background layers. The foreground layers appear as the main argument that has a larger scale which is positioned as the top layer, while the background layers appear on a smaller scale and are positioned as supporting elements. The study concludes that these findings can be used as a method in architectural design to create the meaningful narrative of space that exist in smaller diverse parts rather than as a generic whole.

Keywords: Architecture as Images; Collage Drawing; Narrative; Multilayer Fragments.

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Study and Analysis on the Maintenance Planning of Architectural Public Works, Built in the City of Azogues, Cañar Province – Ecuador

* Estudiante Arq. María Viviana Saquicela Vargas

Facultad de Arquitectura y Urbanismo, University of Cuenca, Cuenca, Ecuador

E-mail: vivis315@hotmail.com

Abstract:

The useful life of a work is conceived from the exploitation of the resources for the generation of materials, the design, the construction, the use and operation, the deterioration or demolition and possibly the recycling of elements; which is why at present there is an inherent need to plan the maintenance and conservation of the executed constructions, especially those destined for public equipment, granting a longer service time to the architectural and urban buildings built by public entities in the city of Quicksilver, criteria that contribute to sustainability with the proper use of materials at the time of construction and later a correct execution and maintenance plan to obtain a longer service time; planned actions that reduce construction costs in the long term and avoid deterioration that is sometimes irreversible and implies a high expense in repairs or the loss of the building.

Keywords: Planning; Maintenance; Public Works; Useful Life; Sustainability.

Manuscript ID: ICCAUA2023EN0321

Tabic Vaults: Tradition and Modernity, Jaoul Houses by Le Corbusier

*Architect. **Carlos Gavilanez***PUCE University, Faculty of Architecture, Design and Arts, Santo Domingo de los Tsachilas, Ecuador**E-mail: cgavilanezm@pucesd.edu.ec*

Abstract

This review article aims to analyze the constructive system of tabbed vaults in the Jaoul House of Le Corbusier through form recognition in order to understand the project's design process. A general overview is presented of tabbed vaults, from its possible origin to the early 20s where a sort of fusion between modernity and tradition begins to emerge, until the late 1950s when Le Corbusier would project the Jaoul houses in Paris, after a process of knowledge related to the experience of others and the recognition of formal values of architecture through his travels from the Mediterranean to America. The obtained bibliographical information as well as the digital reconstruction method allowed for an understanding and drawing of conclusions in relation to the design decisions in the Jaoul houses. The research revealed that after several operations and inherent conditions to the project, Jeanneret managed to settle for the tabbed vault system, in a time where he was able to have the criteria and experience to tackle this constructive method.

Keywords: Architectural Design; Vaults; Reinforced Ceramics; Architecture; Le Corbusier, Vaulted Ceilings; Detail; Modern; Tradition.

Manuscript ID: ICCAUA2023EN0322

Louis Kahn and his Architectural Principles: Influence on the Work of the Architect Barragán Doumet

*Arquitecta, **Myriam Zhagui***Universidad de Cuenca, Faculty of Architecture, Cuenca, Ecuador**E-mail: myriamz-89@hotmail.com*

Abstract

The general objective is to compare the architectural criteria used by Louis Kahn in projects by Milton Barragán D., based on the analysis and identification of projects developed with these arguments, allowing to establish the criteria of the modern movement in the composition of the project, from case studies. With the antecedent of the Modern Movement in the 60s and 80s in Ecuador the architectural influence of Louis Kahn through the designs of Artigas and Ciespal Buildings projected by Milton Barragán, adopt principles of modernity present in their materiality and universality. Helio Piñón describes in this way, the task "given a building to look for. The methodology is based on the book *The Modern Project* by Cristina Gastón and Teresa Rovira, facilitates the process to the researcher, indicating paths, surveying procedures, systematizing results, with a descriptive analysis through bibliographic reviews and a graphic analysis will allow to understand the architectural criteria used in the project.

Keywords: Louis I. Kahn; Architecture; Modern Movement; Milton Barragan D.

Manuscript ID: ICCAUA2023EN0330

Homeowners' Willingness to Install Green Roofs in Existing Residential Buildings – An Empirical Study in Hong Kong

*(B.Sc., Ph.D.) Professor Dr. **Yung Yau***School of Graduate Studies and Department of Sociology and Social Policy, Lingnan University, Tuen Mun, Hong Kong, China**E-mail: yungyau@LN.edu.hk*

Abstract

Green roof installation is regarded as one of the urban nature-based solutions to multiple challenges facing contemporary cities. In spite of the active promotion by the government, green roof installations seem to be not popular among owners of existing buildings in Hong Kong. This study aims to explore the factors affecting homeowners' willingness to install green roofs in their residential buildings, and identify the barriers to the promotion of green roof installation in the city. Mixed approach, encompassing a structured questionnaire survey on homeowners and in-depth semi-structured interviews with representatives of owners' associations and property management agents, was adopted for data collection. The results reveal that homeowners are less motivated to install green roofs due to the lack of environmental awareness. Inadequate financial incentives and building safety concerns also deter homeowners' willingness. Policy and practical implications of the research findings will be discussed.

Keywords: Green Roofs; Nature-Based Solutions; Willingness; Building Safety; Incentives; Green Buildings.

Manuscript ID: ICCAUA2023EN0337

Origami Inspired Deployable Structures: Future Mobile Healthcare for Low Resource Settings

*¹ PMRF Md Haseen Akhtar, ² Dr. Janakarajan Ramkumar
 Department of Design, Indian Institute of Technology Kanpur, India. ^{1&2}
 E-mail ¹: mdhaseendw20@iitk.ac.in, E-mail ²: jrkumar@iitk.ac.in

Abstract

Deployable structures may be defined as systems that can be packed, stored, transported, and then deployed or assembled into functional configurations. The potential applications of deployable structures include portable or modular buildings, scaffolding, bridges for construction sites and stages for events, spacecrafts with deployable solar panels, antennas, etc., tent systems for disaster relief shelters, and medical equipment such as collapsible hospital beds, examinations tables. The literature suggests many more applications but there is a gap of how to achieve such systems from a design perspective. This paper takes deployable mobile clinics as an example to delve deep into the product design, development and deployment inspired by the ancient art of origami.

Keywords: Architectural Design; Origami; Mobile Primary Health Center; Healthcare Delivery Model; Healthcare System; Low Resource Settings.

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Deployable Structures: A State of the Art Review

*¹ PMRF Md Haseen Akhtar, ² Dr. Janakarajan Ramkumar
 Department of Design, Indian Institute of Technology Kanpur, India. ^{1&2}
 E-mail ¹: mdhaseendw20@iitk.ac.in, E-mail ²: jrkumar@iitk.ac.in

Abstract

Deployable structures are structures that can be easily transported, assembled, and disassembled, making them ideal for use in a variety of settings, including disaster zones, outdoor events, construction sites, and remote locations. These structures range from small, lightweight pop-up tents and inflatable structures, to large, metal folding containers and modular buildings. To design effective deployable structures, engineers must consider factors such as ease of assembly, durability, and cost-effectiveness, as well as incorporating design elements such as the principles of origami or other folding patterns. With the increasing demand for flexible, portable structures, the field of deployable structures continues to evolve, offering new and innovative solutions for a wide range of challenges. This article discusses literature on deployable structures taking examples from different domains and applications. The findings of this study in term of approach to design deployable structures based on the context of use will serve as a library for future innovations.

Keywords: Deployable Structures; Origami; Mobile Primary Health Center; Healthcare Delivery Model; Healthcare System; Low Resource Settings.

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Designing Mobile Primary Health Center: Does the Form Follows Function?

*¹ PMRF Md Haseen Akhtar, ² Dr. Janakarajan Ramkumar
 Department of Design, Indian Institute of Technology Kanpur, India. ^{1&2}
 E-mail ¹: mdhaseendw20@iitk.ac.in, E-mail ²: jrkumar@iitk.ac.in

Abstract

A late 19th century principle of design "Form follows function" states that the form of an object must primarily relate to its intended function, is still a debate. As Víctor Papanek, an industrial designer of 20th century and a proponent of "form follows function" once said - "Design must be innovative, highly creative, cross disciplinary which makes it responsive to the needs of the user and this can be achieved with a more research-oriented mindset." This article synthesizes several mobile health units design and architecture through the lens of form follows function. The findings of the study states that there is a mix of both form follows function and vice versa and both has different impacts on the efficiency of the system designed. Thus, we propose the best ways to follow depending on the sub systems to be designed for a mobile Primary Health Center for far flung regions.

Keywords: Form; Function; Mobile Primary Health Center; Healthcare Delivery Model; Healthcare System; Healthcare Infrastructure Design.

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Creating Polysemic Spaces: The Domotic Model

* Dr. Amel Ghrab

*Higher institute of arts and crafts of Gabes, University of Gabes, Tunisia**The Institut of Science and Technology of design, Tunisia**E-mail: ameliaghrab@gmail.com, E-mail: ghrabamelia@hotmail.fr*

Abstract

Polysemic spaces are concerned with the size and scope of approved services to ensure functionality and ease of use. Through smart buildings that integrate communication systems, information technology, comfort and security together according to user needs and adapt to external conditions and environmental requirements, using the latest technology the buildings are automated, accommodate the surrounding environment, respond and interactive environment, it monitors external and internal changes and user requirements, through groups of cells, after extrapolating variables and identifying the user's wishes, such data is sent via local networks to the database for decision-making in accordance with their advance feeding. Through smart buildings, air quality, heating and lighting costs can be managed optimally according to the number of individuals. As a result, we try to think tightly about product design and provide inherent readings in technological innovation by following a small design philosophy. This study constitutes a reflective approval derived from the interactive devices' experience in the development of responsible and ethical products. In addition to trying to show the contribution of polysemic spaces through some modifications to current technology, we may be able to broadcast interactive and multi-meaningful spaces. In the social dimension so that it is a vector of harmony inside the house. How do digital and new technologies contribute to the evolution of the creative process in smart buildings?

Keywords: Polysemic Spaces; Functional; Working Environment; Modern Technology.

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Technological Innovation in Earth Constructions: Prefabrication and 3D Printing

* Architect Manuel Pichazaca Solano

*University of Cuenca, Faculty of Architecture, Cuenca, Ecuador**E-mail: manuel.pichazaca@ucuenca.edu.ec*

Abstract

This article focuses on the use and application of innovative technologies and tools in earth construction processes. It reviews the evolution of the rammed earth construction system towards prefabrication and the use of 3D printing technology for the production of pilot housing prototypes. In order to validate earth construction as a modern and viable material, several recognized and award-winning works and prototypes at a global scale are collected and analyzed. These case studies utilize earth as the initial raw material for prefabrication and 3D printing, thereby identifying the best technique that can be transferred to a developing country such as Ecuador. The results of this research serve to highlight earth construction as a modern, alternative, and viable material that responds to current demands for sustainability, energy efficiency, and housing deficits.

Keywords: Earth Construction; Architecture on Earth; Clay; 3D Printing with Earth; Prefabrication with Rammed Earth.

Manuscript ID: ICCAUA2023EN0343

How Can Buildings be Restored and Renovated Using Biophilic Architecture

* Dr. Lamiaa Adel Shaheen

*Assistant Professor, Oman College of Management and Technology, Muscat, Oman**E-mail: Lshaheen@omancollege.edu.om*

Abstract

Is there more to "restoration and rehabilitation in design" than just hospitals and healing gardens? Can those healing spaces be incorporated into the working and living spaces to treat the psychological issue at its root? In order to attain sustainability in terms of quality of life within the immediate built environment, the major goal of this study is to examine the techniques and advancements of biophilic design with respect to therapy and restoration. This study examines mental health difficulties within the built environment. Biophilic design has attracted attention and is now viewed as a tool for bridging the gap between people and nature. Biophilic design is considered to be an amplifier of innovation in the framework of job efficiency and effectiveness inside the indoor environment. The goal of the study is to incorporate biophilic design and retrofitting techniques that can enhance cognitive function and promote mental calmness in the building sector.

Keywords: Biophilia; Biophilic Design; Built Environment; Restorative Environment; Sustainability; Sustainable Architecture; Well-Being.

Manuscript ID: ICCAUA2023EN0348

Comparison of The Behavior of the Thermal Envelope in Single-Family Homes with Concrete Block Masonry, Carried out in the City of Gualaceo, Azuay-Ecuador

*(Arquitecto) Estudiante Arq. **Mario Patricio Bonilla Jaramillo**
 Facultad de Arquitectura y Urbanismo, University of Cuenca, Cuenca, Ecuador
 E-mail: trazos1170@gmail.com

Abstract

In Gualaceo, residential construction maintains constant growth. With construction systems, varied in their materiality, the concrete block, brick, bahareque and tapial, determine comfort within each home, thus the average ambient temperature of 16 ° C, can vary at certain times of the year. In order to understand the behavior of the thermal envelope in single-family homes, seven-bedroom samples with similar characteristics have been taken in one day, to meet the standards in accordance with the Ecuadorian Construction Standard (NEC). The values reached, in hours of higher temperatures, the mud walls showed only an excess of 3.5% with respect to the acceptable thermal comfort, unlike the concrete block that showed an increase of 32.10%. Which allows us to conclude, the need for new construction systems and policies that help to obtain an adequate thermal comfort inside the dwelling.

Keywords: Materiality; Comfort; Thermal Envelope; Concrete Block.

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Application Research of the "Undefined Blank Space Design Method" in Residential Interior Design - A Case Study of Interior Space Design in a Residential Community in Wuhan

*¹ Dr. **Dong Hu**,² M.A. **Xintian Hao**,³ M.A. **Chao Liu**
 School of Architecture and Urban Planning, Huazhong University of Science and Technology, Wuhan, China.¹
 Central&Southern China Municipal Engineering Design and Research Institute Co.,Ltd. Wuhan, Hubei, China²
 Wuhan Kaijian Design Consulting Co., Ltd. Wuhan, Hubei, China³
 E-mail¹: 290677077@qq.com, E-mail²: hu2302183@163.com, E-mail³: liuchao3627@sina.com

Abstract

In China's intensive urban development and the post-pandemic era, the value of residential housing is increasingly emphasized. However, capital constraints limit the spatial requirements of residential interiors, leading to repetitive constructions lacking individual value and spatial flexibility. This study intervenes in space by expanding the traditional concept of "blank space" through empirical design research on the interior of a residential community in Wuhan. We propose a compact residential space design method based on the "undefined blank space" concept, aiming to coordinate the interior space hierarchy of commodity housing and diverse individual demands. Results highlight that the removal of non-load-bearing walls maximizes the individuality and flexibility of space. Variable combined blank interfaces enable the space to fit multiple usage scenarios. The use of transparent materials can blur spatial boundaries to make it more open. Physical blank spaces and spiritual needs must be combined to truly achieve individual demands.

Keywords: Blank Space; Undefined Blank Space; Residential Interior Design; Individual Value; Spatial Flexibility.

Manuscript ID: ICCAUA2023EN0367

Assessing the Impacts of Climate Change on Industrial Building Energy Performance

¹B.S. **Melike Eksi**,²B.S. **Beytullah Emre Kavak**,³B.S. **Ahmet Eren Kargi**,^{*4}Dr. **Sadik Yigit**
 FMV Isik University, Faculty of Engineering and Natural Sciences, Istanbul, Turkey.^{1,2,3&4}

E-mail¹: Melikeeksiii@gmail.com, E-mail²: beytullahemrekavak@gmail.com, E-mail³: ahmetekargi@gmail.com, E-mail⁴: sadik.yigit@isikun.edu.tr

Abstract

Buildings are responsible for a significant portion of global greenhouse gas emissions and are a critical component in achieving climate neutrality. Researchers have focused on finding energy-efficient building envelope designs to reduce the energy consumption of buildings. However, the majority of studies did not take climate change into consideration. It is clear that more studies should be carried out to investigate the energy performance of buildings under climate change conditions. This paper provides a brief review of relevant studies and highlights the need for further investigation. Specifically, this study analyzes the energy performance of a prefabricated industrial building, considering climate change conditions, using EnergyPlus simulation software. The results of the study demonstrate that, due to climate change, the heating energy demand of buildings is predicted to significantly decrease. The results of this study are expected to inform strategies for reducing the carbon footprint of industrial buildings in a changing climate.

Keywords: Climate Change; Industrial Buildings; Heating Energy; Energy Performance.

Manuscript ID: ICCAUA2023EN0382

Aesthetics of Architectural Taste in the 21st Century: A Review of Award-Winning Projects in the Context of Environmental Aesthetics

* Asst. Prof. Dr. Dilek Yasar

*Istanbul Aydin University, Faculty of Architecture and Design, Istanbul, Turkey
E-mail: dilekyasar@aydin.edu.tr*

Abstract

Since the nineteenth century, the world of architecture has evolved into a new dimension along with the developments and changes in science, technology, and philosophical systems. The ever-changing perspectives of architects and associated forms may be indicative of a novel aesthetic taste especially in the last few decades. There is a limited number of studies with clear statements on architectural aesthetics in the literature. It proves to be difficult to reach a consensus because aesthetic judgments are highly diverse and particular. Nevertheless, Arthur Earl Stamps, a leading expert in environmental aesthetics, introduced a new perspective towards this issue. In his approach, which is based on elimination of ambiguous and obscure concepts in the assessment of the aesthetic aspect of architectural design, Stamps suggests new concepts, i.e., the "clear concept", where the visual aesthetic aspect can be more clearly understood and expressed. The present study aims to understand the aesthetics of architectural taste in the 21st Century based on Stamps' theory. Accordingly, 12 projects that received the Riba Stirling Award between the years 2010 and 2022 were reviewed using the concepts introduced by Stamps. The results are indicative of the fact that subtle and elegant lines, modular layouts, more comprehensible forms instead of complex and chaotic forms were preferred, and openings are attached an increased importance in proportional terms to strengthen interior-exterior relations.

Keywords: Aesthetic; Architectural Design; 21st Century; Award-Winning Projects.

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The Implication of Shading Passive Strategies in Buildings of Hot and Humid Climates for Energy Optimization: Lessons from Traditional and Vernacular Dwellings in Nigeria

*¹ Abdallah-Surajo Ibrahim Jega, ² Dr. Salar Salah Muhy Al-Din

*Master Student in Faculty of Architecture at Girne American University N. Cyprus Via Mersin- Turkey¹
Assist. Prof. in Faculty of Architecture at Girne American University IN. Cyprus Via Mersin- Turkey²
E-mail ¹: ab906dallah@gmail.com, E-mail ²: salarsmuhyaldin@gmail.com*

Abstract

The contemporary designs of multi-story buildings in Nigeria borrow from different climates and adapt to Nigeria's hot and humid climate. Shading is an effective strategy for reducing solar heat gain and improving cooling condition in hot and humid climates. This study tries to explore the most effective shading elements in the study area to be implicit in a contemporary design of multi-story residency. The aim of this research is to minimize energy consumption in residential buildings in (Nigeria). Therefore, the research investigates the most effective shading strategies in the traditional and vernacular buildings that can be utilized as design criteria in future buildings. The findings led to identifying the appropriate shading strategies found in traditional and vernacular architecture, which can be utilized in contemporary multi-story residential building in Nigeria for energy optimization. Finally, the research suggests guidelines to support architects to reduce energy usage in multi-story buildings in Nigeria

Keywords: Shading in Building; Building Energy Optimization; Traditional and Vernacular Architecture; Hot and Humid Climate; Nigeria.

Manuscript ID: ICCAUA2023EN0391

Salutogenic Architecture Design Criteria for Healthcare Centres in Kenya

* ¹ Master Student Emily Njoki Mbugua, ² Assist. Prof. Dr. Salar Salah Muhy Al-Din

*Faculty of Architecture at Girne American University N. Cyprus Via Mersin- Turkey. ^{1&2}
Email¹: emmybugua33@gmail.com, Email²: salarmuhyaldin@gau.edu.tr*

Abstract

This paper aims to look into the significance of salutogenic theory in architectural design. Healthcare centers have been selected not only because of being the most prone area for spreading the infection but also because of the psychological effects of diseases on the human being. There is a strong correlation between the patient and his environment. The paper analyses the architectural elements that may influence patient health, using salutogenic architectural design theory. This paper looks at various salutogenic design models and extracted factors that can be applied to design. Successful case studies were used to analyze the strength of these design factors. Case study methodology has been approached to determine salutogenic factors that are applicable in Kenya. The results of this paper can be used as a guideline for designers of healthcare facilities in Kenya, and the finding can be extrapolated.

Keywords: Salutogenic Architecture; Healthcare Centers; Architectural Design; Kenya.

Manuscript ID: ICCAUA2023EN0393

Arguing Faux Biophilia Concepts in F&B Interior Design; A Case Study Applied in Duhok City in Kurdistan Region of Iraq

*¹ M.S. Ahmad Afara , ² M.A. Maysan El Ayoubi , ³ Ph.D. Mustafa Aziz Amen , ⁴ B.A. Dana Ramadhan , ⁵ B.A. Jalal Al Ani
*The American University of Kurdistan, Design Department, Duhok, Iraq*¹

*E-mail*¹: ahmad.afara@auk.edu.krd , *E-mail*²: maysan.ayoubi@auk.edu.krd , *E-mail*³: mustafa.amen@auk.edu.krd ,
*E-mail*⁴: dana.ramadhan@students.auk.edu.krd , *E-mail*⁵: jalal.ammar@students.auk.edu.krd

Abstract:

Implementing biophilic design became a challenge yet a visual/commercial trend and is sometimes used as a style in interior design. In contrast, the field is constantly growing and driven by a desire to improve life and living qualities in human interior spaces. This paper aims to investigate the effectiveness of biophilic design in promoting well-being. The study assesses the psychological impact of actual versus faux biophilic interior design on user experience by surveying 150 customers from six restaurants and coffee shops. By examining user perceptions of biophilic design, this study provides valuable insights into the implementation and misuse of this concept in interior design. Specifically, this research seeks to answer the question: What is the psychological impact of actual versus faux biophilic spaces on users' well-being? The findings of this study contribute to the ongoing discourse on biophilic design and its role in promoting well-being in interior design, providing recommendations from the collected and analyzed data.

Keywords: Biophilic Design; Well-being; Interior Design; Design Psychology.

Manuscript ID: ICCAUA2023EN0122

Exporting China's Architectural Aid to the Global South: Types, Distribution, and Drivers

* Ph.D. candidate. Kaiyue Ma¹, Prof. Charlie Qiuli Xue² and Prof. Tong Cui³
*City University of Hong Kong, Faculty of Architecture and Civil Engineering, Hong Kong, China*¹
*City University of Hong Kong, Faculty of Architecture and Civil Engineering, Hong Kong, China*²
*University of Chinese Academy of Science, Faculty of Architecture, Beijing, China*³

*E-mail*¹: kaiyuema2-c@my.cityu.edu.hk, *E-mail*²: bscqx@cityu.edu.hk, *E-mail*³: cuitong@ucas.edu.cn

Abstract:

After World War Two, modern architecture was disseminated worldwide by western architects. However, the role of China's architectural aid to the Global South has been largely overlooked. This paper explores the facts of China's architectural aid from three aspects: types, distribution, and primary drivers, based on a dataset of 766 relevant projects since 1949. Through quantitative and descriptive analysis by inductive reasoning, the results argue that China's architectural aid is mainly composed of five types: buildings for education, conferences, healthcare, sports, and public culture. Most of China's architectural aid is in Africa and Asia, with Oceania and Latin America as the rising focus. Regarding drivers, China's policy is validated to be the stronger determiner through the spatiotemporal dynamics and the achievements in diplomatic relations. Besides, inspired by development geography, China's architectural aid has a significant correlation with the development needs of the recipients in the Global South, which can be measured by the Human Development Indicator (HDI), Gross Development Product (GDP), and Global Quality Infrastructure Index (GQII) through linear regressions. Constructing a comprehensive and systematic picture of China's aided buildings can give designers, researchers, and policymakers fresh insight into the impacts and further tendencies of China's overseas architecture.

Keywords: China's architectural aid; Global South; Architectural types; spatiotemporal distribution; diplomatic policy; the development ability.

Manuscript ID: ICCAUA2023EN0392

The Relationship Between the Visual Identity of Graphic and Interior Design and the Place-Making of Interior Spaces

¹ Dr. Maha Mansour Mohamed Ali Soliman, ² Dr. Basma Abdelrahman Ahmed Gbr

Department of Design, Al Zahra College for Women, Muscat, Sultanate of Oman. ¹

Department of Interior Design, Oman College of Management & Technology, Muscat, Sultanate of Oman ²

E-mail ¹: maha_m@zcw.edu.om, E-mail ²: bgbr@omancollege.edu.om

Phone ¹: +96898056973, Phone²: +96890198709

Abstract:

The place arises as a result of the relationship between the elements of the surrounding natural and artificial environment, and to realize the place requires spatial boundaries and a visual identity that arises from the interaction of the individual with this environment. The aim of the study was to reach the principles of placemaking and the impact of the visual identity of interior and graphic design on interior spaces. The research problem was illustrated by the lack of clarity of interior and graphic design strategies that should be taken when designing the visual identity of interior spaces. The study followed the descriptive analytical approach by analyzing different models to achieve visual identity when making the place for the interior spaces, and the result of the research was to develop strategies to design the visual identity of the different internal spaces derived from the surrounding environment, which achieves the manufacture of the place.

Keywords: Placemaking; Visual Identity; Graphic Design; Interior Design.

Manuscript ID: ICCAUA2023TR0016

Investigation of Passive Design Criteria in terms of Thermal Comfort and Energy Consumption for Mosques: Istanbul Case

* ¹ Ph.D. Candidate. Ahmet Bircan Atmaca, ² Professor Dr. Gülay Zorer Gedik

Building Physics Group, Department of Architecture, Yildiz Technical University, Istanbul 34349, Turkey. ^{1&2}

E-mail ¹: abatmaca@yildiz.edu.tr, E-mail ²: ggedik@yildiz.edu.tr

Abstract

The thermal comfort level of the mosques affects the prayer efficiency, the activity duration and the health of the users. Also, it is an important parameter to keep energy consumption at a minimum level while providing acceptable thermal comfort in the indoor environment. In order to ensure thermal comfort and to use energy effectively, it is necessary to pay attention to passive design criteria in the design process of mosques. Within the scope of this study, design criteria such as location, environment variables, building form, plan scheme, etc. were investigated according to the regulations and standards, manuscripts in the literature. This paper will be a base for researchers in future studies on mosques.

Keywords: Thermal Comfort; Mosque; Religious Building; Building Envelope; Building Type.

Camilerin Isıl Konfor ve Enerji Tüketimi açısından Pasif Tasarım Ölçütlerinin İncelenmesi: İstanbul Örneği

Özet

Camilerin ısı konfor düzeyi kullanıcıların ibadet verimini, aktivite süresini ve sağlığını etkilemektedir. Ayrıca, iç mekanda kabul edilebilir ısı konfor sağlanırken enerji tüketimini en az düzeyde tutmak önemli bir parametredir. Isıl konfor sağlamak ve enerji tüketiminin etkin şekilde kullanmak için camilerin tasarım sürecinde pasif tasarım ölçütlerine dikkat edilmesi gerekmektedir. Bu çalışma kapsamında konum, çevre değişkenleri, bina biçimi, plan şeması gibi tasarım ölçütleri literatürdeki makaleler, standartlar ve yönetmeliklere göre incelenmiştir. Bu çalışma camiler üzerine yapılacak gelecek çalışmalar ve araştırmacılar için bir altlık oluşturacaktır.

Anahtar Kelimeler: Isıl Konfor; Cami; Dini Yapı; Yapı Kabuğu; Bina Türü.

BOOK OF ABSTRACTS

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SESSION B: Sustainability and Urban Design

Session Chairs:

Dr. Thanh Phuong Ho
Dr. Hatice Kalfaoğlu Hatipoğlu
Dr. Hassina Nafa
Dr. Nadine Hindi
Yuanyuan Wu
Ifeoluwa Olla
Dr. Husam R. Husain

Amala Anna Jacob
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Dr. Anna Terracciano
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Dr. Aulina Adamy
Dr. Ana P. P. C. Rainha
Darine T. Zacca
Dr. Luís Moreira Pinto
Dr. Ahmet Gün

Manuscript ID: ICCAUA2023EN0003

LULC geospatial OLI/Landsat -7 -8 -9 analysis of Sitakunda Container Depot: MLE and Kappa accuracy for Coastal Urban Sprawl and Infrastructure Change

^{1*} Ing. Arch. **Salvatore Polverino**, ² Arch. **Antonio Coppola**

Dipartimento Formazione ed Internazionalizzazione, Ordine Architetti Pianificatori Paesaggisti Conservatori di Napoli e Provincia

E-mail ¹: polverinosalvatore@outlook.com , E-mail ² : formazione@napoli.archiworld.it

Abstract:

This research has studied the Land Use/Land Cover (LULC) change over a coastal-industrial area of Sitakunda, Bangladesh from 2009 to 2022. Using Landsat/OLI programs and 117 ground points, the LULC was supervised by a Maximum Likelihood Classifier. Six drivers were identified: Built Up (BU) Terminal, BU Infrastructure, BU Other Depots, BU Ancillary/Generic, Vegetation/Barren Land and Forest. The LULC change was measured through Kappa (K) coefficients, and Overall Accuracy (OA) $q_{1/4}$ - $q_{1/3}$ thresholds [47.59, 94.54 %], which showed an increase in BU Infrastructure, BU Other Depots and BU Ancillary, and a decrease in Vegetation/Barren Land and Forest. The accuracy of the LULC was tested through Pearson correlation, which highlighted inconsistencies, particularly in BU Ancillary. Unsupervised Classification clustering was used to compare the pre- and post-fire LULC datasets. The inter-class spectral separability was analyzed through Maximum Likelihood Classification (MLE) Composite bands classification and its electromagnetic signatures, together with related linear regression.

Keywords: International Safety Management Code; Digital forensics; LULC; Remote sensing; Fire Risk; Life Cycle Assessment (LCA); Environmental Impact Assessment (EIA); Strategic Environmental Assessment (SEA): Port area; Logistics; Coastal settlements; Habitat II United Nations.

Manuscript ID: ICCAUA2023EN0018

Hosting Mega-Events in Developing Countries: A Way to Greening Cities

* Associate Prof. **Riham Nady Faragallah**

Pharos University in Alexandria, Faculty of Engineering, Alexandria, Egypt

E-mail: riham.nady@pua.edu.eg

Abstract

Organizing large-scale urban events have become part of a deliberate urban policy strategy to promote local economic growth and put the host city on the world agenda. Mega-event strategies have an effective impact on host cities and have drawn an increasing interest. Thus, the paper addresses the strategies that can produce a catalyst effect in cities and lead to sustainable development to balance economic, social and environmental approaches on the long term. The main problem is that Egypt, as a country, has several potentials to host large-scale mega events and to benefit from these events by developing its cities to be sustainable. However, this cannot be achieved due to the slowdown of action plans for development and consequently, the event is delayed or cancelled. The main aim of the study is to explore the positive issues associated with mega-events in cities environmentally, socially, economically and how these principles could be adopted on the local scale to transform the image of the Egyptian cities to be a powerful instrument on the global agenda.

Keywords: Mega-Event; Economic; Environmental; Social; Sustainable Development; Green Cities.

Manuscript ID: ICCAUA2023EN0025

A Manual for Reducing Heat in Jeddah's Urban Parks to Enhance Elderly's Experience

M.S. Rafeef AlQurashi

*Jeddah University, Faculty of Architecture and Design, Jeddah, Saudi Arabia**E-mail: rafeef1alqurashi@gmail.com*

Abstract

This thesis focuses on improving urban parks to enhance elderly experience. It analyzes their physical and emotional needs and delves into ways to enhance their experience in Jeddah's parks. The target users were both the elderly, aged 65 and above, and their companions. Using qualitative and quantitative methods, needed information was gathered from both groups. Statistics were analyzed and showed that heat was a common factor affecting the user experience in parks. To acquire solutions, precedent studies were analyzed. The aim of this research is to fill an existing local gap by researching thermal comfort, and ways to combat heat in parks. This research will provide stakeholders with a manual that serves the aforementioned aim. According to the case study, implementing better shading systems, misting systems and increasing vegetation are keys for enhancement. The changes proposed will aid in improving the quality of life for citizens and encourage healthy living.

Keywords: Elderly; Exhaustion; Urban Parks; Heat; Vegetation; Manual.

Manuscript ID: ICCAUA2023EN0027

Urban Spread and Land Issues. What Challenge For Algerian Cities? Example of The Oran Agglomeration

Dr. Hayette NEMOUCHI

*Geographer and Researcher at the Center for Research in Social and Cultural Anthropology (CRASC). Oran - Algeria**E-mail: hayette.nemouchi@gmail.com*

Abstract

In this contribution, our objective is to highlight some land consumption strategies through urban sprawl and new reassignments of land use planned around Algerian cities. Through the example of Oran, our goal is to understand the new forms and new functionalities of the urban spaces produced around this metropolis. After an observation in the field and a targeted bibliography research, we will establish spatiotemporal reconstruction of the urbanized plots in the peri-urban spaces of Oran based on graphic planning documents and satellite images. A field survey with semi-structured interviews will be carried out in order to highlight the land logics of urban extension. In Oran, urban sprawl is accelerated, land issues call for land grabbing strategies resulting in a functional incompatibility between planned spaces and produced spaces in newly urbanized areas.

Keywords: Urban Extensions; Land Strategies; Peri-Urban Land; Planned Spaces; Product Area; Algeria.

Manuscript ID: ICCAUA2023EN0029

Algorithmic Design for City Metabolism: A Holistic Approach towards Sustainable Neighborhoods; Urban Para-cell

* Dr. Sammar Allam

*College of Architecture and Design, Effat University, Jeddah, KSA**E-mail: samar.allam@gmail.com*

Abstract

City Growth through urban sprawl will reach 68% by 2050 as estimated by the UN. Addressing SDG 11, Sustainable cities and communities, this research undertakes the concept of 'divide & conquer' starting with the city cell; the neighborhood, in order to enhance dealing with various and ever-changing urban variables or parameters. The study consolidates three main perspectives of a sustainable city. The first, is "holistic city" approach that considers intangible factors to be presented in culture and technological advances serving a livable city. The second, is "city metabolism" to quantify the inputs and outputs of resources in terms of sustainable neighborhood LEED certification criteria. Third, is "algorithms" to enhance neighborhood sustainability through parametric patterns and strategies demonstrated with "Force-field" as a Pattern for maximizing open view to a central green area and "Voronoi Tessellation" as a strategy for articulating blocks design while promoting a unique identity to each block and enhancing ventilation for a comprehensive optimization. Simultaneously, metabolic neighborhood inputs and outputs are refined to establish a holistic ecological integration through measuring tangible parameters.

Keywords: Urban Paracell; Sustainable Cities; City Metabolism; Algorithmic Design; SDG's.

Manuscript ID: ICCAUA2023EN0039

Towards an Economic Efficiency of the Space of the Public Place: Case of the Public Places of City of Biskra/ Algeria

*¹Dr. HANAFI Abdelhakim, ²Dr. Bouthaina Sayad, ³Dr. Djamel Alkama**Department of architecture and urbanism, University of Batna 1, Algeria ¹**Habitat and Environment Laboratory, Ferhat Abbas University - Sétif 1 / Algeria University 8 Mai 1945 Guelma, Department of Architecture, Guelma, Algeria ^{2 & 3}***E-mail ¹: abdelhakim.hanafy@univ-batna.dz, E-mail ²: bouthaina41@hotmail.com, E-mail ³: djalkama@gmail.com*

Abstract

The public place is not just a simple public outdoor space for the circulation and meeting of townspeople, it is to create a set of psychological reactions and to grow the notion of urbanity. The use of the public place relates to the entire life cycle of townspeople. It concerns the practices and uses implemented by all parties in the public place. This communication seeks to find out how and by what means to optimize the economic efficiency of the public place space from its landside. That is to say, to account in the medium and long term for the land reserved and consecrated for public place in a city or town in general. Through this research, we will try to see the different possible forms of optimization relating to activities, land and the form of the public place, while looking for the appropriate form of optimization for the public place of the city of Biskra / Algeria, a city in a semi-arid zone.

Keywords: Public Place; Use; Efficiency; Optimization; Economic Efficiency; Arid Zone.

Manuscript ID: ICCAUA2023EN0047

Phenomenology Theories' Contribution in Succeeding the Landscape Architecture Design for Bahraini Reserve: Dohat Arad Ecological Reserve as a Case Study

¹ B.S. OMNYA EHAB, ² Professor Dr. Islam Hamdy Elghonaimy*University of Bahrain, College of Engineering, Department of Architecture and Interior Design, Bahrain. ^{1,2}**E-mail ¹: 20155540@stu.uob.edu.bh, E-mail ²: eelghonaimy@uob.edu.bh*

Abstract

On different occasions, many ecologists and landscape architecture designers believe that using Phenomenology theories in contemporary design ideas will create a unique ecological design. While talking about the ecological reserve parks, many voices call for the high care of such parks. Dohat Arad, a Bahraini ecological reserve, is a proper witness to such a dilemma as a case study. In the pilot study, it was found that there are conflicts while designing and applying. The dilemma becomes serious while examining the Phenomenology theories' in selecting the materials in terms of cost and suitability. The research discusses the Phenomenology theories' contribution using contemporary design ideas to attract economic, social, and civic activities for the parks. Moreover, using the proper landscape architecture elements that determine the Phenomenology theories' will produce a more sustainable environment matching the 2030 Bahraini strategic master plan.

Keywords: Landscape Architectural Design; Preserved Parks; Phenomenology; Ecology.

Manuscript ID: ICCAUA2023EN0057

An Essay on Past, Present, and Future Approaches to the Change in Public Life

¹ Ph.D. Candidate. İbrahim EREN, ² Assoc. Prof. Dr. Esin Özlem AKTUĞLU AKTAN*Urban and Regional Planning Department, Faculty of Architecture, Yıldız Technical University, 34349, Istanbul, Turkey. ^{1 & 2}**YÖK 100/2000 Researcher, Council of Higher Education Turkey ¹**E-mail ¹: erenibrahm@gmail.com, E-mail ²: esinaktan@hotmail.com*

Abstract

This study examines how public life has evolved in past, present, and future. The study aims to reveal the evolution of public life through the changing concepts of literature. After describing the literature as a chronological and comparative study, the critical sources for each period were preferred. Word frequencies were detected using Python programming language. It concentrates on the sociology of daily life for the past period, the information age for the present, future cities, and urban utopias for the future. Within these three axes, everyday life and public space are ordinary concepts. Sources were chosen based on the number of citations in WOS and Google Scholar. In the sources reviewed from the past, the conceptions of time, alienation, and individualization were attained. While the network society, Technological Revolution, capitalism, innovation, and artificial intelligence revolution stand out in today's analysis, sustainability, novelty, utopia, and dystopias were reached for the future.

Keywords: Everyday Life; Public Space; Word Frequencies; Conceptual Review.

Manuscript ID: ICCAUA2023EN0058

Discussion on The Future of Public Life via Cinema

¹Ph.D. Candidate. **İbrahim EREN**, ²Assoc.Prof.Dr. **Esin Özlem AKTUĞLU AKTAN**

*Urban and Regional Planning Department, Faculty of Architecture, Yildiz Technical University, 34349, Istanbul, Turkey. ^{1&2}
YÖK 100/2000 Researcher, Council of Higher Education Turkey ¹*

E-mail ¹: erenibrahm@gmail.com, E-mail ²: esinaktan@hotmail.com

Abstract

This study is based on the question of how the daily relations in the public space will be in future cities and aims to make inferences about future life and assess utopian and dystopian studies on this topic. The methodology of the study is a sociological analysis of movies. In this study, prepared with an interdisciplinary approach, an issue at the intersection of space science and sociology is discussed through cinema movies. The study delves into films about the future and community life in terms of genres, subjects, and fiction. Human and space technologies, human relations and basic social concerns impressed in the fundamental fiction with an interpretive and critical approach. Although various utopian or dystopian subjects are addressed in these films on the future, in most of them, life and technology are intertwined. In fundamental fiction, alienation in human relationships and differing perceptions of time and speed emerged.

Keywords: Everyday Life; Public Space; Urban Life in Movies; The Future of Everyday Relationships.

Manuscript ID: ICCAUA2023EN0071

City Sediments in Beirut: An Urban Ecology Perspective

Associate Professor Dr. **Nadine Hindi**

Department of Architecture, FAAD – Notre Dame University, Zouk Mosbeh - Lebanon.

Email: nhindi@ndu.edu.lb, nadine.hindi@gmail.com

Abstract

Cities are products of urbanization processes, economic changes, technology and climate change. Adversely, in specific contexts, they are affected by wars' enduring physical effect, long after armed conflicts are over. Hence cities are perceived as dynamic organisms, in continuous change of spatial abandonment, neglect and regeneration process, unfolding a continuum of space and time. In tandem between urban ecology and the urban history specificities, this paper addresses Beirut as a case study in its actual condition, and the different representations of the informal resurgence of green areas. It follows a methodology of identification, mapping and categorization of the different urban sediments which constituted over time potential reservoirs for urban ecology. These include previous war demarcation line, train tracks traces, cemeteries, destroyed wheat silos following the 2020 port explosion and other liminal spaces. This approach brings in a new perspective for approaching urban ecology differently according to the urban contexts historiography.

Keywords: Urban Ecology; Beirut; Urban Sediments; Dynamic Organism.

Manuscript ID: ICCAUA2023EN0073

The Landscape and Biophilic Perspectives of the New City of Guelma Hdjar El Mangoub

¹Ph.D. **Fatima-Zahra DJOUAD**, ² Candidate. **Aya Mebarki**

Department of Architecture and Urbanism, Faculty of Sciences and Technologies, University 8 May 1945, Guelma 24000, Algeria. ^{1&2}

Istanbul Aydın University, Faculty of Architecture and Design, Istanbul, Turkey ²

E-mail ¹: djouad.fatimazahra@univ-guelma.dz, E-mail ²: proayamebarki@gmail.com

Abstract

Biophilic design is a human-centered approach that seeks to strengthen our connection to natural processes within the urban space. The new city of Guelma: Hdjar EL Mangoub is characterized by breathtaking landscapes, beautiful mountains and strong vegetation. In this sense, it is a question of researching and showing the extent to which natural elements are taken into consideration in the development of this new city as essential elements of its urban design. The adopted methodology serves to define the key frameworks of urban design according to a biophilic approach. The results obtained show the presence of a biophilic design defined by the first experience of nature.

Keywords: Biophilic Design; Nature; Public Spaces; Building; Landscape; Algeria.

Manuscript ID: ICCAUA2023EN0080

Urban Design Impact on Local Climate And its Consequences on Building Energy Demand in Morocco

¹ Dr. Asia Lachir, ² Assoc. Prof. Dr. Hourakhsh Ahmad Nia
National School of Architecture, Agadir, Morocco. ¹

Laboratory of Processes for Sustainable Energy and Environment (ProcEDE), Cadi Ayyad University, Marrakech, Morocco. ¹
Faculty of Architecture, Department of Architecture, Alanya University, Türkiye. ²
E-mail ¹: asialachir@gmail.com, Email ²: hourakhsh_ahmadnia@yahoo.com

Abstract

Urban design has a profound impact on the local climate, which can result in changes in temperature distribution and energy demand. The Urban Heat Island (UHI) effect, a well-documented phenomenon where urban areas experience higher temperatures compared to their rural surroundings, is closely tied to urban design and the form and layout of buildings and streets. This increase in temperature can lead to increased energy consumption, particularly for air conditioning, as populations strive to maintain thermal comfort. To better understand the impact of urban design on the UHI effect and building energy demand in Morocco, this study employs the use of the Urban Weather Generator (UWG) and Energyplus, a building energy simulation software. The results will provide valuable insights into the most effective urban design strategies for different climate zones in Morocco and contribute to a growing body of literature on the subject. The UWG was used to generate synthetic weather data for each of the different urban design scenarios, including building height and geometry, street layout, and green spaces. The resulting weather data was then used as input for the building energy simulation software. The simulation software was run for different climate zones in Morocco, including hot and dry, warm and humid, and temperate climates. The results of the simulation provided information on the UHI effect in different urban settings and the impact on building energy demand. The results were analyzed to determine the most effective urban design strategies for reducing the UHI effect and building energy demand in different climate zones in Morocco. The study's results contribute to a growing body of literature on the relationship between urban design and the local climate, and the impact on building energy demand.

Keywords: Urban Forms; Urban Design; Urban Heat Island; Building Energy Simulation; Urban Weather Generator.

Manuscript ID: ICCAUA2023EN0081

A Shift towards E-Mobility in India: Challenges and Innovations

* ¹ M.A. Ashna Javed, ² Assoc. Prof. Dr. Hourakhsh Ahmad Nia

Faculty of Architecture Urban Planning and Construction Engineering, Politecnico di Milano, Milan, Italy. ¹
Faculty of Architecture, Department of Architecture, Alanya University, Türkiye. ²
E-mail ¹: ashna.javed@mail.polimi.it, E-mail ²: hourakhsh_ahmadnia@yahoo.com

Abstract

The shift towards electric mobility (e-mobility) in India is driven by the need to mitigate the significant environmental impact on the road sector caused by extensive rise in urbanization and commuter traffic. This accounts for 80% of total emissions, including 60% of greenhouse gas emissions only from vehicles. To address this problem, the paper gives an overview of current e-mobility trends, practices, and innovations, as well as the policy imperatives required to encourage the growth of sustainable transportation options in India. The study argues for the need to adopt a strategic approach to energy and mobility systems, with an emphasis on affordability and availability, and highlights significant obstacles and potential for e-mobility solution implementation in India.

Keywords: E-Mobility; Policy Imperatives; Sustainability; Affordability; Availability.

Manuscript ID: ICCAUA2023EN0084

Place Attachment of Shoppers: A Study of Palms Mall, Ibadan, Nigeria

¹ Ph. D. Candidate Ifeoluwa Olla, ² Professor Bayo Amole, ³ Professor Dolapo Amole

Department of Architecture, Faculty of Environmental Design and Management, Obafemi Awolowo University, Ile-Ife, Nigeria. ^{1,2&3}
E-mail ¹: ifeolla@gmail.com, E-mail ²: bayoamole@yahoo.com, E-mail ³: dolapoamole@yahoo.com

Abstract

The shopping mall has emerged in the city of Ibadan. This development is expected to evoke certain meanings in the minds of the users. Yet, no studies have examined its impact. This article reports an empirical study of the first mall in the city. It aims to model the relationship between the physical characteristics of the mall, the activities of shoppers, and place attachment. Quantitative data from 350 useable questionnaires were analyzed using descriptive statistics, and categorical regression, while qualitative data from 20 adult shoppers were analyzed using content analysis. The results of the study show that both activities and physical attributes of the mall significantly predicted attachment to the mall. Aesthetics and mall consumption were the most important dimensions of the physical attributes and activities of shoppers respectively. Qualitative results corroborated these findings. This study has implications on future designs of malls that will respond adequately to user needs.

Keywords: Place; Physical Characteristics; Activities; Place Attachment; Shopping Mall; Meaning.

Manuscript ID: ICCAUA2023EN0087

The De-Sealing Plan as a Tool for Adaptation to Climate Change: The Case Study of Brescia (IT)

¹ Ph.D. Student **Stefania Boglietti**, ² Ph.D. **Ilaria Fumagalli**, ³ Professor **Michela Tiboni**

*Department of Civil, Environmental, Architectural, Engineering and Mathematics (DICATAM), 25123, University of Brescia, Brescia, Italy. ^{1&3}
Municipality of Brescia, Brescia, Italy²*

E-mail ¹: s.boglietti001@unibs.it, E-mail ²: ifumagalli@comune.brescia.it, E-mail ³: michela.tiboni@unibs.it

Abstract

Progressive climate change is transforming our space: urban heat waves and extreme weather events are increasingly frequent and damaging to infrastructure and settlements. Cities are the key actors in reducing climate change's causes and impact. How can local urban planning contribute to this? This paper aims to propose a de-sealing plan for the city of Brescia (Italy). The plan's goal is to identify areas of the city most suitable for de-sealing interventions that will help solve critical urban hydraulic problems, decrease urban heat islands, and improve the urban landscape by creating new open and green spaces. Suitability levels are identified through the analysis of risk from heat waves and hydraulic criticalities identified in the area. The map returns four areas with very high suitability levels that will later be further investigated for the identification of sites on which to apply nature-based solutions.

Keywords: Climate Change; Urban Heat Waves; De-Sealing; Nature-Based Solution.

Manuscript ID: ICCAUA2023EN0090

Analyzing Modern Public Interiors through Passages and Bazaars in Kemeraltı, İzmir

¹ B.A. **Yaren Kurt**, ² Dr. **Gülnur Ballice**, ³ Dr. **Eda Paykoç Özçelik**, ⁴ Ph.D. Candidate **Gizem Güler Nakip**

Yasar University, Graduate School, İzmir, Turkey ¹

Yasar University, Faculty of Architecture, İzmir, Turkey. ^{2,3}

Silesian University of Technology, Faculty of Architecture, Gliwice, Poland ⁴

E-mail ¹: yareenkuurt@gmail.com, E-mail ²: gulnur.ballice@yasar.edu.tr, E-mail ³: eda.paykocozcelik@yasar.edu.tr, E-mail ⁴: gizem.gulernakip@polsl.pl

Abstract

Passages and bazaars, examples of public interiors, are the building types where many functions coexist as well as social and economic needs are met. The study aims to analyze the urban, architectural, social and cultural patterns through the modern public interior spaces with special reference to passages and bazaars built after the 1960s. Within the scope of the research, the characteristic commercial buildings of the period, Havuzlubey Bazaar (1961), Şan Passage (1968) and Salepçioğlu Foundation Bazaar and Office Building (1971) located in the historical Kemeraltı Bazaar in İzmir, were considered as case studies. The method of this study includes a literature review, on-site observation, photography shooting, and analysis of the architectural and interior characteristics of the buildings. Thus, the study will raise awareness about the importance of passage and bazaar structures, which can be defined as modern public interiors in urban memory.

Keywords: Modern Heritage; Modern Public Interiors; Passages and Bazaars; Kemeraltı Bazaar; İzmir.

Manuscript ID: ICCAUA2023EN0095

Evaluating the Role of City Improvement Trusts or Boards in Shaping Salutogenic Character of Urban Areas: Case of Bangalore City

¹ Assistant Professor M.U.R.P. **Anupama Doravari**, ² Associate Professor Dr. **Monalisa Bhardwaj**

Department of Architecture, Ramaiah Institute of Technology, Bangalore 560054, India

E-mail ¹: anu.doravari@msrit.edu, E-mail²: monalisa@msrit.edu

Abstract

The city of Bangalore sprawls over 741 sqm and is likely to grow consistently in the coming decades with approximately 100 million USD in investments committed in 2022. With climate changes and post Pandemic regulations- the city of 13 Million people is facing a challenging situation where the quality of life-particularly health, needs to be balanced for all its residents. This paper aims to examine the role and scope of the City's Improvement Trust in shaping its salutogenic character. This paper reviews the framework from which the Trust derives authority, the models of operation, its criticism from the public domain, and its ability to meet future challenges. This research uses Case Study method to understand- the diverse parameters defining the role of City Improvement Trust, its limitations, and to develop a matrix for the same. The paper concludes with guidelines for the future of such bodies in metropolitan Indian cities.

Keywords: Urban Design; City Improvement Trusts ; Post-Covid City; Salutogenic Urban Design; Bye Laws; Climate Change.

Manuscript ID: ICCAUA2023EN0100

The Sprawling Tales of Two Cities: Kolkata, India and Dhaka, Bangladesh

¹(B. ARCH, M. URP) Associate Professor **Poulami Banerjee Das**, ² (B. ARCH, M. ARCH) Professor **Sonia Gupta**

Sister Nivedita University, School of Architecture and Planning, Kolkata, India. ¹

Woxsen University, School of Architecture and Planning, Hyderabad, India. ²

E-mail ¹: poulami.bd@snuniv.ac.in, E-mail ²: sonia.gupta@woxsen.edu.in

Abstract

The two megacities Kolkata, India and Dhaka, Bangladesh are analogous in terms of their riverine genesis, tropical climate and location in the deltaic plains created by River Ganges and Brahmaputra. For more than three hundred years, both the cities have urbanised to megacities due to strategic locations and patronage from reigning authorities. The research investigates facets of the urban sprawl and compares the evolving pattern till date, through primary and secondary investigations, to understand factors that have rendered the present status to each of these two cities. It is seen that such classical and organic cities are still breathing because of some inherent good planning practices. The wider implications of the research are to formulate directions from these good planning practices and learn from the adverse ones so that many more historical cities can imbibe these sustainable praxes in the management of urban sprawl.

Keywords: Megacities; Urban Sprawls; Urbanisation; Historical; Organic; Sustainable Growth.

Manuscript ID: ICCAUA2023EN0102

Influence of Urban Street Vending on Pedestrian Experience and Behaviour: A Systematic Quantitative Review

* Assistant Professor. **Amala Anna Jacob**

School of Architecture, Ramaiah Institute of Technology

E-mail: amala91anna@hotmail.com

Abstract

Street vending is an integral part of everyday public life and can contribute to vibrant and lively streets. Yet, globally, only few cities integrate street vending into public space design. This is partly because they are perceived as impediments to the smooth functioning of more essential activities such as walking, thereby creating negative experiences. Therefore, to improve walkability, there is a need to understand how street vending influences the experience and behaviour of pedestrians. Consequently, a systematic review of academic literature was undertaken to provide a quantitative assessment of the disciplinary scope of published research, geographic extent, timeline of publications, theories and concepts cited and applied and methods used. Finally, possible directions for future research are highlighted. This paper can inform researchers of gaps in research and identifies potential areas where they may expand and influence the knowledge domain.

Keywords: Street Vending; Pedestrian Experience; Pedestrian Behaviour; Systematic Quantitative Review.

Manuscript ID: ICCAUA2023EN0103

Reframing Development with Living Infrastructure: A Case Study of the South Essex Green and Blue Infrastructure (SEGBI) Strategy

FLI, FRSA, MLA, **Alexandra Steed**

Alexandra Steed Urban, 6 – 14 Underwood Street, London, UK, N1 7JQ, UK

E-mail: me@alexandrasteedurban.com

Abstract

We are headed towards a global crisis: climate change, ecological collapse, and population expansion are threatening planetary boundaries as never before. We must urgently tackle these issues together. Entire ecosystems must be regenerated rather than trying to tackle issues in isolation. In the 70,000-hectare region of South Essex - a place threatened with sea-level rise, flooding, and significant growth pressures - we were tasked with creating a green and blue infrastructure strategy. A 'land-based' methodology was applied, and a co-design approach was undertaken with community stakeholders, to create a spatial framework based on living biophysical systems and ecological infrastructures that can reshape and drive future planning and development. The resulting SEGBI Study provided a ground-breaking model for the delivery of sustainable growth and demonstrated how the application of living infrastructure has the capacity to address climate change and ecological collapse, while also supporting sustainable housing, resilient communities, and regenerative infrastructures.

Keywords: Landscape; Living Infrastructure; Green Blue; Climate Change; Ecological Collapse; Regenerative Design; Sustainable Growth.

Manuscript ID: ICCAUA2023EN0108

The 3Rs (Reduce, Reuse, Recycle) of Waste Management – An Effective and Sustainable Approach for Managing Municipal Solid Waste in Developing Countries

M.A. Femi Emmanuel Arenibafo

*Girne American University, Faculty of Architecture, Design and fine Art, TRNC, via Mersin 10, Turkey**E-mail: awebfemi@gmail.com, webfemi@yahoo.com*

Abstract

As the population of the world increases, more and more places are becoming urbanized; production and consumption rates are on a speedy rise. The inevitable consequence of high consumption rate in urban areas around the world is the high volume of solid waste generated. The developing countries are at high risk of environmental degradation because of the way their solid waste is been handled due to lack of waste management infrastructures, policy framework and orientation. This results into green-house effect, health and environment hazard. This research is based on a systematic review of relevant scholarly written literatures for an in-depth understanding of the concept of waste, its sources, composition, treatment, disposal, and general management of MSW (municipal solid waste) in countries around the world. In addition, this research investigates the current culture of waste management in developing countries, and re-emphasizes the impact of waste on the environment. Hence, to mitigate the ongoing damaging effects of wastes in developing countries, this study introduces the 3Rs (reduce, reuse, recycle) of waste management as a tangible approach to sustainability in terms of solid waste coming from urban municipality in developing countries. With the approach and framework brought forward by this study, it aims to meet environmental and economic obligations.

Keywords: Waste Management; Sustainability; 3Rs (Reduce, Reuse, Recycle); Municipal Solid Waste; Developing Countries.

Manuscript ID: ICCAUA2023EN0119

A Risk Assessment of Socio-Economic Factors Affecting the Urban Heat Island Effects on the Vulnerable Communities in Melbourne

¹ B.E. Cheuk Yin Wai, ² Dr. Muhammad Atiq Ur Rehman Tariq, ³ Dr. Nitin Muttil*Institute for Sustainable Industries & Liveable Cities, Victoria University, Melbourne 8001, Australia. ¹ & ³**Centre of Excellence in Water Resource Engineering, University of Engineering & Technology, Lahore, Pakistan. ²**E-mail ¹: cheukyin.wai@vu.edu.au, E-mail ²: atiq.tariq@cewre.edu.pk, E-mail ³: nitin.muttil@vu.edu.au*

Abstract

The urban heat island poses a great threat to human health and wellbeing as more population growth in urban areas is observed. One of the most effective strategies is urban green infrastructure planning and the selection of suitable building materials that can reduce heat stress. However, the accessibility and affordability of green space and efficient materials are not the same among citizens. In such cases, the local government may contribute to the development process to protect vulnerable communities. This paper aims to identify the socio-economic characteristics of vulnerable communities under the local conditions of Victoria. The analytic hierarchy process is used to correlate the socio-economic characteristics to building density, green coverage, and building materials which directly influence the urban heat island and extreme heat weather events. This study will provide information for the local city council to identify the most critical factors that should be tackled in future.

Keywords: Urban Heat Island (UHI); Analytic Hierarchy Process (AHP); Socioeconomic.

Manuscript ID: ICCAUA2023EN0123

Transforming Roof Top Terraces to Third Spaces in Urban India

¹ Professor B. ARCH., M. ARCH. Sonia Gupta, ² B. ARCH, M.BS. Suganya Law*School of Architecture and Planning, Woxsen University, Hyderabad, India ¹**Consultant Architect, Kolkata, India. ²**E-mail ¹: sonia.gupta@woxsen.edu.in, E-mail ²: suganyat@gmail.com*

Abstract

This research explores the potential of residential rooftop terraces as a 'third' place for community activities in urban India, where increasing density has throttled access to open spaces. During COVID lockdown, usage of shared and private terraces saw a surge and was being used for various purposes. An online survey was conducted to assess the types of usage and to understand potential preferences for taking advantage of this largely under-used resource. Response from across India within varied age groups and types of terrace users indicated opportunities for more than socialising, amidst passively cooled roofs. Almost all who had access to a roof terrace wanted to use the space in a manner that is inclusive and engaging for the residential community. Formulation of recommendations, based on this community aspiration and sharing with building permit authorities, is one of the outcomes of this study.

Keywords: Urban Residential Design; Lockdown; Roof Top; Terraces; Community Space; Third place.

Manuscript ID: ICCAUA2023EN0132

Understanding the Urban Structure of the Algerian Cities Using Emerging Data: Case Study of Algiers

¹ Dr. Amira Khalida Oubraham, ² Professor. Tahar Baouni

Laboratory of Ville Urbanisme et Développement Durable (VUDD), Ecole d'Architecture et d'Urbanisme d'Alger (EPAU). ^{1 & 2}

Istanbul Aydin University, Faculty of Architecture and Design, Istanbul, Turkey ²

E-mail ¹: a.oubraham@epau-alger.edu.dz, E-mail ²: t.baouni@epau-alger.edu.dz

Abstract

Despite the identification of urban structure and urban centers being crucial for effective policy making (transport policies, urban risk management policies etc.) there is a serious lack of studies covering developing countries urban structure changes, especially north African cities. This is mainly due to the unavailability of the necessary data for urban structure identification. In this contribution we investigate the polycentric development in the Algerian capital, Algiers, using innovative data resources such as LandScanTM High Resolution Global Population Dataset and the POI approach, and spatial statistics. The findings suggest that the structure of Algiers is indeed developing into a polycentric city. The emerging data helped us overcome a serious methodological problem and objectively identify the city structure for better planning.

Keywords: Urban form; Polycentric Development; Emerging Data; Urban Structure.

Manuscript ID: ICCAUA2023EN0135

Agricultural and Historical Origins of an Urban Green Infrastructure: Madrid-Rio

¹ Ph.D. Candidate Iván González-Truco, ² Professor Dr. Eva J. Rodríguez-Romero, ³ Dr. Rocío Santo-Tomás-Muro, ⁴ Dr. Benito Jiménez-Alcalá

Institute of Technology, Campus de Montepíncipe, 28668, Universidad San Pablo-CEU, CEU Universities, Madrid, Spain. ^{1, 2, 3 & 4}

E-mail ¹: ivan.gonzaleztruco@ceu.es, E-mail ²: rodrom@ceu.es, E-mail ³: rocio.santotomasuro@ceu.es, E-mail ⁴: bjimenez.eps@ceu.es

Abstract

Madrid Río, the recently built green infrastructure project (a linear park) tries to connect its historic centre with the less socio-economically favoured southern neighbourhoods. The integration of multiple leisure functions looks for bringing spatially closer those unfavoured areas to the city core. The purpose of the paper is to follow the traces of the original agricultural uses associated to the river Manzanares, organized along this new urban space. Historical settlements and landmarks, such as the royal possession of Casa de Campo, ancient bridges, or the promenade of Virgen del Puerto, have also been integrated in the new project. The methodology used would combine an analysis of historic cartography and archive data, together with new analytical plans. The findings would be to detect relevant vantagepoints and the agricultural traces remaining in the existing park, as well as its general functional assessment as a green infrastructure.

Keywords: Cultural Heritage Landscape; Adaptive Re-Use; Urban Identity; Landscape Architecture and Urbanism; Madrid.

Manuscript ID: ICCAUA2023EN0157

The Aesthetics of the Contemporary Urban Landscape and its Implications for Well-Being

M.A. Axel Andrés Rodríguez Betancourt

Universitat Oberta de Catalunya - Faculty of Law and Political Science, Master's Degree in Cities and Urbanism, Barcelona, Spain

E-mail: aarbetancourt@uoc.edu

Abstract

In an increasingly urban world, more citizens are exposed to urban environments, including their aesthetics. Despite psychological research supporting the existence of a positive relationship between environmental aesthetics and well-being, the aesthetics of contemporary urban landscapes (UL) are subordinated to variables such as functionality and economic redeeming. The purpose was to study how citizens perceive contemporary UL in terms of aesthetics and how this relates to well-being. Using photographs of UL in an online questionnaire, quantitative and qualitative ratings of aesthetics and well-being were obtained of 63 participants. Results showed that contemporary UL were perceived as less aesthetic than traditional UL and associated with words suggesting a negative connotation. Analyses could not confirm a positive relationship between UL aesthetics and well-being. A qualitative analysis revealed a tendency to evaluate well-being negatively in relation to contemporary urban landscapes. As these findings suggest that aesthetics should be considered in urban planning, further research should focus on the possible relation between UL aesthetics and well-being.

Keywords: Aesthetics; Urbanism; Well-Being; Urban Landscape; Contemporary Urban Development; Capitalism.

Manuscript ID: ICCAUA2023EN0162

Effects of the Visual Quality of Street-level Greenness on Residentials' Movement Experience and Mental Health

¹ Ph.D. Candidate **Yuanyuan Wu**, ² Dr. **Asya Natapov**, ³ Dr. **Taimaz Larimian**, ⁴ Professor. Dr. **Qihua Liang**
School of Architecture, Building and Civil Engineering, Loughborough University, Loughborough, UK. ^{1,2,3 & 4}

E-mail ¹: Y.Wu4@lboro.ac.uk, E-mail ²: A.Natapov@lboro.ac.uk, E-mail ³: T.Larimian@lboro.ac.uk, E-mail ⁴: Q.Liang@lboro.ac.uk

Abstract

Urban greenness is generally regarded as one of the most important factors for improving residential mental health and walking experience in cities. However, the existing research on perceived greenness is mainly based on static images and ignores actual walking experience on the street. Therefore, this study suggests exploring a new methodology of measuring greenness as a dynamic visual quality. The method is based on the perceived physical characteristic of greenness (visual amount) and visual-spatial parameters (visual volume) thus allowing to quantify the dynamic walking experience. By conducting behavioural experiments concluded by questionnaires, the link between the visual quality of greenness at street level, mental health and walking experience is explored. The results indicate that the visual quality of street-level greenness influences people's mental health and walking experience through both visual amount and visual volume, and highlight to what degree the dynamic visual quality participates in maximizing relaxation for walking people.

Keywords: Visual Quality; Movement Experience; Mental Health; Greenness.

Manuscript ID: ICCAUA2023EN0163

Wind Simulation for Urban Planning Design

¹ Ph.D. Candidate. **Mathieu Paris**, ² Dr. **Stéphane Bosc**, ³ Professor Dr. **Philippe Devillers**
LIFAM, Ecole Nationale Supérieure d'Architecture de Montpellier, France. ^{1,2 & 3}

E-mail ¹: Mathieu.Paris@montpellier.archi.fr, E-mail ²: Stephane.Bosc@montpellier.archi.fr, E-mail ³: Philippe.Devillers@montpellier.archi.fr

Abstract

Summer comfort in a Mediterranean climate is strongly conditioned by access to natural ventilation, whether for outdoor or indoor spaces. Thus, considering the flow of the wind in the layout of the buildings becomes significant in order to adapt new development areas to climate change. In preliminary design, predictive numerical simulations become therefore an essential tool to guarantee a good flow of wind through the urban form. The objective of this study is first to validate a simulation model, by comparing simulation results starting from weather station data with in situ measurements. This simulation model will be then applied to different forms and layouts of an urban development project. This project, Ode to the Sea, located on the same territory, has the same geographical characteristics. This work will allow us to set up a design project methodology considering wind flow.

Keywords: Architectural and Environmental Sustainability; Urban Morphology; Urban Design; Wind Flow; Outdoor Thermal Comfort; Mediterranean Climate.

Manuscript ID: ICCAUA2023EN0169

Effects of Built Environment of Urban Park on Cognitive Health of Older People

* ¹ Dr. **Leung Mei-yung**, ² **Yin Ruozhu**

The Department of Architecture and Civil Engineering, City University of Hong Kong, Hong Kong, China. ^{1 & 2}

E-mail ¹: bcmei@cityu.edu.hk, E-mail ²: ruozhuyin2-c^my.cityu.edu.hk

Abstract

Many older people are facing various risks of cognitive impairment. Doing outdoor activities may be helpful for their cognitive health, while urban parks are the most popular outdoor space for them to do activities. This study identified three major components of the built environment of urban parks, namely, architecture, supporting facilities, and building services. It aims to establish a model based on the relationships between the cognitive health of older people and the built environment of urban parks. A questionnaire survey to older people aged 60 and above in Hong Kong was conducted. Results revealed that plants, nature light, signage, pathway, artificial light of sitting area, park size, etc. in the park significantly influence the cognitive health of older people. Several recommendations such as not-so-large size, diverse plants with vivid color and signages with big fonts, etc. were proposed to support their declining cognitive health.

Keywords: Built Environment; Urban Park; Cognitive Health; Older People.

Manuscript ID: ICCAUA2023EN0178

Biophilic Design as an Approach to Ecological Sustainability

* ¹M.A. Ghaith Aouadi, ²Dr. Abdulsalam Ibrahim Shema, ³Dr. Hassina Nafa
 Girne American University, Faculty of Architecture, Design and Fine Arts, K.K.T.C, Turkey. ^{1,3}
 International University of East Africa, Faculty of Engineering, Department of Architecture ²
 E-mail ¹: a.ghaith@hotmail.com, E-mail ²: abdul salam.shema@iuea.ac.ug, E-mail ³: hnafa@gau.edu.tr

Abstract

The majority of the world's population now resides in urban cities that are expanding and interconnected. Urban life is becoming faster, more computerized, and more urbanized than ever before. However, the urban environment is deteriorating rapidly due to pressing climate concerns and unplanned, inadequate urban development. This degradation, along with social, ecological, and cultural issues, is endangering the essential connection that has existed between humans and nature. As a result, our pre-existing interactions and connection with nature are being destroyed. The concept of a sustainable city has long been envisioned but is yet to be widely implemented, thus becoming utopic. One of the main concerns of our cities is that they are becoming increasingly disconnected from nature, which is leading to a wide range of physiological, psychological, social, emotional, and cognitive problems. To address this issue, it is crucial to consider major sustainable strategies that can support humans' profound and instinctive connection with nature. One experimental and fundamental approach is biophilic design, which recognizes the connection between humans and nature. Biophilic design is a novel strategy that aims to preserve, enhance, and restore great experiences involving nature in the built environment. This study used a mixed-methods approach, including qualitative, quantitative, and comparative methods, to explore the experiences and characteristics of biophilic design, with a focus on practical, analytical, and case-study analysis. The study emphasized biophilic planning and design, which can improve residents' environmental attitudes and understanding and therefore promote greener lifestyles among citizens. Ultimately, this can lead to environmental sustainability and a renewed connection between nature and humans.

Keywords: Biophilic Design; Sustainable Architecture; Ecological Sustainability; Nature; Humans.

Manuscript ID: ICCAUA2023EN0180

Improve Pedestrian Environment to Enhance Walkability Through 5c's Concept in a Smart Way: A Case of Rajshahi Metropolitan Area

¹Assistant Professor Md. Asaduzzaman, ²Mahiyat Mubassera, ³Arif Anjum Touhid, ⁴B.Arch. Md. Hasib
 Department of Architecture, Rajshahi University of Engineering & Technology, Rajshahi, Bangladesh. ^{1,2&3}
 Architecture Discipline, Khulna University ⁴
 E-mail ¹: md.asaduzzaman@arch.ruet.ac.bd, E-mail ²: mahiyatmubassera61199@gmail.com, E-mail ³: arif.anjum.touhidd@gmail.com,
 E-mail ⁴: arcmdhasib@gmail.com

Abstract

In the current world, walkability is a prominent feature of a planned city. People nowadays are more conscious about their lifestyle and that's why they want to have a walking-friendly environment to stay fit. A study in Vancouver, Canada, shows that adults in walkable cities are 31% less likely to be overweight or obese than people living in car-dependent areas. Recently a pedestrian street is being constructed in Rajshahi, Bangladesh but it is not walking-friendly due to a lack of proper shading, and interactive spaces for pedestrians. The city needs more smart facilities to encourage people to walk. This research aims to improve the walking environment by providing smart solutions based on the 5Cs concept for future generations to encourage walkability in Rajshahi city. It is anticipated that through this concept, the problems in pedestrian facilities will decline and people will be encouraged to use pedestrians for a better life.

Keywords: Walkability; Pedestrian Environment; Pedestrian Facilities; Smart Solutions; Technology.

Manuscript ID: ICCAUA2023EN0187

The Evolving Fringe as Future Prime Movers of Sustainable Cities – Case Studies around Kolkata, India

¹Architect B. ARCH., M. ARCH. Debarati Chakraborty, ²Professor B. ARCH., M. ARCH. Sonia Gupta
 Central Public Works Department, Ranchi, India ¹
 School of Architecture and Planning, Woxsen University, Hyderabad, India ²
 E-mail ¹: debaratiphd2021@gmail.com, E-mail ²: sonia.gupta@woxsen.edu.in

Abstract

In a rapidly urbanising world, fringes of cities are in constant flux, in response to inherent socio-economic and environmental changes. It is observed that, facilities for livelihood are being generated in these peri-urban areas which then undergo sporadic and variegated physical modifications. In case study of Kolkata, India it can be seen that ground reality of development in periphery of city did not follow perspective vision plans. Through field research and grassroots level identification, this research looks at deep understanding of peri-urban transformations in order to gauge the vital role of such areas as prime movers for sustainably evolving cities.

Keywords: Fringe; Peri-Urban; Socio-Economic; Livelihood; Ground Reality.

Manuscript ID: ICCAUA2023EN0191

Simulation Study of Urban Ventilation of Residential Streets and Impact of Building form Variation in Summer under Humid Climate

Dr. Bouketta Samira

*Architecture Department, Faculty of Science and Technology, Jijel university –Algeria**E-mail: samirabouketta@univ-jijel.dz*

Abstract

In this work, we approached the interactions between the geometry of the urban space and the urban ventilation in a humid context in hot period where the wind is an essential data with which it is necessary to compose. The study was conducted on a case study in the city of Jijel (Algeria) containing a variety of spatial configurations (bar, L and U) offering different prospects (H/w). The microclimatic evaluation was made by investigation and numerical simulation with ENVI-met. The discussion of the results indicates that the H/w prospect is the main geometric parameter that has a significant effect on urban ventilation. The geometry of the urban space has conditioned the level of permeability, porosity, or wind deflection. It is therefore the existing spacing between buildings that is responsible for the degree of ventilation, shelter or exposure. This was remarkable in the profiles having the geometry in U, L.

Keywords: Urban Ventilation; Ratio H/w; Urban Space; Building Form; Simulation; ENVI-met.

Manuscript ID: ICCAUA2023EN0203

Urban Lived Experience of Iconic Architecture in the Kingdom of Bahrain

¹ Kavithasree Suvarna, ² Professor Najla Allani*University of Bahrain, Department of Architecture, and Interior Design, Kingdom of Bahrain**E-mail ¹: 202200019@stu.uob.edu.bh, E-mail ²: nallani@uob.edu.bh*

Abstract

Architecture, of all art forms, is bound to influence people's daily lives. The 20th century witnessed brisk urban developments. SKYSCRAPERS have become a new dialect of urbanism, tied to the ideologies of tall buildings, generating a so-called 'ICON' that stands tall and twisted several times, backed with design principles. This paper examines the perception and sensory experience of the people living among the extraordinary superstructures and the factors that leave an impression on their minds and impact their bodily experience, addressing the grandeur, the scale, the place where its located, and the technology or materials that have been used.

Keywords: Sky Scrapper; Sensory Experience; Urban ICON; People Perception; Bahrain.

Manuscript ID: ICCAUA2023EN0205

The Vanishing Waters: Analyzing the Encroachment Patterns of Urban Waterbodies in Bangalore

^{* 1} Associate Professor. Fathima Samana Saidoddin , and ² Dr. Mamta Sagar*Acharya's NRV School of Architecture, Acharya Institutes, Bangalore, 560107, Visvesvaraya Technological University, Karnataka, India. ¹**Research Scholar, Manipal University, Srishti Manipal Institute of Art, Design & Technology, Bangalore, India ¹**Manipal University, Srishti Manipal Institute of Art, Design & Technology, Bangalore, India ²**E-mail ¹: sfathimasmana@gmail.com, fathima@acharya.ac.in , E-mail ²: mamtasagar@manipal.edu*

Abstract

Water is the most essential criteria for any settlement to initiate, flourish or even perish. Communities associate with water uniquely, which gives a character to the settlement. The city of Bangalore has evolved along with its multiple lakes. These manmade lakes have been constructed by the creation of bunds along the city's natural topography. The lakes and its nalas (stormwater drains) are an integral part of Bangalore, which structure the city. The lake systems are complimented by greenspaces, creating an image of "Garden City" for Bangalore. The growing city, pressed by urbanization trends, has a negative impact on its ecological counterpart. The city is in a continuous process of losing its blue-cover and its buffering greens, which once lent an identity to the city. The loss of this hydrological layer can be attributed to various processes and stakeholders. This study aims to analyze the encroachment patterns of these lakes.

Keywords: Lakes; Encroachment; Greenspaces; Topography; Urbanization; Nalas; Water.

Manuscript ID: ICCAUA2023EN0219

Examining Relationships between Spatial Pattern of Green Infrastructure and Urban Heat Island (Case Study: Tehran Metropolis)

¹ Dr. Behnaz Amin Zadeh Gohar Rizi, ^{*2} Ph.D. Candidate. Soheil Gheslaghpoor
 University of Tehran, Faculty of Fine Arts, Urban Design and Urban Planning, Tehran, Iran. ^{1 & 2}
 E-mail ¹: bgohar@ut.ac.ir, E-mail ²: soel.gheshlaghpor@ut.ac.ir

Abstract

The relationships between spatial pattern (composition/configuration) of Green Infrastructure (GI) and urban heat island have shown contradictory results. Today, the Tehran metropolis has faced a wide range of changes, accordingly, there have been changes in the spatial pattern of GI, as well as changes in the Land Surface Temperature (LST). The method is based on Local Climate Zone (LCZ) classification, measuring the landscape metrics, and analyzing the relationships through Pearson correlation and partial Pearson correlation. The results show: (1) Areas with tree cover have negative effect on LST in A/B green space types, (2) The Mean Patch Size (MPS) and Largest Patch Index (LPI) of type A are important factors in reducing LST, (3) The amount of Edge Density (ED) in GI, including type B/C, has positive effects on the LST. These results provide the possibility of influencing the reduction of LST by planning suitable spatial patterns of GI.

Keywords: Spatial Pattern; Green Infrastructure; Urban Heat Islands; Tehran Metropolis.

Manuscript ID: ICCAUA2023EN0225

Enhancing Fiscal Outcomes through Human-Centered Design: The Economic Benefits of Salutogenic Architecture in Public Health Care Facilities

M.A. Koudoua Ferhati
 Faculty of Architecture and urbanism, Department of project management, 25001, Constantine 3 University, Constantine, Algeria.
 E-mail: koudoua.ferhati@univ-constantine3.dz

Abstract

The purpose of this study is to investigate the economic benefits of salutogenic architecture in public health care facilities. The study will use a mixed-methods approach that combines both qualitative and quantitative research methods, including in-depth interviews, a case study, statistical analysis and cost-benefit analysis. The study aims to evaluate the economic benefits of incorporating salutogenic design principles, such as natural light, access to nature, and a sense of control over one's environment, into the construction and renovation of public health care facilities. The results of this study provide valuable insights into how the design of public health care facilities affects the overall patient experience, staff productivity, and the cost of care. It will also provide data to support the findings of the study and help healthcare providers and architects make informed decisions when designing or renovating a public health care facility.

Keywords: Economic Benefits; Salutogenic Architecture; Public Health; Healthcare Facilities; Human-Centered Design.

Manuscript ID: ICCAUA2023EN0227

Technology, Mobility, and Security. Elements to Introduce in an App Mobile as a Strategy to Survive in Vulnerable Areas

¹ Dra. Dulce Esmeralda García Ruiz, ² Dra. Verónica Livier Díaz Núñez, ³ Dra. Alessandra Cireddu
 Autonomous University of Guadalajara, Design, Science, and Technology, Guadalajara, Mexico. University of Guadalajara, University Center of Art, Architecture and Design, Guadalajara, Mexico. Technological Institute of Higher Studies of Monterrey, School of Architecture, Art and Design, Guadalajara, Mexico
 E-mail ¹: dulce.garcia@edu.uag.mx, E-mail ²: veronica.diaz01@academicos.udg.mx, E-mail ³: acireddu@tec.mx

Abstract

In Mexican and Latin American cities, the increase in insecurity in urban, intra-urban, and peripheral areas is alarming. In a context in which the use of information and communication technologies is essential in practically all socioeconomic strata and ages. Do we wonder if a mobile application could be a strategy to survive in this climate of insecurity in cities? The problem was analyzed using a methodology based on security urban perception and social cohesion indicators, comparative analysis of main apps used in secure mobility, and interviews with a focus on women's daily journeys from 3 socio-spatially segregated neighborhoods of Guadalajara, Mexico as study cases. The results highlight the importance of daily security in cities, furthermore allowed to us to identify the main elements to integrate into the design of a mobile application with parameters in security and sustainable mobility as a key strategy to create and reinforce networks of social cohesion.

Keywords: Technology; Mobility; Security; App Mobile; Vulnerable Areas.

Manuscript ID: ICCAUA2023EN0232

Urban Form and Real Estate Value in Msheireb Downtown Doha

¹ B.A. Adheena K. Aliyar, ² Professor Dr. Mark David Major, AICP, CNU-A, ³ M.A. Heba O. Tannous
 Department of Architecture and Urban Planning, Qatar University, Qatar. ^{1,2&3}
 E-mail ¹: aa2110818@qu.edu.qa, E-mail ²: m.major@qu.edu.qa, E-mail ³: heba.tannous@qu.edu.qa

Abstract

In the late 20th century, Doha's rapid urbanization and globalization led to losing housing and traditional urban fabric in the old city center. Msheireb Downtown Doha aims to bring urban living back in a contemporary interpretation of the traditional urban fabric with the conveniences of modern life. In this paper, we examine morphological characteristics of this project related to real estate variables, i.e., location, floor area, number of bedrooms/bathrooms, and ask price. Residential units' layout and adjacent streets' morphological characteristics clearly define targeted user groups. Larger residential units target Qatari families via more bedrooms/bathrooms in layouts and private settings emphasizing cultural values. Smaller units target ex-pat workers (especially Westerners) using open-plan layouts in more lively urban settings. Price per square meter also increases for residential units closer to the Doha Metro station. We conclude that the design, planning, and economics of Msheireb Downtown Doha are well-suited to achieve its aim.

Keywords: Economics; Morphology; Real Estate; Regeneration; Urban Studies.

Manuscript ID: ICCAUA2023EN0237

Geometric Form Effect on Wind Comfort for Pedestrian Tunnels of Highrise Buildings

* ¹ Dr. Elif Gizem Yetkin, ² Dr. Murat Aksel, ³ Dr. Mehmet Dikici, ⁴ Dr. Cengiz İpek
 Alanya HEP University, Faculty of Architecture, Antalya, Turkey ¹
 Alanya Alaaddin Keykubat University, Faculty of Engineering, Antalya, Turkey. ^{2&3}
 Istanbul Medeniyet University, Faculty of Engineering, Istanbul, Turkey ⁴
 E-mail ¹: elifgizemyetkin@gmail.com, E-mail ²: murat.aksel@alanya.edu.tr, E-mail ³: mehmet.dikici@alanya.edu.tr,
 E-mail ⁴: cengiz.ipek@medeniyet.edu.tr

Abstract

The need for high-rise buildings is increased by urbanization, economic expansion, land shortages, technology advancements, lifestyle preferences, and government policies. Due to their bigger footprints and the need for greater space for building support systems such as foundations, elevators, and stairwells, high-rise buildings often require larger construction areas than low-rise buildings. This causes requirement to design a passenger tunnel crossing the building to access two sided roads and walkways. The geometric form and the shape factor of the tunnel, also known as the aspect ratio, is the ratio of the width of a pedestrian tunnel to its height. In this study a calibrated and validated numerical model was used to define the form and shape factor of a passenger tunnel that promotes pedestrian comfort. Various geometric forms (i.e., rectangular, square, and circular) and shape factor (various aspect ratio for rectangular), and analyze the resulting wind conditions, and ventilation within the tunnel.

Keywords: Architectural Design; Pedestrian Comfort; CFD; High-Rise Buildings; Passenger Tunnel.

Manuscript ID: ICCAUA2023EN0240

Technical Land-Sea Spaces: Impacts of the Port Clusterization Phenomenon on Coasts, Cities and Architectures

Assistant Professor, Ph.D. Architect **Beatrice Moretti**
 Department Architecture and Design – dAD, Polytechnic School, University of Genoa, Italy
 E-mail: beatrice.moretti@unige.it

Abstract

Land-sea interactions, extending inland and towards the marine spaces, are affected by major management and design transformations. Globalization, port expansion projects and extensive energy transition needs have recently led port institutions to demand more land, engaging with logistics platforms and restructuring forms of port governance. In this competitive context, the phenomenon of Port Clusterisation, i.e. the administrative aggregation whereby two or more ports are merged to form port clusters, is heavily impacting the institutional sphere. Yet, not only does this phenomenon have no control over cities, but its spatial component is being overlooked. As a result, port and city institutions lack design tools to tackle urgent challenges such as coastal consumption, the need for resilient port-city infrastructures and the renewal of the port-city architectural heritage. The article addresses the spatial products of Port Clusterisation, i.e. those technical spaces whose study contributes to developing a spatial and design approach to port clusters.

Keywords: Port Clusters; Technical Spaces; Land-Sea Interactions & Management; Coastal and Marine Environments; Port-City Architectures.

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The Impact of Urbanization on CO₂ Emissions: Evidence from BRICS Countries

¹ Dr. **Abidemi Somoye**, ² MSc. **Toluwalope Akinwande**

Near East University, Department of Economics, Nicosia, TRNC. ^{1 & 2}

Email ¹: abidemi.somoye@neu.edu.tr, Email ²: akinwandetoluwa@gmail.com

Abstract

As the world continues to move towards sustainability across different disciplines, it is important to determine the contributing factors to environmental degradation or factors mitigating it. With the application of econometric tools, this study will investigate the impact of urbanization on CO₂ emissions in BRICS–T (Brazil, Russia, India, China, South Africa, and Turkey) countries from 1971–2014. BRICS–T countries are regarded as the foremost emerging economies of the world. They are large in terms of population, area, and GDP. These countries contribute meaningfully to global CO₂ emissions. The variables that will be employed include CO₂ emissions (metric tons per capita), urban population (% of the total population), energy use (kg of oil equivalent per capita), and real gross domestic product per capita (constant 2015 US\$) (RGDP). The outcome of this study will be used to provide policy implications for BRICS–T countries.

Keywords: Urbanization; Energy Use; RGDP; CO₂ Emissions; BRICS–T Countries.

Manuscript ID: ICCAUA2023EN0243

A New Context for Urban Design: The Role of Drawing in the Design Process

* Ph.D. Professor **Ana Paula Parreira Correia Rainha**

CIAUD, Centro de Investigação em Arquitetura, Urbanismo e Design, Faculdade de Arquitetura, Universidade de Lisboa ¹

Universidade da Beira Interior, Covilhã, Portugal. ²

E-mail ¹: arq.paularainha@gmail.com



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UNIVERSIDADE DE LISBOA



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Abstract:

The composition of urban space today seems to be considered a less important issue in the practice of city development. The impoverishment process of the formal and compositional components of the urban spaces is more evident when the several and necessary knowledges in planning are contemplated and understood. These aspects imply a reflection on essential aspects of urban concerns which are mainly related to formal composition, based on the experimentation and on the individual creativity of the designer. This paper pretends an approach to the relevance of this subject for the urban planning, through its various phases from XV century until now, focusing on the role of the free drawing in the urban design process, concluding with its importance at several levels for the urban planning and cities development.

Keywords: Urban Design; Urban Space; Urban Process; City Development.

Manuscript ID: ICCAUA2023EN0253

Mitigating the Effects of Infrastructure Development on the Environment

¹MSc. Palma Hussein, ²Dr. Erastus Micheng'u Mwanaumo, ^{*3}Dr. Penjani Hopkins Nyimbili, ⁴Professor Dr. Wellington Didibhuku Thwala
University of Zambia, Department of Civil and Environmental Engineering, Lusaka, Zambia. ^{1&2}

University of Zambia, Department of Geomatic Engineering, Lusaka, Zambia. ³

University of South Africa (UNISA), Department of Civil Engineering, College of Science, Engineering and Technology, Pretoria, 0003, South Africa. ^{2&4}

E-mail ¹: palmahussein2@gmail.com, E-mail ²: erastus.mwanaumo@unza.zm, E-mail ³: penjani.nyimbili@unza.zm, E-mail ⁴: Thwaladw@unisa.ac.za

Abstract

Infrastructure is closely linked to socio-economic development and research based on historical data has shown a significant positive association between economic growth and infrastructure in the long run. Infrastructure developments come with a range of social and economic benefits; however, it is not a panacea without side effects, having a range of negative effects on the environment owing to the fact that it is embedded in the natural system. Using the deductive approach to qualitative analysis, an extensive review of the literature was conducted. The research determines several factors that can be considered in mitigating the adverse effects of infrastructure development on the environment such as the use of green building and low carbon infrastructure, sustainable building practices, renewable energy, waste management during construction and environmental legislation. Decision-making should therefore be guided by these factors established and incorporated into public policies necessary to promote sustainable economic development and environmental protection.

Keywords: Green Building; Infrastructure; Mitigation; Environment; Sustainable Economic Development.

Manuscript ID: ICCAUA2023EN0259

Smart Growth and the Decolonization of Urban Policy: Towards a New Model of Municipally Guided Growth in Egyptian Desert Areas

Dr. Anas Alhowaily

Faculty of Architectural Engineering, the German International University, Cairo, Egypt

E-mail: anas.youssry@giu-uni.de

Abstract

This article investigates the association between Smart Growth and the decolonization of urban growth management in terms of urban policy and practice. It draws on lessons learned from the urbanization of Egyptian desert areas pre- and post-Egypt's New Urban Communities Program (NUCP) and questions how colonialism induced adverse socio-economic impacts through its ideological underpinnings and rationale. The research argues that the mono-institutional development of urban growth is rooted in Egypt's colonial history preceding the NUCP. The method applied in this research adopts a descriptive qualitative approach in investigating the development of Egypt's new cities based on the Smart Growth principles, and a quantitative approach in analyzing the population numbers decongested by the NUCP. The research suggests a new model of municipally guided growth to generate indigenous and locally verified urban growth model.

Keywords: Decolonization; NUCP; Urban Policy; Smart Growth; Urban Governance.

Manuscript ID: ICCAUA2023EN0260

Evaluating a Proposed Traffic Management Policy: The Case of Baquba City

* ¹M.A. Muneer Muslih Mahdi, ²Lect. Dr. Ahmed Subhi Abduljabbar, ³Prof. Dr. Hasan Hamodi Joni

University of technology, Civil Engineering Department, Baghdad, Iraq ¹

University of technology, Faculty of Civil Engineering Department, Baghdad, Iraq. ^{2&3}

E-mail ¹: bce.21.35@grad.uotechnology.edu.iq, E-mail ²: 40095@uotechnology.edu.iq, E-mail ³: 40317@uotechnology.edu.iq

Abstract

This paper discusses the possibility of applying a traffic management policy that can be applied in Baquba city in Iraq and measuring the extent of its effectiveness in reducing congestion and improving LOS for a selected network in the city consisting of Al-Mustafa, and Al-Balda intersections linked by Zain Al-Qaws Street, using the trip interchange model based on finding the impedance value for both modes of travel (private cars and buses) in the city using the Quick Response System (QRS) method, and simulating its effectiveness using Synchro11 software. The study found that the proposed traffic management policy can give acceptable results in the short and medium - terms while taking less time and money to implement. It can also reduce traffic congestion, and intersections delays in the city, improve the level of service for both Al-Mustafa, and Al-Balda intersections from F to D, save fuel and reduce CO emissions.

Keywords: Traffic Management; Congestion; QRS; LOS.

Manuscript ID: ICCAUA2023EN0266

The Walkability of Alvalade Neighbourhood for Young People: An Agent-based Model of Daily Commutes to School

¹ Professor Dr. **Mafalda Teixeira de Sampayo**, ² Professor Dr. **David Sousa-Rodrigues**

Department of Architecture and Urbanism, Lisbon University Institute, Avenida das Forças Armadas, 1649-026 Lisbon, Portugal ¹

School of Arts and Design, Polytechnic Institute of Leiria, Rua Isidoro Inácio Alves de Carvalho, 2500-321, Caldas da Rainha, Portugal ²

E-mail ¹: mafalda.sampaio@iscte-iul.pt, E-mail ²: david.s.rodrigues@ipleiria.pt

Abstract

The Alvalade neighborhood in Lisbon, Portugal was built in the mid-XX century as low-cost housing for workers, but it has become inhabited by the middle and upper classes. The neighborhood is home to a large population of young people, including children and teenagers who attend the schools located in the area. We present an agent-based model which aims to investigate the walkability of the neighborhood for these young people, focusing on the mobility patterns of children and teenagers as they navigate their daily routines of going to school. We simulate the pedestrian movement of these young people, taking into account factors such as the availability of sidewalks, crosswalks, distance to schools, and the presence of other amenities. Our research reveals the mobility patterns emerging in this area and compares them across the different schools of the area. These results inform both urban policies and interventions that promote safe and accessible routes to school.

Keywords: Urban Design; Walkability; Mobility; Agent-Based Model; Pedestrian Movement; School Accessibility.

Manuscript ID: ICCAUA2023EN0267

Parametric Architectural Design for a New City Identity: Materials, Environments and New Applications

Ph.D. **Ines Sahtout**

Higher Institute for fine Arts of Tunis, University of Tunisia, Tunisia.

E-mail: ines.gaha@gmail.com

Abstract

In contemporary architectural Design, we speak of a parametric structural design. A design that integrates new functionalities crossed with the spatial geometry of objects. It is been considered structured because it optimizes combinations that integrate a minimum of materials and data in order to respond to functions, uses and needs more adapted to a society in perpetual evolution. Parametric modeling allows the usability of new materials and the integration of new structures in a variety of design environments. This transdisciplinary research first exposes the aspects of parametric modeling while focusing on the material and immaterial plurality of the designed space. Then, from a position that redefines the city as both a "medium" and an "object" city, we attempt to define the fields of application and the novelties that invest the fields of architectural construction. Our research findings come at the end to identify the role of parametric modeling as a design process in the generation of viable, sustainable and versatile spaces.

Keywords: Parametric Design; Architectural Modeling; Environments; Materials; City Identity.

Manuscript ID: ICCAUA2023EN0272

Rururban, Rurban and Periurban: Conceptual Difference and Scope in the Transformation of the Territory

¹ Professor Ph.D. **Dulce Esmeralda García Ruiz**, ² M.A. **Andrea Isabel Cendejas Magdaleno**

The Autonomous University of Guadalajara, Mexico ^{1&2}

E-mail ¹: dulce.garcia@edu.uag.mx, E-mail ²: ai.cendejas@edu.uag.mx

Abstract

The study of the interstices between the urban and the rural, has given rise to concerns such as border dynamics, the so-called urban-rural studies, usually focus on issues such as segregation, and environmental problems among other imbalances of inequities or inequalities (Cabeza I. 2022), urban growth implies the incorporation of new territories in the complex system that includes a space in mutation as a result of these problems, the terms periurban, rurban and rururban arise, a theoretical-conceptual analysis is made through the atlas tool you In search of understanding the differences and similarities of the concepts based on Kenbel, C., Galimberti S. & Demarchi P. (2022), Márquez, Y. (2022) and Mercedes M. (2022), to mention a few, In such way, it allows us to identify what is the difference and scope of these concepts and what implications do they have in the territory, taking Latin American cities as a case?

Keywords: Rururban; Periurban; Rurban; Urban Growth.

Manuscript ID: ICCAUA2023EN0274

Perceived Urban Design Across Urban Typologies in Hanoi

¹ Dr. Thanh Phuong Ho, ² Professor Mark Stevenson, ³ Assoc. Professor Jason Thompson

Transport, Health and Urban Design Research Lab, Melbourne School of Design, The University of Melbourne, Melbourne, VIC 3010, Australia. ^{1, 2 & 3}

E-mail ¹: thanh.ho@unimelb.edu.au, E-mail ²: mark.stevenson@unimelb.edu.au, E-mail ³: jason.thompson@unimelb.edu.au

Abstract

In light of the rapid global urbanization, urban design has been shown to contribute largely to promoting the health and wellbeing of urban citizens. However, studies of urban design are underrepresented in low- and middle-income countries (LMICs) in Asia, where urban forms are traditionally compact and complex with multiple layers. Hanoi, a typical city in a LMIC, exhibits five unique urban typologies (UTs) generated through both official planning, unregulated development, and historical fluctuations. This study examines the perceived urban design across UTs in Hanoi using an established scale. The findings suggest that perceived urban design is significantly influenced by UTs. Old UTs tend to report higher scores of land use mix and access to services but lower scores of walking facilities and street connectivity than modern UTs. The study contributes to our understanding of urban design in Hanoi, providing policymakers and urban designers with essential insights for sustainable urban development.

Keywords: Urban Form; Perceived Urban Design; Urban Typology; Hanoi.

Manuscript ID: ICCAUA2023EN0286

Sustainable Brownfield Redevelopment: A Solution to Control Urban Sprawl

¹ Ar. Merin S. Cherian, ² Ar. Debalina Ghosh, ³ Ar. Keerthana L.

*Architect, Studio36, Dubai, UAE.*¹

Assistant Professor, School of Architecture and Planning, Woxsen University, Hyderabad, India.^{2 & 3}

E-mail ¹: merincherian2992@gmail.com, E-mail ²: ghoshdebalina1606@gmail.com, E-mail ³: keerthanalakkapragada@gmail.com

Abstract

With the expansion of cities, meeting the requirement of increase in population has always been a concern for the environment. As a consequence of urbanization, surge in tenancy, need for recreational spaces and increased congestion within the cities, its boundaries are expanding rapidly, occupying the outskirts of the same for new infrastructural development. This causes problems such as uncontrolled urban sprawl. This paper intends to highlight the impact of urban sprawl on a city and how it can be mitigated by implementing strategies like brownfield redevelopment, retrofitting and revitalization of existing structures for mixed use developments which will not only allow us to retain the natural habitats surrounding the city but will also prove to be a suitable sustainable approach towards urban development.

Keywords: Urbanization; Urban Sprawl; Brownfield Redevelopment; Sustainable.

Manuscript ID: ICCAUA2023EN0300

The Co-Construction of Cross-Sectoral Policies in Coastal and Marine Spaces. Mediterranean Case Studies of Integrated Processes

*Ph.D. Student Silvia Sivo

Doctoral programme in architecture, city and design, Palazzo Badoer, 30125, Iuav University of Venice, Venice, Italy.

E-mail: ssivo@iuav.it

Abstract

The governance of coastal territories and the marine environments is one of the most relevant issues at the moment. While competence over these territorial areas is fragmented across a number of sectors and institutions, involving public bodies at different levels on the basis of various directives and procedural rules, the policies affecting them require the sharing and cooperation of other actors involved in implementation and management. This contribution explores cross-sectoral Blue Economy related policy approaches and initiatives adopted in the co-construction processes involving actors with different roles (institutions, researchers, stakeholders and citizens) by analysing two cases of approaches in different Mediterranean contexts - Italy and Cyprus - through a methodology based on a comparison matrix. The results outline design, cultural, knowledge and relationships tools supporting collaborative governance of land-sea interaction areas, in order to steer integrated spatial policies that are effective in addressing contemporary challenges related to water and its multiple values.

Keywords: Land-Sea Interaction; Integrated Coastal Management; Collaborative Governance; Co-Creation Design Culture; Cross-Sectoral Policies.

Manuscript ID: ICCAUA2023EN0325

Experiencing Spaces and Places through Human Senses with the Presence of Nature

M.A. Associate Professor **Darine T. Zacca***School of Architecture and Design, Department of Interior Design, Holy Spirit University of Kaslik, Kaslik, Lebanon**E-mail: darinezakka@usek.edu.lb*

Abstract

The concept of "Percept, Affect, Concept" by Gilles Deleuze will be the methodology of discovering the impact and the presence of nature on experiencing spaces, into some chosen iconic architectures such as Villa Savoye by Le Corbusier, Falling Water by Frank Lloyd Wright and Swiss Sound Box by Peter Zumthor, going from modern to contemporary architectures. How can the presence of nature lead to a multisensory unique experience of Space? A committed, integrated, or convoked nature will form the main topic of the architectural multisensory experience of spaces, of atmospheres, experiences and memories of place, of what was learned, of what was lived and memories of places as well as Genius Loci, to have such a unique experience.

Keywords: Singular Experience; Atmospheres; Commitment; Integration; Convocation; Percept; Affect; Concept; Memory of Places; Learned; Lived; Senses; Multisensory Experience.

Manuscript ID: ICCAUA2023EN0327

Quantifying the Effect of the Built Environment on Surface Runoff Using GIS and Remote Sensing: A Case Study of Ibex Hill-Lusaka

^{*1}Dr. **Penjani Hopkins Nyimbili**, ²B.Eng **Natasha Chalwe**, ³MSc **Bwalya J. Kawimbe**, ⁴M.Eng **Foster Lubilo**, ⁵Dr. **Erastus Micheng'u Mwanaumo**,
⁶Prof. Dr. **Wellington Didibhuku Thwala**, and ⁷Assoc. Prof. Dr. **Turan Erden**

The University of Zambia, Department of Geomatic Engineering, Lusaka, Zambia. ^{1, 2, 3 & 4}

The University of Zambia, Department of Civil and Environmental Engineering, Lusaka, Zambia. ⁵

University of South Africa (UNISA), Department of Civil Engineering, College of Science, Engineering and Technology, Pretoria, 0003, South Africa. ^{5 & 6}

Istanbul Technical University, Faculty of Civil Engineering, Department of Geomatics Engineering, 34469, Istanbul, Turkey. ⁷

E-mail ¹: penjani.nyimbili@unza.zm, E-mail ²: natashachalwe001@gmail.com, E-mail ³: bwalya.kawimbe@unza.zm, E-mail ⁴: foster.lubilo@unza.zm,

E-mail ⁵: erastus.mwanaumo@unza.zm, E-mail ⁶: Thwaladw@unisa.ac.za, E-mail ⁷: erdentur@itu.edu.tr

Abstract

Flash floods are short-period floods with a high peak discharge. Flash floods may be brought about by an increase in rainfall coupled with the rise of impervious surfaces. Accurate estimation of surface runoff and flood depth is therefore a vital task in coming up with ways to intercept and manage excess surface runoff. The study was carried out in Salama Park – Ibex Hill of Lusaka City with a total area of 1,074,822m². The research focused on quantifying the surface runoff for the years 2019 to 2021 using the Soil Conservation Curve Number (SCS-CN) method, Remote Sensing and GIS. The excess runoff was calculated to range between 306.787mm to 600.419mm and the flood depth computed ranged between 1.665m to 3.260m. The relevance of this study is to understand the mechanisms and examine the impact of excess surface runoff on the built environment as well as its associated consequences.

Keywords: Flash Floods; Impervious Surfaces; Surface Runoff; SCS-CN Method; Remote Sensing; GIS.

Manuscript ID: ICCAUA2023EN0328

Spatial Analysis of the Islands of Kaveri and their Thematic Classification

¹Associate Professor Dr. **Balaji Venkatachary**, ²Ph.D. Candidate **Safiya MD**, ³Assistant Professor.M.Arch. **Shruti Mutalikdesai**

Mysore School of Architecture, University Layout, Lingambudhi, Mysore, Karnataka, India ¹

Indian Institute of Technology, Roorkee, Uttarakhand, India ²

Padmabhushan Dr.Vasantdada Patil College of Architecture, Aditya Nisarg, Pirangut, Mulshi, Pune, Maharashtra, India ³

E-mail ¹: balaji.v@msa.edu.in, E-mail ²: safiya_d@ar.iitr.ac.in, E-mail ³: shruti.mutalikdesai@pvpcopune.edu.in

Abstract

Every river's islands allow a variety of uses, assigned to them by the primary stakeholders over centuries of habitation. Identification of these islands based on thematic classification would aid in the decision making process. Kaveri is a significant river from the south of India, also one of the seven holy rivers. Besides creating a host of unique landscapes, several of its islands are inhabited and also culturally significant. This paper will document and study islands of river Kaveri using parameters such as land use, demography, heritage components and narratives from popular media. Some of these islands are known for their exceptional cultural and natural significance. GIS will be used to map and analyze these islands and its attributes. Thematic classification will be arrived at using indicators of placemaking. This paper will set a precedent to look at river islands and provide a tool kit to classify island landscapes.

Keywords: Placemaking; Island; Kaveri; Culture; Spatial Analysis.

Manuscript ID: ICCAUA2023EN0331

House Under the Threat of Disaster on the Island of Java

*¹ Dr., S.T., M.Sc., IPM. **Aulina Adamy**, ² Ir., S.T., M.Eng.Adv, IPM. **Meillyta**, ³ M.T., S.T. **Qurratul Aini**, ⁴ S.Ars. **Lisa Maharani**, ⁵ **Naufal Sulthana Pazet**
Architecture Department, Faculty of Engineering, University of Muhammadiyah Aceh, Aceh, Indonesia. ^{1,3&5}
Civil Engineering Department, Faculty of Engineering, University of Muhammadiyah Aceh, Aceh, Indonesia ²
Architecture Department, Faculty of Engineering, University of Syiah Kuala, Aceh, Indonesia ⁴
 E-mail¹: aulina.adamy@unmuha.ac.id, E-mail²: meillyta@unmuha.ac.id, E-mail³: ataennie@gmail.com, E-mail⁴: lisa.maharani904@gmail.com,
 E-mail⁵: naufalsulthana@gmail.com

Abstract

Java Island is the highest risk of all types of disasters in Indonesia. Low-cost houses are the largest population and the most vulnerable. Yet, there is not much study focus on it. The objective is to have a better understanding of it concerning various natural risks through observation, mapping, and referring to documents. The results shows that self-development houses are more vulnerable. Incomplete building structure is the main basic problem found both in industrial or natural materials. Choosing smooth roof material is significant in facing volcano eruption, a complete interconnection of building structure is a must for tornado, avoiding natural material is recommended to high risk of forest fire, and elevating floor is basically need it in flooding area. Compared with tsunami and earthquake disaster, there is still less studies providing architecture solution for other type of disaster while flooding and landslide are two of the most frequent one.

Keywords: Low-Cost Houses; Disaster; Vulnerable; Java Island.

Manuscript ID: ICCAUA2023EN0345

Morphological and Anthropic Vulnerabilities. Mapping Integrated Risks: Messina as a Case Study

*¹ Prof. Arch. **Anna Terracciano**, Ph. D. Candidate **Giovanna Ferramosca**
Department of Architecture, University of Naples "Federico II". ^{1&2}
 E-mail ¹: anna.terracciano2@unina.it, E-mail ²: giovanna.ferramosca@unina.it

Abstract

In the city of Messina, the taxonomy of vulnerable situations is peculiar. Critical residential tissues are part of an extensive geography made by altered natural resources, abandoned infrastructures, brownfields, unregulated quarries and landfills, etc. To these are added the conditions of seismic and hydro-geo-morphological vulnerability. The process aimed to map this critical condition was based on the interaction of some analytical-specialist readings from different sources using multiple GIS tools. The process results are represented in a system of integrated maps that, provide, a working document for the interdisciplinary group drafting the Urban General Plan. These maps, providing a cognitive framework about vulnerability condition of Messina useful for Plan strategic choices, including: pollution, ecological degradation, land consumption and the consequent hydro-geo-morphological fragility, failure to manage waste and water cycles, industrial supply chains partially or totally abandoned, seismic vulnerability, energy inefficiency of built heritage, etc.

Keywords: Urban Metabolism; Vulnerability; Environment; Integrated Risks; Urban and Social Regeneration.

Manuscript ID: ICCAUA2023EN0346

Networks, Cycles and Urban Metabolism. Mapping Critical Environment: Giugliano (NA) as a Case Study

*¹ Prof. Arch. **Anna Terracciano**, Ph. D. Candidate **Francesco Stefano Sammarco**
Department of Architecture, University of Naples "Federico II" ^{1&2}
 E-mail ¹: anna.terracciano2@unina.it, E-mail ²: francescostefano.sammarco@unina.it

Abstract

The waste areas in Giugliano intercept the continuity of infrastructure networks and the reticular dimension of ecological connections, returning a porous structure which crosses the urbanized areas. This condition inevitably overlaps the processes of land consumption still in progress. The process aimed to map this critical condition was based on the interaction of some analytical-specialist readings from different sources using multiple GIS tools. The process results are represented in a system of integrated maps that provide data relating to the crisis of five life cycles (ecosystems, production cycle, waste cycle, infrastructure and urban fabrics). These dynamics give us a heritage of socially, ecologically and economically disadvantaged landscapes, but which have immense potential for adaptation, reuse and recycling project.

Keywords: Urban Metabolism; Waste; Environment; Recycle; Urban End Social Regeneration.

Manuscript ID: ICCAUA2023EN0350

Determining Domestic Waste Carrying Capacity (DWCC) of Bejaia City

* ¹ Ph.D. Student. **Aldjia Sadi**, ² Dr. **Meriem Naimi Ait Aoudia***Institute of Architecture & Urbanism (I.A.U), University of Blida 1, Algeria ¹**E-mail ¹: sadialdjia031993@gmail.com, E-mail ²: meriem.aitaoudia@gmail.com, naimiaitaoudia.meriem@univ-blida.dz*

Abstract

Like most cities in Algeria, in Bejaia, domestic solid waste management is challenging. Domestic wastes are collected and stored in wild dumps scattered over the whole territory. This situation has led to an increase in air pollution generated by open burning in wild dumps. To deal with this issue, the urban development Master Plan 2033, is giving landfill disposal as waste treatment solution. Literature reports that the choice of method to treat and eliminate waste is very important because it directly affects the quality of the environment. In this respect, DWCC concept constitutes a means to understand the capacity of ecosystems to assimilate the generated pollutants, given the used process. In this study, we consider emissions of GHG from waste treatment to determine DWCC. The results show that the DWCC of landfill disposal is much higher than of wild dumps.

Keywords: Domestic Waste Carrying Capacity; Bejaia; Waste Management; Landfill Disposal; Wild Dumps; Air Pollution.

Manuscript ID: ICCAUA2023EN0352

The Landscape Urban Planning Approach for Improving Urban Air Quality, Case Study of Algiers, ALGERIA

Associate Professor Dr. **Belgacem SOUICI***L'école Polytechnique d'architecture et d'urbanisme, EPAU, Algiers, ALGERIA**E-mail: b.souici@epau-alger.edu.dz*

Abstract

Gardens and urban parks are areas of great importance for the support of the urban ecosystem, in addition to their psychological and therapeutic values, they provide the urban environment with a large amount of oxygen. Trees produce oxygen through the operation of photosynthesis, one hectare of eucalyptus tree annually produces oxygen for 37 to 80 people, and absorbs 25,000 kg of carbon dioxide for the same period of time. Wooded zone in urban areas significantly improve and purify the quality of the air that we breathe and make living environments healthier. A recent study carried out by the World Health Organization (WHO) revealed that the MENA region (Middle East and North Africa) is one of the most polluted in the world, air polluted by particulate matter smaller than 2.5µm (PM2.5). For the case of Algiers, measurements were taken during the first two months of the year 2023 by the station of the United States Embassy in Algiers, showed that daily averages of 14 µm/m³ for particulate matter less than 2.5 µm/m³ and a daily average of 50 for the IQA, air quality index. According to the US EPA's NAAQS, any measurement above 12.0 µg/m³ (US AQI 50) may be hazardous to human health. Several factors of an exogenous and endogenous nature act directly on the quality of the air in large urban concentrations, CO₂ emissions, modes and nature of urban mobility, uncontrolled urban sprawl, high population densities, urban forms and morphology, the size of cities which getting larger and larger, the choice of urbanization models, the surface of wooded areas, all are factors responsible for air quality. This study will be particularly interested in the contribution of gardens, parks and wooded areas in improving air quality, and consequently on the quality of the living environment in urban areas, in this respect and in order to better understand the situation we take the city of Algiers as a case study, the field work will allow us to understand in a qualitative and quantitative way the contribution of the tree and the choice of tree species, understanding co-relation between landscape architecture decision and results obtained on the urban air quality, and try to research on how it would possible to improve air quality in urban areas by using trees new essence. For future urbanization, the landscape urban planning approach will have to take into account new considerations related to urban issues focused on air quality and the sustainability of urban ecosystems.

Keywords: Air Quality; Urban Quality of Life; Urban Ecosystem; Landscape Architecture; Algiers.

Manuscript ID: ICCAUA2023EN0356

Effect of Morphological and Microclimatic Parameters interaction on Particles Concentration inside the Urban Canyon Street: A Case Study in Algiers Capital City, Algeria

¹ Doctoral Student. **Loubna Khellaf**, ² Dr. **Meriem Naimi Ait Aoudia**, ³ Dr. **Farid Rahal**

Affiliated to the Institute of Architecture and Urbanism of Saâd Dahlab Blida 1 University, and ETAP research laboratory: Environment and Technology for Architecture and Heritage. ^{1&2}

Affiliated to the University Mohamed Boudiaf of Oran, and Research Laboratory of Sciences, Technology and Process Engineering. ³

E-mail ¹: architectekhellaf@gmail.com, khellaflobna@etu.univ.dz, E-mail ²: naimitaoudia.meriem@univ-blida.dz, E-mail ³: farid.rahaldz@gmail.com

Abstract

Like many cities worldwide, Algiers is suffering from air pollution problems. This phenomenon depends on the effects of various parameters related to urban canyon geometry. Our study aims to assess particles concentration in street canyons located in 19-20th century fabrics specific to the city using daily in-situ measurements in the summer season. The results show that the particles concentrations on working days (118ug/m³, 116ug/m³) are higher than those on holidays (106ug/m³, 100ug/m³) for DES FRERES BELAGOUNE and KHELAFI KHEIREDDINE streets respectively, and that a simultaneous increase in temperature, humidity, and atmospheric pressure due to the decrease in air speed, lack of vegetation and impermeability of the canyon is accompanied by a significant increase in the particles concentrations and vice versa. Particulate matter concentration values for Short Canyon (L/H<3) were higher than for Long Canyon (L/H<7). These results could enrich our knowledge about the determinants of air quality data for Algiers.

Keywords: Particle Concentration; Morphological Parameters; Microclimatic Parameters; Canyon Street; Algiers.

Manuscript ID: ICCAUA2023EN0358

Viability of Non-Motorized Transport for Vijayawada, Andhra Pradesh

Assistant Professor-Ar. **Haritha Ponnappalli**

School of Arts & Design, Woxsen University, Hyderabad, India

E-mail: haritha.ponnappalli@woxsen.edu.in

Abstract

The research focuses on current state of non-motorized transportation in Vijayawada, a rapidly growing city in India. As Coined by Fred Kent, "If you plan cities for cars and traffic, you get cars and traffic. If you plan for people and places, you get people and places". The objective is to analyze the existing infrastructure, policies related to different forms of NMT and their viability to the present scenario by examining Land use, average trip length and the climate conditions of the city. The research specifies the challenges and opportunities for promoting non-motorized transportation from the perspective of infrastructure, road safety, public awareness. The research is conducted based on primary surveys and secondary data on land use survey, origin destination surveys for selected major roads in the city. The paper also explores the opportunities and solutions for improvised usage of non-motorized transportation for Vijayawada in terms of policy proposals and design solutions.

Keywords: Non-Motorized Transport; Vijayawada; Infrastructure; Sustainability; Policy Making.

Manuscript ID: ICCAUA2023EN0362

The Role of Tactical Urbanism and Participatory Design in Shaping Healthier Neighborhoods: Cairo as a Case Study

¹ Dr. **Husam R. Husain**, ² M.Sc. **Omar Salem**

German University in Cairo, Faculty of Engineering, Architecture & Urban Design Program, Cairo, Egypt. ^{1&2}

E-mail ¹: h.rhm@outlook.com, E-mail ²: omar.emad-salem@guc.edu.eg

Abstract

In the last few decades, housing has proven to stand beyond a physical infrastructure, but rather a social setting for inhabitants to engage in long-term interactions. The crisis is profound in residential blocks of minimal to no integration with the unbuilt environment and intermediate spaces leaving a negative impact on the quality of living spaces, on both community and human scales. A methodology based on psychological, urban and architectural indicators was applied on several typologies to analyze this issue in the Greater Cairo Region. The results from these analyses raised several concerns about national policies and planning in housing: the social segregation and planning injustice; the neglect of integrating semi-public and open or green spaces with housing; the lack of community participation in the planning process; and last but not least, prototyping the spatial organization of residential blocks and limiting the odds for the private sector only.

Keywords: Tactical Housing; Participatory Design; Community Integration; Intermediate Spaces.

Manuscript ID: ICCAUA2023EN0366

Rethinking Urban Design in the Digital Age: A Critical Reflection

Dr. Ahmet Gün

Faculty of Architecture, Istanbul Technical University, Istanbul, Turkey;
 Altering Practices for Urban Inclusion Research Group, Faculty of Architecture, KU Leuven, Brussels, Belgium
 E-mail: ahmetgun@itu.edu.tr

Abstract

In recent years, the changing pattern of human activities, increasing data regarding the spatial environment, and the possibility of collecting and processing this data allow us to rethink the urban design process from a digital-oriented and data-driven perspective. In this paper, we examine the effect of computational design tools and technologies on the urban design process and how they challenge the frontiers of traditional spatial design and how they change design practices, the role and agency of actors, users, and designers, and their involvement in spatial design. In this study, we focus on tracing the changing pattern of the urban design process in terms of: (1) the role of designers and (2) citizen empowerment by reviewing the literature and conducting semi-structured interviews with computational design experts. This study concludes that using technology-driven urban design solutions changes designers' relationship with data, opening new avenues for objective, data-driven, and informed decision-making. However, there are nearly any essential differences between traditional and computational design practices regarding user empowerment and participation of users. It is concluded that technology-driven urban design tools and methods are still nascent and rarely employed in actual projects.

Keywords: Design Process; Computational Design; Design Tools and Technologies; Participatory Design; Urban Design.

Manuscript ID: ICCAUA2023EN0368

A threshold on the fringe: Investigation of the spatial transformation in the case of Beytepe Village

¹ Assoc. Prof. Dr. Hatice Kalfaoğlu Hatipoğlu, ² M.Sc. Büşra İnceAnkara Yıldırım Beyazıt University Faculty of Architecture and Fine Arts, Ankara, Turkey. ^{1&2}E-mail ¹: hhatipoglu@aybu.edu.tr, E-mail ²: bince@aybu.edu.tr

Abstract

Rural settlements have their authentic architectural and urban characters producing and preserving local identity, culture, and activity patterns. The rapid urban sprawl towards the peripheries of Ankara threatens the socio-spatial characteristics of the rural settlements around the city. Beytepe Village in Ankara is a transition zone that is about to disappear its own rural characteristics due to the initial steps of urban transformation in the area. Accordingly, the existing spatial and morphological features of the area will be investigated through an inter-scalar perspective. The study will also dwell on revealing the potential of the area through the production of diversified ways of living; simultaneously, the urgent need for urban politics to be conducted will also be discussed. Moreover, this study emphasizes the need for a shift of understanding in urban development in order to protect the identity and architectural quality of the villages on the edge of urbanization.

Keywords: Urban Sprawl; Urban Politics; Rural Settlements; Rurbanization; Beytepe Village.

Manuscript ID: ICCAUA2023EN0376

The Development Status and Trends of Urban Lighting Masterplans in China - A Qualitative Study Using NVivo Software

* ¹ Professor Dr. Xinyuan Cai, ² M.A. Mengchu TaoSchool of Architecture and Urban Planning, Huazhong University of Science and Technology, Wuhan, China. ^{1&2}Key Laboratory of Lighting Interactive Service & Technology, Ministry of Culture and Tourism, Wuhan, China. ^{1&2}Hubei Engineering Research Center for Technology of Digital Lighting, Wuhan, China. ^{1&2}E-mail ¹: taomc@hust.edu.cn, E-mail ²: 519443023@qq.com

Abstract

In recent years, with the development of nighttime economy, the rising demand for characteristic city image, and the emergence of advanced and intelligent lighting technologies, the construction of urban night landscapes in China has entered a new period. Chinese municipal governments have started to introduce new urban lighting masterplans to meet the new demands of urban development. This paper takes the latest urban lighting masterplan texts released by 20 Chinese cities since 2017 as the research object, and uses Nvivo software to conduct coding visual analysis, matrix analysis and cluster analysis on the masterplan texts to summarize the principles, objectives, construction contents, implementation and guarantee policies of these new urban lighting masterplans, and compare them with the previous lighting masterplans. Finally, extracting the focus of China's urban lighting construction and its future development direction, providing a basis for the formulation of urban night landscape policies and industry standard systems.

Keywords: Urban Lighting; Lighting Masterplan; Content Analysis; NVivo; Light Landscape.

Manuscript ID: ICCAUA2023EN0380

The Resilient City: What Urban Form Characteristics to Adapt to Flood Risks? (Case of the City of Skikda-Algeria)

¹ Ph.D. Candidate. **Lamia Leulmi**, ² Professor Dr. **Youcef LAZRI**, ³ Dr. **Brahim Abdelkebir**
8 Mai 1945 Guelma University, Department of Architecture, Guelma, Algeria. ^{1&2}

Université 8 mai 1945 - Guelma - Department of Civil Engineering and Hydraulic ³

E-mail ¹: lamiya93leu@gmail.com, E-mail ²: Youcef.Lazri59@yahoo.com, E-mail ³: brahim.abdelkebir@gmail.com

Abstract

Disaster risk reduction has become a global consensus and an integral part of sustainable development. The built environment can mitigate or exacerbate the spread of flood risks and help to achieve resilience. This paper questions the characteristics of resilient urban forms to adapt to flood risks in urban areas. This concern was analysed using a methodology based on urban morphological indicators, applied to the city of Skikda in north-eastern Algeria. The results identify five key factors of resilient urban form which are: connectivity, diversity, redundancy, modularity and finally efficiency; their potential is to identify gaps and uncertainties to establish possible links between geometric parameters characterizing urban forms and key indicators of urban flood severity.

Keywords: Urban Form; Flood Risk; Resilient City; Adapting; Indicators; Skikda.

Manuscript ID: ICCAUA2023EN0384

Analyzing The Trend of Urban Growth Pattern Using Shannon's Entropy: The Case Of Kaduna Metropolitan Area

¹ M.Sc **Yakubu Bako Makarfi**, ² M.Sc TPL **Kennedy Adams Avong**, ³ M.Sc **Umar Jibril Haruna**
Department of Environmental Management Kaduna State University Kaduna, Nigeria. ^{1,2&3}

E-mail ¹: yakubumakarfi@gmail.com, E-mail ²: simplykennedy32@gmail.com, E-mail ³: jibril.umar@kasu.edu.ng

Abstract

In urban planning, development control plays a crucial role in ensuring urbanization takes place in a convenient, functional, and aesthetically pleasing manner while maintaining security. However, this study sought to examine the extent of development control violations in the Badawa area using geospatial techniques. By analyzing Google Earth imagery from 2016, the study uncovered that back setbacks were the most significant form of violation in the low-density areas, accounting for approximately 78%. Meanwhile, in the medium-density areas, front setback violations were the most prevalent, resulting in about 73%, followed closely by building line setback violations at 71%. Finally, in high-density areas, the most common violation was front setback, accounting for 72%. This study recommends that development control boards in cities adopt geospatial techniques to help identify violators promptly and curb future violations. Ultimately, this approach will foster a healthy and scamper city for residents.

Keywords: Urban Growth; Development Control; Geospatial; Remote Sensing; GIS.

Manuscript ID: ICCAUA2023EN0385

The Effects of Flyovers on Urban Travel Behavior: The Case Study of Heliopolis, Cairo

¹ Msc. **Sara Abu Henedy**, ² Associate Prof. **Marwa Abdellatif**, ³ Assistant Prof. **Ahmed Ossama**, ⁴ Dr. **Ahmed El-Dorghamy**
Ain Shams University, Egypt. ^{1,2&3}

UN-Habitat ⁴

E-mail ¹: sara.abuhenedy@gmail.com, E-mail ²: m.abdellatif@eng.asu.edu.eg, E-mail ³: ahmed.osama@eng.asu.edu.eg,
E-mail ⁴: ahmed.dorghamy@un.org

Abstract

Egypt's current mobility approaches focuses on expanding road infrastructure between and within cities, particularly through the construction of flyovers. The purpose of these elevated structures is to improve traffic flow and enhance mobility for citizens. Their impact on various dimensions of the urban environment, including mobility, remains unclear. To address this issue, this study was conducted in Heliopolis district of Cairo to determine the effects of flyovers on urban travel behavior. The study employed an online survey analysing travel behavior descriptors, such as travel time, trip frequency, and mode choice, to compare them before and after flyover construction. The statistically analyzed results showed that flyovers had both positive and negative effects on mobility, including faster and shorter trips but also negative impacts on mode choice and active travel safety. More research is needed to assess the impact of flyovers on other urban dimensions and their effectiveness in addressing mobility problems.

Keywords: Flyovers; Mobility; Urban Travel Behavior; Travel Behavior Survey; Cairo - Heliopolis.

Manuscript ID: ICCAUA2023EN0386

Lighting Design for Public Spaces Using Innovative Luminescent Technologies

* Dr. Alessandro Spennato

University of Florence, Department of Architecture, Florence, Italy

E-mail: alessandro.spennato@unifi.it

Abstract

For several years, urban lighting has been regarded as a functional tool that can only guarantee safety and orientation for citizens. In addition to safety and light pollution, a phenomenon that has been at the centre of numerous debates for several years now, there is everything to do with saving energy and reducing the costs of urban lighting. Reducing even some of the considerable consumption of energy resources would benefit both economically and ecologically. Research led to the identification of space in the Abruzzo region. After analysing the park's current state, the question was asked: how can the garden be redeveloped by paying attention to ecological aspects and new technologies? The project aims to intervene in specific areas of the park to redevelop the context under analysis through new technologies, stimulating a new awareness of the lighting culture of spaces.

Keywords: Design; Lighting Design; Photoluminescence; Energy Saving; Sustainability.

Manuscript ID: ICCAUA2023EN0249

City Perception

¹ Professor Dr. Luís Moreira Pinto, ² Professor Dr. Melik YakutCITAD Research Center, from Luisada University, Lisbon and UBI University Covilhã, Portugal¹

CITAD Research Center, from Luisada University, Lisbon, Portugal

Department of Mechatronics Engineering, Faculty of Technology, Isparta University of Applied Sciences, Isparta, Turkey²E-mail¹: lpinto@ubi.pt, E-mail²: ziyayakut@isparta.edu.tr

Abstract

The idea we have about a city and its design is often distorted when compared to reality, on one hand due to the excess of images circulating in social networks and the reason why those images were created, which leads to the manipulation of reality. On the other hand, the use of new technologies that transform the city into real machines, in which all its elements are interrelated, including the inhabitants, leading to a state of automatism, in which we all participate. Technology will make cities smarter, more efficient, and more liveable in the future. Prominent topics among the contributions of technology to cities in the future: Smart city technologies, such as IoT (Internet of Things) and artificial intelligence, can increase the efficiency, safety, and comfort of cities. The idea we have about a city is now different. Heritage has become part of the urban landscape, which supports the idea of the city as a brand, as a product, and Technology is nowadays directly linked with the way how we live and perceive the city.

Keywords: City; Smart City; Urban Perception; Technology.

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Manuscript ID: ICCAUA2023EN0390

Contemporary Challenges of Urbanization and the Role of Sustainable Urban Development: A Case of Lagos City, Nigeria

¹ Dr. Auwalu Faisal Koko, ² M.Sc. Muhammed BelloInternational Centre for Architecture and Urban Development Studies, Zhejiang University, Hangzhou, Zhejiang 310058, China¹Department of Architecture, Kaduna Polytechnic, Kaduna State, Nigeria²E-mail¹: faisal.koko@zju.edu.cn, E-mail²: mbello02@kadunapolytechnic.edu.ng

Abstract:

Lagos, the largest metropolitan city in Nigeria, has become the central hub for economic activities in Nigeria due to its commercial and industrial significance. The city's rapid urbanization has contributed immensely to Nigeria's socio-economic growth and development. However, despite this advantage, Lagos city's population growth and urban development have led to several contemporary challenges in recent years. These challenges include and are not limited to the growth of slums and informal settlements, housing problems, problems of urban mobility, and environmental pollution. Therefore, it is imperative to study Lagos city's urban development and provide solutions to the challenges of urbanization. The present study examines the present state of urbanization in Lagos and its implications for the metropolitan city. The study concluded by recommending sustainable and feasible urban development strategies geared towards having an integrated city of infrastructural development that boost economic opportunities and enhances the standard of living of its residents.

Keywords: Economic Hub; Lagos City; Population Growth; Urbanization; Urban Development.

Manuscript ID: ICCAUA2023EN0396

The Erosion of City Identity: Unraveling the Negative Effects of Urban Sprawl

*M.A. Ardeshir Sharifian
municipality of Rasht , Iran
E-mail: ardeshir_sharifian@yahoo.com

Abstract:

Urban sprawl, characterized by the uncontrolled expansion of urban areas, has become a pressing issue for cities worldwide. This study aims to investigate the negative effects of urban sprawl on city identity, focusing on the hypothesis that unregulated growth leads to a loss of cultural and historical distinctiveness. To assess this hypothesis, this study implemented a mixed-methods approach, combining quantitative data on urban expansion with qualitative case studies of cities experiencing significant sprawl. Our findings indicate that the rapid, unplanned growth resulting from urban sprawl leads to the dilution of city identity in several ways. Firstly, it fosters the development of homogenized built environments, as global architectural styles and standardized urban design replace local and historical elements. Secondly, urban sprawl contributes to the fragmentation of communities, as traditional neighborhoods are dispersed and replaced by sprawling suburban developments. Finally, the loss of natural and cultural landmarks due to urban expansion further undermines the uniqueness of a city's identity. Based on these outcomes, the study propose strategies for urban planning and policy that prioritize the preservation of city identity while accommodating growth. These strategies include the implementation of strict zoning regulations, the promotion of context-sensitive design principles, and the integration of historical preservation measures into urban development plans. By taking these measures, cities can strike a balance between progress and identity, ensuring that the adverse effects of urban sprawl are mitigated and the distinctiveness of urban landscapes is preserved.

Keywords: City Identity; Urban Sprawl; Rasht; Urban Expansion.

Manuscript ID: ICCAUA2023EN0399

Impact of Urban Heat Island on Formation of Precipitation in Indian Western Coastal Cities

¹ Ph.D. Rachana Patil , ² Dr. Meenal Surawar
Visvesvaraya National Institute of Technology, Nagpur, India ¹
Visvesvaraya National Institute of Technology, Nagpur, Faculty of Architecture and Planning ²
E-mail ¹: er.rachanapatil@gmail.com, E-mail ²: meenalsurawar@arc.vnit.ac.in

Abstract:

Rapid urbanization is leading to a drastic hike in anthropogenic activities and urban surface alterations. As a result, there are many repercussions, one of them being higher temperatures in urban areas when compared to rural areas. This phenomenon is termed Urban Heat Island (UHI). The impacts of urban surface characteristics, climate, and population density on UHI have been extensively studied. However, the influence of UHI on the local climate remains elusive. Relatively few studies demonstrate the interrelation between UHI, population density, and precipitation. Therefore, it is important to comprehend this connection as it can impact extreme temperature events like heat waves and unexpected precipitation events like flash flooding. This paper exhibits the analysis of Indian Western coastal cities with respect to UHI, population, and unexpected precipitation events in the summer and winter seasons.

Keywords: Urban Heat Island, Population Density, Precipitation, Western Coastal Cities

Manuscript ID: ICCAUA2023EN0115

Adaptable Public Space, An Essential Parameter of a Resilient City and of Risk Prevention and Management, Case of Blida City- Algeria

¹ Ph.D. Candidate. Amal Khadidja CHEBOUB, ² Dr. Amel DJELLATA
Institute of Architecture and Urbanism, University of Saad Dahlab, Blida, Algeria. ^{1&2}
E-mail ¹: amalkhadidjacheboub@gmail.com, E-mail ²: ameldjellata@gmail.com

Abstract

With population growth, climate change and increasing risks, cities are becoming more vulnerable. Therefore, strengthening their resilience requires a strategic exploitation of public open spaces, beyond its traditional role, through its important potential for adaptability and mitigation. Our contribution aims to explore the role of public open spaces in the prevention and management strategies of major risks in Algeria (Blida). We proceed by evaluating the capacity of public open spaces to respond to risks situations through a reading of the proposed strategies by the Algerian rescue plan; Accompanied by an international case study which examines the strategies of the use of public open spaces in case of major risks. Finally, a fieldwork survey completes this reading. The conclusions of this research reveal an under-exploitation of public open spaces, that must be integrated into an emergency intervention scheme, while also identifying choice indicators for selecting adaptable public open spaces.

Keywords: Public Open Spaces; Adaptability; Disaster; Urban Resilience.

Exploring the Characteristics of the Creativity in Metropolitan Areas of Developed and Developing Countries

* Cihan Mert Sabah

Istanbul Technical University, Faculty of Architecture, Istanbul, Turkey

E-mail: cmsabah35@gmail.com

Abstract

A social environment that is open to all kinds of creativity and diversity, and attractive art and cultural areas, makes metropolitan areas successful in attracting creative people and thereby promoting economic growth. This study examines metropolitan areas in developing countries and developed countries in terms of talent, technology, tolerance, and creative professions, and also analyzes the creative class characteristics that best explain the creativity of different metropolitan areas. Using a literature review, the concepts of creativity are identified, and the characteristics of metropolitan areas at different socio-economic levels are analyzed in detail by comparing them with quantitative research methods. As a result, metropolitan areas in developed countries stand out in terms of talent, technology, and tolerance in creativity, while metropolitan areas in developing countries are effective in terms of lifestyle and originality.

Keywords: Creativity; Creative Class; Economic Development; Metropolitan Areas.

Gelişmiş ve Gelişmekte Olan Ülkelerin Metropoliten Alanlarındaki Yaratıcılık Özelliklerinin İncelenmesi

Özet

Her türlü yaratıcılığa ve çeşitliliğe açık sosyal çevre, sanat ve kültür alanlarında yaratıcı insanları cezbetme ve böylece ekonomik büyümeyi teşvik etme metropoliten alanları başarılı kılmaktadır. Bu çalışmada gelişmekte olan ülkelerin metropoliten alanları ve gelişmiş ülkelerin metropoliten alanları yetenek, teknoloji, tolerans ve yaratıcı meslekler açısından incelenmekte ve aynı zamanda farklı metropoliten alanların yaratıcılığı en iyi açıklayan yaratıcı sınıf karakteristikleri analiz edilmektedir. Literatür taramasından yararlanılarak yaratıcılık kavramları belirlenmiş ve bu kavramların farklı sosyoekonomik düzeyde metropoliten alanlardaki özellikleri nicel araştırma yöntemleri ile karşılaştırılarak detaylı bir şekilde analiz edilmiştir. Sonuç olarak, gelişmiş ülkelerdeki metropoliten alanların yaratıcılıkta yetenek, teknoloji ve hoşgörüde öne çıktığı; gelişmekte olan ülkelerin metropoliten alanlarının ise yaşam tarzı ve özgünlük ile etkili olduğu ortaya çıkmıştır.

Anahtar Kelimeler: Yaratıcılık; Yaratıcı Sınıf; Ekonomik Gelişme; Metropoliten Alanlar.

A Conceptual Framework for Improving Urban Image in Two Similar Mediterranean Cities

Amr A. Bayoumi¹, Fabio Naselli², Shahira Sharaf Eldin³

¹ Lecturer in Architecture Department, Arab Academy for science technology and Maritime transport, Port said; Egypt.

² Ass. Professor in the Department of Architecture at Epoka University.

³ Professor; Architecture Department, Engineering Faculty, Tanta University, Egypt

Email: shahirasharaf@f-eng.tanta.edu.eg

Abstract:

City branding aids in elevating a location's status as a tourist destination, residential area, or commercial hub. Urban tourism is one of the fastest growing segments of the global tourism market. The aim of this paper is to explore the essence of city branding in terms of tourism, image and inhabitants in two Mediterranean similar cities. One of the main drivers for this study was the demand for evaluation standards for urban perceptions in Mediterranean cities. The requirement to maintain spatial uniqueness and enhance the urban image was also a driving force behind the decision to focus on these two similar coastal cities. The goal of the methodology in this paper is to develop a thorough understanding of the concepts of urban image and identity, as well as their significance to cities, using the Kevin Lynch mapping method. Visual preference survey was the second research tool to rate city images and identifying areas in need of urban development. The final stage is to design and propose a conceptual model for developing the urban image while maintaining its identity. Building a good city image is an important mixture of activity and structure. Because successful brands give benefit beyond the physical aspects of cities, there is also a big necessity to process the visual image into a unique brand image through clear marketing strategies.

Keywords: City branding; Urban tourism; Urban image; Mediterranean cities; Conceptual framework.

Consideration of the Position and Effects of Sacred Places in Urban Morphology in the Context of the Kaaba and its Surroundings

* Res. Assist. Sema KIZILELMA

Erzurum Atatürk University, Faculty of Architecture and Design, Erzurum, Turkey

E-mail: semak@atauni.edu.tr

Abstract

The aim of this research is to explain the effects of holy places on the morphology of the city through the examples of holy places in the world, after giving meaning to the place by starting from the meaning of the holy places arising from the needs of different beliefs and by examining the discourses on "sacred place". After mentioning the concepts of sacred space and morphology, the relationship between urban morphology and sacred space is revealed by including the city in the process. The existence of different holy places in the world and their existence in the city are discussed by supporting them with necessary maps and drawings. After these data obtained, the changes that have occurred in the individual space and the urban space, starting from the first construction of the Kaaba in the city of Mecca in the Hejaz region of Saudi Arabia, and the effects of these changes on the morphology of the city are examined. While making this study, "the factors that shape the urban morphology" are put forward with reference to the studies on urban morphology, and the change in the urban morphology of the Kaaba and its surroundings is discussed through these factors. It is expected that the study will contribute to the literature by considering the concepts of sacred space and morphology through a concrete sacred space.

Keywords: Holy Place; Morphology; Urban Morphology; Kaaba.

Kutsal Mekânların Kent Morfolojisindeki Konumunun Ve Etkilerinin Kâbe Ve Çevresi Üzerinde Ele Alınması

Özet

Bu araştırmanın amacı farklı inanışların ihtiyaçlarından doğan kutsal mekânların anlamından yola çıkarak ve "kutsal mekân" üzerine söylemleri inceleyerek mekânı anlamlandırdıktan sonra kutsal mekânların kent morfolojisindeki etkilerini dünyadaki kutsal mekân örnekleri üzerinden ele alarak açıklamaktır. Kutsal mekân ve morfoloji kavramlarına değinilmesi sonrasında kentin de sürece dâhil edilmesiyle kent morfolojisi ve kutsal mekân arasındaki ilişki ortaya konulmaktadır. Dünyadaki konumları farklı kutsal mekânların kent içindeki var oluşları gerekli harita ve çizimlerle desteklenerek ele alınmaktadır. Elde edilen bu verilerden sonra Suudi Arabistan'ın Hicaz bölgesinde yer alan Mekke şehrinde bulunan Kâbe'nin ilk inşasından başlayarak günümüze kadar var olan süreçte bireysel mekânında ve kent mekânında meydana gelen değişiklikler ve kent morfolojisine etkileri incelenmektedir. Bu inceleme yapılırken kent morfolojisi üzerine yapılan çalışmalar referans alınarak "kent morfolojisini biçimlendiren etkenler" ortaya konulmaktadır. Kâbe ve çevresinin kent morfolojisindeki değişimi bu etkenler aracılığıyla ele alınmaktadır. Çalışmanın kutsal mekân ve morfoloji kavramlarının somut bir kutsal mekân üzerinden ele alarak literatüre katkı sunması beklenmektedir.

Anahtar Kelimeler: Kutsal Mekân; Morfoloji; Kent Morfolojisi; Kâbe.

Change From A Residential Area to a Tourist Area: Eskişehir-Odunpazarı

* ¹ Res. Asis. **Özlem Büyüktas**, ² Assoc. Prof. Dr. **Özlem Kandemir**

Adana Alparslan Türkeş Science and Technology University Faculty of Fine Arts, Design and Architecture, Adana, Turkey¹

Eskişehir Technical University, Faculty of Fine Arts, Design and Architecture, Eskişehir, Turkey²

E-mail ¹: ozlembuyuktas42@gmail.com, E-mail ²: ozlemkandemir@eskisehir.edu.tr

Abstract

Because of the neoliberal economy: with the private sector dominating the market and providing private capital with all kinds of opportunities, the existing spaces and their belonging are regulated according to the free market conditions. With the increasing influence of neoliberalism, various policies are implemented in favor of strengthening the urban competition environment and cultural activities are planned strategically. Thus, cities take their place in the competition in the global market by feeding their economic infrastructure through culture. Different practices, such as the construction of iconic structures that will increase the visibility of cities in the neoliberal system and provide benefits and the gentrification of urban areas are carried out. With the practices made, the city is becoming attractive for economic entrepreneurs, tourists, and even local people. In this study, the Eskişehir-Odunpazarı Urban Protected Area, which has changed and transformed because of the dynamics caused by neoliberalism/capitalism, will be discussed. Odunpazarı's desire to be on the map, with the effect of economic policies such as competition and branding, the transformation from a residential area to a tourist area with places such as museums, cafes, and accommodation such as Wax Museum (2012), Urban Memory (2012) is supported by about the evaluation of the literature review situation will be done.

Keywords: Eskişehir; Odunpazarı; Tourism Genealogy; Neoliberalism.

Yerleşim Alanından Turistik Alana Doğru Değişim: Eskişehir-Odunpazarı

Özet

Neoliberal ekonominin sonucu olarak: özel sektörün piyasaya hâkim olması ve özel sermayeye her türlü imkânın sağlanması ile var olan mekân türleri ve aidiyetleri serbest piyasa koşullarına göre düzenlenmektedir. Neoliberalizmin giderek artan etkisiyle beraber kentsel rekabet ortamını güçlendirme lehine çeşitli politikalar uygulanmakta, kültür ve sanat etkinlikleri stratejik olarak planlanmaktadır. Böylece kentler, ekonomik altyapılarını kültür sayesinde besleyerek, küresel pazardaki rekabette yerini almaktadır. Kentlerin, neoliberal sistemde görünürlüğünü arttıracak ve fayda sağlayacak ikonik yapıların inşa edilmesi, kentsel alanların soylulaştırılması gibi farklı uygulamalar yapılmaktadır. Yapılan uygulamalarla kent; ekonomik girişimciler, turistler ve hatta yerel halk için çekici hale gelmektedir. Bu çalışmada, neoliberalizm/kapitalizmin doğurduğu dinamikler sonucunda değişen ve dönüşen Eskişehir- Odunpazarı Kentsel Sit Alanı ele alınacaktır. Odunpazarı'nın haritada yer alma isteği, rekabet, markalaşma gibi ekonomik politikaların etkisiyle Balmumu Müzesi (2012), Kent Belleği (2012) gibi müzeler, kafe, konaklama gibi mekanlarla konut alanından turistik bir alana doğru dönüşümü hakkında literatür taramasının, durum değerlendirilmesi ile desteklenerek yapılacaktır.

Anahtar Kelimeler: Eskişehir; Odunpazarı; Turizm Soylulaştırması; Neoliberalizm.

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The Investigation of Emergency Assembly Areas in Çankırı City Center within the Scope of Disaster and Risk Management *

¹ Sinem Pelin KAYNAR, ² Asst. Prof. Fulya SINACI ÖZFINDIK

Urban Planner, Erciyes University, Graduate School of Natural And Applied Sciences, City and Regional Planning Program, Kayseri / Türkiye, 05063994389 ¹
Erciyes University, Faculty of Architecture, Department of City and Regional Planning, Kayseri / Türkiye, 05065614098 ²

E-mail ¹: sinempelin96@gmail.com, E-mail ²: fsinaci@erciyes.edu.tr

Abstract

The constant change of the meaning of the physical environment for the individual and society during the experience of space in daily life detract the spatial perception from cultural values. The formation of valuable/important perceptions regarding the physical space elements that are disconnected from the interaction of space, society and culture causes place attachment status to change and negatively affects the preservation of cultural heritage values. In other words, it increases the problem of preserving cultural heritage values by losing the meaning of cultural values that are a part of the physical environment in the relationship between space and society. In this context, in Beşiktaş, which has been settled for many years and has traces of different cultures, as a result of the differentiation of the relationship between the space and the individual due to technological and economic developments, the interaction with cultural values is gradually decreasing during the experience of space. In this study, using the questionnaire method, the status of place attachment is examined through interviews with daily users of Beşiktaş by using open-ended and 5-likert scale questions. The aim of the research is to analyze the cultural heritage values in the context of the relationship between society and space in Beşiktaş.

Keywords: Disaster and Risk Management; Emergency Assembly Areas; Çankırı; Turkey.

**This paper is based on the post graduate thesis entitled "Suggestions for Emergency Assembly Areas in Çankırı City Center within the Scope of Disaster and Risk Management", has been written by Sinem Pelin Kaynar in 2023 under the supervision of Asst. Prof. Fulya Sinacı Özfindik, in Erciyes University Graduate School of Natural and Applied Sciences, City and Regional Planning Program.*

Çankırı Kent Merkezindeki Acil Toplanma Alanlarının Afet ve Risk Yönetimi Kapsamında İncelenmesi*

¹ Sinem Pelin KAYNAR, ² Dr. Öğr. Üyesi Fulya SINACI ÖZFINDIK

Şehir Plancısı, Erciyes Üniversitesi, Fen Bilimleri Enstitüsü, Şehir ve Bölge Planlama Anabilim Dalı, Kayseri / Türkiye, 05063994389 ¹
Erciyes Üniversitesi, Mimarlık Fakültesi, Şehir ve Bölge Planlama Bölümü, Kayseri / Türkiye, 05065614098 ²

E-mail ¹: sinempelin96@gmail.com, E-mail ²: fsinaci@erciyes.edu.tr

Özet

Afet riski altındaki yerleşimlerde afet öncesini, sırasını ve sonrasını dikkate alan bir planlamanın yapılmamış olması, çevresel, toplumsal ve ekonomik olarak kayıplara yol açmaktadır. Bu kayıpları önleyebilmek ve kentsel dayanıklılığı arttırabilmek adına afet ve risk yönetimi günümüzde birçok ülke için öncelikli hale gelmiştir. Konumu ve jeolojik yapısı nedeniyle sıklıkla doğal afet yaşanan Türkiye’de de özellikle 2000’li yıllardan sonra afet yönetimi ile ilgili yasal ve kurumsal düzenlemelere daha fazla yer verilmiş, ulusal strateji ve eylem planlarında konu daha kapsamlı ele alınmıştır. Kentsel düzeyde ise acil toplanma alanları, geçici barınma alanları gibi düzenlemeler öne çıkmaya başlamıştır. Bu çalışmada, sınırları içinden Kuzey Anadolu Fay Hattı ve tali fay sistemleri geçen Çankırı kenti örnek alan olarak belirlenmiştir. Kent merkezindeki acil toplanma alanlarının standartlara uygunluğu ve yeterliliği, literatür taraması ile tanımlanan değişkenler kapsamında incelenmiştir. Saha çalışması neticesinde toplanma alanlarından yalnızca birinin kriterleri sağladığı, diğer alanların standartlara göre eksikliklerinin olduğu ve mekânsal müdahaleler gerektiği sonucuna ulaşılmıştır.

Anahtar kelimeler: Afet ve Risk Yönetimi; Acil Toplanma Alanları; Çankırı; Türkiye.

**Bu bildiri, 2023 yılında Erciyes Üniversitesi Fen Bilimleri Enstitüsü Şehir ve Bölge Planlama Anabilim Dalı’nda Dr. Öğr. Üyesi Fulya Sinacı Özfindik danışmanlığında devam eden Sinem Pelin Kaynar tarafından yazılan "Çankırı Kent Merkezinde Afet ve Risk Yönetimi Kapsamında Acil Toplanma Alanlarına Yönelik Öneriler" adlı yüksek lisans tezine dayandırılarak hazırlanmıştır.*

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Reading Landscape Designs through Lefebvre's Spatial Triad

*¹ Res. Asst. **Merve Feyza Ergan**,² Prof. Dr. **Sevgi GORMUS**

Inonu University, Faculty of Fine Arts and Design, Department of Landscape Architecture, Malatya, Türkiye. ^{1&2}

E-mail ¹: merve.ergan@inonu.edu.tr, E-mail ²: sevgi.gormus@inonu.edu.tr

Abstract

Landscape architects should benefit from space theories in social sciences in order to comprehend the reflections of their designs on space production processes. Lefebvre's theory of space provides a crucial foundation for research in the field of social sciences. According to Lefebvre, the trio of perceived, conceived and lived space is based on three interrelated aspects of space; spatial practice, representations of space and representation spaces. The spaces produced with these three dimensions are social products. In this context, it is aimed to read and evaluate the landscape designs produced by eminent landscape designers in the world through Lefebvre's spatial triad and to comprehend the prominent criteria in the production of space. Based on the findings, this study reflects how knowledge of space production can make an important contribution to the discipline of landscape design.

Keywords: Space Production; Henri Lefebvre; Spatial Triad; Landscape Architecture.

Peyzaj Tasarımlarını Lefebvre'nin Mekan Üçlüsü Üzerinden Okumak

*¹ Araş. Gör. **Merve Feyza Ergan**,² Prof. Dr. **Sevgi GÖRMÜŞ**

İnönü Üniversitesi, Güzel Sanatlar ve Tasarım Fakültesi, Peyzaj Mimarlığı Bölümü, Malatya, Türkiye. ^{1&2}

E-mail ¹: merve.ergan@inonu.edu.tr, E-mail ²: sevgi.gormus@inonu.edu.tr

Özet

Peyzaj mimarları, tasarımlarının mekan üretim süreçlerine yansımalarını kavrayabilmek için sosyal bilimlerdeki mekan kuramlarından faydalanmalıdır. Sosyal bilimlerde yapılan çalışmalar içerisinde Lefebvre'in mekân ve mekânın üretimi kuramı önemli bir zemin oluşturduğu görülmektedir. Lefebvre'ye göre algılanan, tasarlanan ve yaşanan mekan üçlüsü, mekanın birbiriyle ilişkili üç yönüne dayanmaktadır; mekansal pratik, mekan temsilleri ve temsil mekanları. Bu üç boyut ile üretilen mekanlar toplumsal ürünlerdir. Bu bağlamda, Dünyada öne çıkan peyzaj tasarımcılarının ürettikleri peyzaj tasarımlarının Lefebvre'nin mekansal üçlüsü üzerinden okunarak değerlendirilmesi ve mekan üretiminde öne çıkan kriterlerin kavranması amaçlanmaktadır. Bulgulara dayanarak, bu çalışma, mekan üretimi bilgisinin peyzaj tasarımı disiplinine nasıl önemli bir katkı sağlayabileceğini yansıtmaktadır.

Anahtar Kelimeler: Mekan Üretimi; Henri Lefebvre; Mekan Üçlemesi; Peyzaj Mimarlığı.

The Potentials of Blockchain Technology in Accessibility Management in Architecture

* Asst. Prof. Dr. İlçay Dinç-Uyaroğlu

Ostim Technical University, Faculty of Architecture and Design, Ankara, Türkiye

E-mail: ilkay.dincuyaroglu@ostimteknik.edu.tr

Abstract

Advances in technology affect the discipline of architecture. Blockchain technology is at the forefront of these developments. It has a distributed, decentralized, and transparent structure in which society is a part of the whole system. Although commonly being known with the financial dimension, it has recently started to be discussed in the field of architecture. Since its infrastructure is open to *participatory, transparent, and reliable* process, it might contribute to the accessibility management during the entire building life cycle covering design, construction, use, and control of spaces. It, therefore, can facilitate the formation of inclusive built environments, which is one of the prerequisites for the provision of basic human rights. This study aims to evaluate potentials of blockchain technology in accessibility management for creating an inclusive city. In conclusion, the contributions of blockchain in accessibility management are summarized under mainly three aspects: (1) participatory design& planning, (2) continuous monitoring& supervision, (3) collaborative work.

Keywords: Architectural Design; Blockchain; Accessibility Management; Building Construction.

Mimarlıkta Erişilebilirlik Yönetiminde Blokzincir (Blockchain) Teknolojisinin Potansiyelleri

Özet

Teknolojideki gelişmeler, mimarlık disiplinine yön vermektedir. Son yıllarda büyük bir ilgi odağı olan blokzincir (blockchain) teknolojisi bu gelişmelerin başında yer almaktadır. Blokzincir, geleneksel ve merkezi finansal sistem yapısının dışında halkın da sistemin bir parçası olduğu dağıtık, merkezi olmayan ve şeffaf bir yapıya sahiptir. Bu yönüyle, katılımcı, şeffaf ve güvenilir bir temel üzerine kuruludur. Bilinirliği finansal boyutla birlikte olmuş olsa da mimari tasarım ve uygulama alanında blokzincir teknolojisinin sunduğu potansiyellerin tartışılmasına ve değerlendirilmesine ihtiyaç vardır. Teknolojinin katılımcı, şeffaf ve güvenilir olması özellikle mimari denetim alanında fayda sağlayacak alt yapıya sahiptir. Bu yönüyle blokzincir, temel insan hakkının sağlanmasında ön koşullardan birisi olan herkes için eşit erişilebilir yapılı çevrelerin oluşumuna katkı verebilecektir. Bu çalışmanın amacı, blokzincir teknolojisinin kapsayıcı kent oluşumu için mimari erişilebilirlik denetimine vereceği katkıyı değerlendirmektir. Çalışmanın sonucunda, teknolojinin bina yaşam döngüsü boyunca, tasarım-uygulama-kullanım-denetim alanında sunacağı katkılar üç ana başlıkta özetlenmiştir: (1) katılımcı tasarım& planlama, (2) sürekli izleme& denetleme, (3) koordineli çalışma.

Anahtar Kelimeler: Mimari Tasarım; Blokzincir (Blockchain); Erişilebilirlik Yönetimi; Bina İnşaatı.

BOOK OF ABSTRACTS

ICCAUA-2023

SESSION C: Heritage and Cultural Landscapes

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Manuscript ID: ICCAUA2023EN0008

Evolution of Roof Systems in Ancient Coptic Churches: form 4th to 9th Centuries

* ¹ Dr. Maha AbouBakr Ibrahim, ² Dr. Mazen Mohamed Nassef*Misr University for Science and Technology, Faculty of Engineering, Architectural Department, Cairo, Egypt. ^{1&2}**E-mail ¹: maha.ibrahim@must.edu.eg, E-mail ²: mazen.mohamed@must.edu.eg*

Abstract

Few roof structures remain unscathed from the 4th to 9th centuries in the history of Egyptian architecture generally. The relatively large amount of well-preserved early roof structures in churches in Egypt is used as a point of departure to structurally define medieval Egyptian roof structures. Investigations of actual roof structures along with study of written sources provide the basis for the study, beside site visits if the structure still exists. The structures are defined according to inherited known systems, economics, politics, building materials and semiotics. We can grope an occurring evolution in the design of the churches' roofs. The medieval roof structures of Coptic churches can generally and concisely be described by tracing them and put them in a chronological order. This study completes the constructed mental image about that period, and provide architects with simple architectural solutions within communities that enjoy the exitance of multicultures.

Keywords: Mediterranean Architecture; Coptic Churches; Roof Systems; Multiculturalism.

Manuscript ID: ICCAUA2023EN0014

A Discourse on How Abandoned Heritage Can Be Valued- A Case of Sidhpur

¹ Assist Professor Ar. Zahra Yasmoon, ² Assoc. Prof. Dr. Rokhsaneh Rahbarianyazd*School of Architecture, Vellore Institute of Technology, Vellore, India.**Faculty of Architecture, Department of Architecture, Alanya University, Turkey ²**E-mail ¹: ar.zahrayasmoon@gmail.com, E-mail ²: Rokhsaneh.Rahbarianyazd@gmail.com*

Abstract

Sidhpur is a multifaceted municipal town with a very rich historical background. The most significant layer to the town is the Bohras Muslim community who came to the city more than 100 years ago. The Bohrawads are the neighborhoods of the Dawoodi Bohras, and their unique havelis have been the most despised identity markers of the city. In recent years, the impact of diasporas and exile of the indigenous Bohra population has been enormous, leading to the abandonment of these wads. The discourse is how can the existing heritage be understood, valued, and utilized? As these havelis are owned privately, the stakeholders have different takes on the maintenance and conservation of the insignia of tangible heritage. Any intervention for resurgences requires the analysis of all the metaphysical and physical layers of these wads. The paper further plunges into deciphering how the capitalist transformation of the town allowed the creation of Bohrawads, and later, how these significant manifestations of grandeur are turning into debris.

Keywords: Diasporas; Identity; Heritage; Abandonment; Exile.

Manuscript ID: ICCAUA2023EN0015

Spirit of Cities: The Significance of the Old Cities Spirit Existence within the New Urban Settlements in Bahrain

¹ M.A. Shereen Nader Khalifa, ² Professor Dr. Islam Hamdy Elghonaimy*University of Bahrain, Student in Master of Architecture, Sakhir, Bahrain ¹**University of Bahrain, College of Engineering Staff Member, Sakhir, Bahrain ²**E-mail ¹: Shereenader@hotmail.com, E-mail ²: eelghonaimy@uob.edu.bh*

Abstract

Nowadays with all the continuous and rapid development in our urban areas, miss- understanding happens between our spirit and our city spirit. This gap is creating a serious problem that affects all human life aspects. The spirit of urbanism is the identity of each city; it is what connects us with our cities. Our spirit will integrate with our city spirit through our memories, history, and our social life. That issue was analyzed using qualitative research methodology with several methods such as interviews, observations, focus groups, and case studies. The study results highlighted how can the spirit of the old cities appears in the new urban settlements, and how the spirit of the old cities develops and improve the quality of life in the new urban settlements in Bahrain.

Keywords: City Spirit; Urbanism Spirit; Identity; Old City; New Urban Settlements.

Manuscript ID: ICCAUA2023EN0024

Analyzing the Divine Proportion or the Golden Ratio on the Plan and Façade of the Churches in Famagusta Walled City, North Cyprus

Ph.D. Candidate **Narmin Babazadeh Asbagh**

Eastern Mediterranean University, Faculty of Architecture, Famagusta, North Cyprus

E-mail: narmin.babazadeh@emu.edu.tr, n.babazadeh.nba@gmail.com

Abstract

Religion had an important role in people's culture during the Middle Ages. In Christian communities, churches are God's houses and the symbol of earthly heaven. As God creates the world and human beings with proportions, the churches should have proportions too. It is a question to the author if the plan and Façade of the churches have the divine proportion or not. There is a research gap in the analysis of the proportions of churches in Famagusta Walled City. This research aims to find out if the proportions of the remained churches in Famagusta Walled City are built according to the divine proportion. The methodology of this historical research is qualitative, quantitative and comparative. The data collection techniques are based on literature review and observation. The result of this research is expected to be in new perspectives for understanding the proportions of the churches for architects, historical researchers and conservationists.

Keywords: Divine Proportion; Golden Ratio; Fibonacci Numbers; Vitruvian Man; Churches; Famagusta Walled City; North Cyprus.

Manuscript ID: ICCAUA2023EN0033

Short-Term Burn Severity Sentinel-2 in Segesta: LR16/96 Mediterranean Heritage Vegetation NDVI/NDRE/NBR/BAI/MIRBI/NBRSWIR differenced AHP analysis

Per. Agr. Laur. Ing. Arch. **Salvatore Polverino**

Department of Training and Internationalization, Ordine degli Architetti, Pianificatori, Paesaggisti,

Conservatori di Napoli e Provincia Napoli, Italy

E-mail: formazione@napoli.archiworld.it , polverinosalvatore@outlook.com

Abstract:

In the last decade, research has been conducted to identify targeted searches and electromagnetic and aerial applications applied to landscape heritage and ecosystems. Italy has progressed its jurisdictional authority by introducing normatives, e.g., from "Carta Italiana del Restauro" (1932) to "art.10 D.gls. 42/2004", of archaeological sites and parks, such as Segestae Park in Sicily. To this end, research has been conducted to detect the reintroduction of autochthonous Mediterranean shrubs using Sentinel 2-A fire index-based methods. Cadastral data of forestry and agricultural usage are incorporated, along with Normalized Difference Vegetation Index (NDVI), Burned Area Index (dBAI), Mid-infrared Burn Index (dMIRBI) and Relativized Burn Ratio (RBR). A topological subdivision based on digital elevation model (DEM) is implemented, while a deterrence fire model and Environmental Analysis Hierarchy Process (AHP) pre-feasibility provide a fine-tuned health framework for Mapping and Assessment of Ecosystems and their Services, with Environmental Impact Assessment and Strategic Environmental Assessment.

Keywords: Comparative Analysis; Topology; Remote sensing; Archaeology; EU Habitats Directive 92/43/CEE; Heritage Vegetation; AHP analysis; Life Cycle Assessment (LCA); Environmental Impact Assessment (EIA); Strategic Environmental Assessment (SEA); Mapping and Assessment of Ecosystems and their Services (MAES); Siti di Importanza Comunitaria (SIC); Habitat II United Nations.

Manuscript ID: ICCAUA2023EN0035

Protection Area Boundary Development by Using AHP and GIS in Historic/ Cultural Heritage Areas

* ¹ Assoc. Prof. Dr. **Aminreza Iranmanesh**, ² Assoc. Prof. Dr. **Can Kara***Faculty of Architecture and Fine Arts, Final International University, Kyrenia 99320, North Cyprus, Mersin 10, Turkey ¹**Department of Architecture, Near East University, Nicosia 99138, North Cyprus, Mersin 10, Turkey ²**E-mail ¹: aminreza.iranmanesh@final.edu.tr, E-mail ²: can.kara@neu.edu.tr*

Abstract

It is challenging to develop a protection area plan and its boundaries for historic and cultural heritage areas. What is more, in setting up such boundaries, a myriad of involved parties, stakeholders, and users are often involved that can influence the process. Accordingly, the participation process after the decision step should be successfully managed. The Analytic Hierarchy Process (AHP) is a multi-criteria decision-making method that has the potential to address the intrinsic complexities of the problem. AHP supported by Geographic Information System (GIS) models has been excessively used for different site selection studies in many different fields and areas. The use of AHP and GIS to create a more comprehensive architectural protection plan can help to improve strategies for preserving urban heritage sites for future sustainable development. From this point of view, this study aims to implement GIS analysis for the definition of protection area boundaries by using the AHP model framework in terms of sustainable protection of historic and cultural heritage.

Keywords: AHP; GIS; Historical Heritage; Alsancak.

Manuscript ID: ICCAUA2023EN0038

Urban Space between Sprawl and Compactness, Which Urban Form is Adequate for a Better Growth of Cities?

Dr. **HANAFI Abdelhakim***University of Batna 1, institute of Architecture and urbanism, batna, Algeria**Habitat and Environment Laboratory, Ferhat Abbas University - Sétif 1 / Algeria**E-mail: abdelhakim.hanafji@univ-batna.dz*

Abstract

The development of the contemporary city in all its dimensions has affected its urban space through transformations and poorly managed sprawl. The city, with its modernity and its progress in civilization, has lost its cachet to embody discomfort, insecurity and all kinds of nuisances, an essential characteristic of the city. Many environmental problems present in the consumption of natural resources, especially energy, and water, faster than nature can replace them. Urbanization is a global phenomenon; it affects both developed and developing countries. Almost every city is experiencing a rapid and accelerating pace of growth, even the urban population across the world is increasing. It is necessary to seek the appropriate urban form for our urban life where we can solve our problems. On the other hand, sustainability cannot exist without sustainable cities. The city has a key role to play in ensuring the production of comfort with all its dimensions and consumption, without destroying environmental structures. An urban analysis, study and diagnosis have been developed on the cities of Algeria; to see the problems: the deterioration of the living environment and equipment, the failure of public spaces, etc. then consider the appropriate solution for the sustainable form of the urban space.

Keywords: Urban Form; Sustainability; Urban Sprawl; Growth; Compact City; Scattered City; Sustainable Development.

Manuscript ID: ICCAUA2023EN0041

Libya's Cultural Heritage Sites at Risk: Problems, Challenges and Risks Following the 2011 Revolution

* ¹ Ph.D. Candidate **Fatma H. Seila**, ² Professor **Gehan Selim***University of Leeds, Faculty of Engineering and Physical Science, Leeds, United Kingdom. ¹&²**E-mail ¹: cnfhas@leeds.ac.uk, E-mail ²: g.selim@leeds.ac.uk*

Abstract

Libya has numerous heritage sites dating back to different historical eras in many regions, of which five are included in the World Heritage List. These sites suffer from a wide range of human threats, which increased after the Libyan revolution in 2011. The UNESCO urgently called for protecting several sites in Libya. This paper will focus on the increased human risks to heritage sites in Libya after its liberation. We aim to determine the damage caused to Libyan heritage sites and to what extent the war contributed to the emergence of these risks. This research builds on first-hand data gathered from governmental and institutional reports concerned with Antiquities in Libya and published reports of international organisations that worked in Libya during and after the war. The paper concludes that the lack of a comprehensive legislation system and human dangers are some of the challenges facing heritage sites in Libya.

Keywords: Cultural Heritage Sites; Human Risks; Post-War; Libya.

Manuscript ID: ICCAUA2023EN0060

Revitalization Strategies for Small Historic Towns in Asia: Focus on Shekhawati Region, Rajasthan, India

*(M.Sc. Architectural Conservation) Associate Professor of Practice, **Mohit Dhingra**
OP Jindal Global University, Jindal School of Art and Architecture, India
 E-mail: mdhingra@jgu.edu.in

Abstract

Vernacular heritage especially in the small historic towns across Asia is undergoing rapid transformation leading to loss of lands, biodiversity, building materials and traditional knowledge. In order to test the above argument this research adopts an evidence-based methodology in critically examining historic towns in Shekhawati region of Rajasthan, India these fresco painted towns which were once the centres of economy and creativity are now in shambles due to pitfall at three levels: a. Policy level: There is lack of provision of any legal framework for protections of these vernacular heritage resources, neither they are featured in the government scheme of policies. b. Planning level: The harsh climatic conditions coupled with unplanned developmental activities has led to the loss c. Investment level - There is a complete disinvestment by both private or public sector. The discussion from this research will help in formulating practical strategies for cultural revival of small historic towns not only in India but across Asia.

Keywords: Revitalization; Small Historic Towns; Shekhawati; Asia.

Manuscript ID: ICCAUA2023EN0070

Regeneration Problems: Reconciling the Planet with the Human Settlement

Dr. **Ugo Rossi**
Architectural Faculty of Politecnico di Milano, Italy
 E-mail: ugo1.rossi@mail.polimi.it

Abstract

The human activities of the last two hundred years have unsettled the natural balance of the planet so much so that the term Anthropocene has defined the current geological era, so conditioned by human action that its effects on the planet are considered equivalent to those produced by the geophysical forces that shaped the Earth over millions of years. This scenario leads to the current disorientation towards any intervention to implement the planetary utopia of a culturally and economically developed world in which communities complete and integrate one another. The depletion of resources and the upheaval of the natural balance are the conditions and challenges with which humanity and architects must measure themselves, making an enormous effort to preserve the utopian qualities of the planet. Today those qualities may be pursued through two main strategies: leaving behind the Ecumene, searching for sheltered kind of existence, or aiming for its regeneration.

Keywords: Sustainability; Regeneration; Urban Renewal; Anthropocene; Gentrification; Constantinos Doxiadis; Ecumenopolis; Jane Jacobs; Ernst Schumacher.

Manuscript ID: ICCAUA2023EN0074

Modern Architecture of the Second Half of the XX Century in Local Contexts: Comparative Approach on Examples of Housing Estates in İzmir, Turkey and Tychy, Poland

¹ Professor Dr. **Magdalena Żmudzińska-Nowak**, ² Ph.D. Candidate **Gizem Güler Nakip**
Silesian University of Technology, Faculty of Architecture, Gliwice, Poland. ^{1&2}
 E-mail ¹: magdalena.zmudzinska-nowak@polsl.pl, E-mail ²: gizem.gulernakip@polsl.pl

Abstract

Twentieth-century modernist architecture, commonly labeled as the International Style, that emerged at the same time in different contexts and local conditions, adopted different urban forms and layouts. This paradox of the International Style is analyzed in this paper using examples of the architecture of selected housing estates, multi-story houses, and urban layouts in Izmir and Tychy, which were built in successive time periods during the second half of the 20th century. The work considers these examples through their historical, political, economic, and social background. The main purpose of this study is to enrich the information on the architectural heritage of 20th-century modernism and comparative analysis that will contribute to a rethinking of the architectural heritage by revealing similarities and differences in urban forms associated with local and radical modernity while demonstrating the potential and complexity of modernist housing estates and can set guidelines for their preservation.

Keywords: XX Century Modern Architecture; Architectural Heritage; Local Modernism, Housing Estates; Comparative Analysis.

Manuscript ID: ICCAUA2023EN0078

What Lies beneath Naples?

* Dr. Chiara Barone

University of Naples Federico II, Department of Architecture, Naples, Italy
E-mail: chiara.barone@unina.it

Abstract

The underground might be largely hidden, but it is far from being an empty space. Full of history and myths, passages and infrastructures, it is also the site of sedimented histories and archaeological fragments. The underground is also full of imaginaries, beliefs, and beings, that exist on their own but that can be powered by those who continue to explore these spaces, imagining them as a potential expansion of the above city. The main goal is to reinterpret the underground space in Naples as an urban, exploded museum able to cross the city below. The research is based on the places' knowledge through a global approach and provides for a specific field of investigation, the center of Naples, deepening new ideas of the underground museum path. The result is to define possible configurations to offer realistic solutions for Neapolitan programs, aimed at connecting the archaeological hypogeums with the emerging city.

Keywords: Underground Archaeology; Architectural and Urban Design; Underground Exploded Museum; Naples.

Manuscript ID: ICCAUA2023EN0083

A Green, Self-Financing Model of Council Housing Estate Regeneration: The Case of Woodberry Down, London

Dr. Alessandro Busà

Marie Skłodowska-Curie Postdoctoral Research Fellow, University of Leicester, UK
E-mail: alessandro.busa@leicester.ac.uk

Abstract

The UK government's underfunding of council housing over the last four decades has favoured the rise of new financial avenues of estate regeneration, notably through partnerships between local authorities and private capital. Such profit-oriented models have been widely contested for their tendency to encourage the displacement of low-income residents and their replacement with more affluent households. I investigate the redevelopment of Woodberry Down in London, a self-financing redevelopment scheme in which increased density and the delivery of market-rate housing units are meant to cross-subsidize the full re-provision of housing at social rent, along with crucial infrastructure improvements. I document the planning toolkit in use (including energy-efficient building design, greening strategies and social management measures) and address the development partners' capitalization on the adjacent wetlands as a pivot of their design and marketing strategies; based on interviews with longstanding residents and newcomers in the estate, I finally assess the community's reception of the regeneration plan.

Keywords: Social Housing; Council Housing; Regeneration; Gentrification; Greening; Energy Transition; Public-Private Partnerships.

Manuscript ID: ICCAUA2023EN0085

Heritage Building Information Modeling (HBIM) of the Ruined and Damaged Architectural Heritage in Upper Kama Region (Russia)

¹Dr. Svetlana Valentinovna Maksimova, ² Ph.D. Anastasia Evgenievna Semina

Architecture and urban planning department, 614990, Perm National Research Polytechnic University, Perm, Russia. ^{1&2}
E-mail ¹: svetlana-maximova@yandex.ru, E-mail ²: semina.ae@yandex.ru

Abstract

Building Information Modeling is a tool for the disappearing architectural heritage and environment recreation in 3D virtual reality. The article presents the information modeling experience of ruined and damaged architectural heritage, located north of the Perm Region (Russia) in the Upper Kama region. The Scan to HBIM technology applied for modeling: information modeling based on laser scanning and a photogrammetric survey. The challenges of the work process are specified. Using the collected data (archival documents and engineering survey results), the parameters of each building's elements are supplemented with information about the history, damage, transformation, and condition of structures and architectural elements. Historic photographs helped to restore the buildings' 3D appearance. Archival descriptions provide the color and coating materials' characteristics. Full-fledged virtual copies of ruined Orthodox churches of the Upper Kama region were created. The article proposes further work using obtained 3D-information models, including gamification, and virtual and augmented reality.

Keywords: Architectural Heritage; Heritage Building Information Modeling; Laser Scanning; Virtual Reconstruction.

Manuscript ID: ICCAUA2023EN0089

Architectural Production of Shanghai in Modern Times

¹ M.A. Zhihao Li, ² Ph.D. Candidate Huilei Cao

*Politecnico di Milano, Architecture and Urban Design, Milan, Italy*¹
*Urban Planning, Design and Policy, Politecnico di Milano, Milan, Italy.*²
 E-mail¹: 10835523@polimi.it, E-mail²: 10865902@polimi.it

Abstract

The research was mainly focused on Shanghai's architectural production in the 1920s and 1930s. At that time, Shanghai was once called "the Paris of the East" and "the New York of the West", which is easy to take credit for foreign architects who came to Shanghai with the colonists, and the first generation of foreign-trained Chinese architects. However, there is little discussion of how the political and economic climate affected architectural production, especially the interaction between international and local factors. Through the exploration of the historical materials and using qualitative and quantitative analytical methods, the paper would examine how international and local political-economic actors synergistically produced the architecture and urban landscape at that time, as well as how they stimulated the boom of the Shanghai construction industry and real estate appreciation. This study also has significant implications for reflection on the contemporary transnational architecture and urbanism of Shanghai.

Keywords: Architectural Production; International and Local Interactions; Modern Times; Shanghai.

Manuscript ID: ICCAUA2023EN0092

Reconstruction and Restoration of Monuments as a Part of City Identity Formation: Case Study of Teuku Umar's Kupiah Meuketop Monument in Meulaboh City, Indonesia

*M.Sc. Julicia Utari Abdullah Dariyah

Doctoral Program in Design, College of Design, National Taipei University of Technology, Taiwan, ROC
 E-mail: juliciautariad@gmail.com

Abstract

Teuku Umar's Kupiah Meuketop Monument is the structure endorsed by the Meulaboh City government to represent the city as the land of Teuku Umar. Initially, the Dutch colonizers built the monument to celebrate the killing of Teuku Umar, a hero of the independence rebellion in Aceh. However, after Indonesia's independence, it was structurally and conceptually reconstructed by the local government and an NGO to foster the formation of city identity. How did the process change the monumentality of the structures? To answer this inquiry, semi-structured interviews and field observation was conducted to perform an analysis of the responses by the Meulaboh City residents and government officials toward the monument. As a result, the responses from the residents showed positive recognition and integration towards the reconstructed and restored monument as intended by the government officials. The study significantly contributes to the scholarship of identity formation boosted by monument construction in Indonesia.

Keywords: City Identity; Monuments; Reconstruction; Restoration; Teuku Umar; Meulaboh City.

Manuscript ID: ICCAUA2023EN0094

Significance of Cultural Heritage of a Sacred Place – A Value Based Assessment

¹ Ph.D. Candidate Ar. Chithralekha Karimbil, ² Professor Dr. Kasthurba Ayikkara Kizhakkayil
Department of Architecture and Planning, National Institute of Technology Calicut, Kerala, India.^{1 & 2}
 E-mail¹: lekha.jesan@gmail.com, E-mail²: kasthurba@nitc.ac.in

Abstract

The practice of pilgrimage and worship to sacred places is deeply embedded in the cultural psyche and holds immense cultural significance in India. Indian culture has developed a fascinating collection of religious beliefs and customs in connection with sacred places. This paper uses Value Assessment approach to examine the various values associated with any cultural heritage based on the review of various International Charters dedicated to heritage conservation. This research attempts to explore the heritage values associated with Sree Mahavishnu Temple at Thirunelli, one of the most ancient temples in Kerala. Thirunelli was an important town and pilgrimage centre and is considered to be as sacred as many other renowned pilgrim centres in India. This assessment helps us to frame an appropriate guiding principle for conservation approaches in planning and heritage management. The role of these values is widely accepted to be critical to understanding and planning for heritage conservation.

Keywords: Cultural Heritage, Value Based Approach, Pilgrimage, Heritage Values, Thirunelli.

Manuscript ID: ICCAUA2023EN0107

Image of a Sacred City: Portraying Sacred Values of Historic Urban Landscape of Sylhet City, Bangladesh

*¹Md. Ferdous Rahman, ²Associate Professor Kawshik Saha, ³Sneha Maliat Haque.

Faculty of department of Architecture in Shahjalal University of Science & Technology, Sylhet, Bangladesh ²

Student of Bachelor in Architecture in Shahjalal University of Science & Technology, Sylhet, Bangladesh ^{1,3}

E-mail ¹: *rahmanmugdho575@gmail.com, *E-mail* ²: kawshik-arc@sust.edu, *E-mail* ³: sneha.sust@gmail.com

Abstract

The Historic Urban Landscape Approach by UNESCO presents a new perspective on urban conservation by visualizing cities as a living cultural landscape, changing the traditional idea of the "Historic city" concept. Like many Indian subcontinental cities, the cultural-religious spaces have continuously shaped the urban morphology of Sylhet over time and given it an identity as a sacred city. The purpose of this study is to identify Sylhet's spiritual layers through cultural mapping and attempt a critical assessment of the sacredscapes' connectivity to the city's historic urban landscape. This mapping method consists of four methodological steps: proper identification, data collection, documentation, and digital mapping of cultural resources. This research will give heritage scholars better insight into the sacred roots of the historic urban landscape process. The spatial layers of religious heritage sites can be used as an essential instrument for urban planning and to develop a heritage-led vision for the city.

Keywords: Sacred City; Historic Urban Landscape; Digital Mapping; Urban Conservation.

Manuscript ID: ICCAUA2023EN0112

Localization of New Design Principles in Historic Environments for Sustainable Conservation to Curb Forgery Design Expressions

¹Candidate, Dr. Ejeng Bassey-Ukabi, ² Assist. Prof. Dr. Ayten Özsavaş-Akçay

Department of Architecture, Faculty of Architecture 99138, Near East University, North Cyprus, Mersin 10 Turkey. ^{1&2}

E-mail ¹: ejeng30@gmail.com, *E-mail* ²: ayten.akcay@neu.edu.tr

Abstract

This study aims to source for and develop unified additional tools that would support the design of multiple new layers in heterogenic historic environments. Over the past decades, interventions like preservation, restoration, and adaptive reuse are insufficient to provide the optimal solution for the problems of static development and obsolescence in cultural heritage places. Because such schemes follow a predetermined structure, which can restrict innovation and creativity to end as unhealthy repetitions. The further effect is the reduction of the historical layers' periodic traces. This study engages evidence-based strategy from critical literature review and situational observation tools from the Nicosia Walled City as a case example with different evidential phases of cultural and design expressions which in the northern part are now dangling. The study formulated five conceptual tools with the acronym 'SEBAS' — Specimen, Engaging, Balancing, Adoption, and Selecting as extra toolkits for regulators and designers for cultural inclusion, and environmental robustness within the pillars of sustainable conservation.

Keywords: Cultural Heritage; New Design Principles; Forgery Design; Historic Environment; Sustainable Conservation.

Manuscript ID: ICCAUA2023EN0113

Discovering the Current Situation, Future Possibilities, and Challenges of Parki Beach, Chittagong: A Center for Sustainable Tourism Opportunities

* ¹ Sadia Ibnat Raisa, ² Syeda Tahmina Tasnim*Department of Architecture, Chittagong University of Engineering & Technology, Bangladesh ¹**Assistant Professor, Department of Architecture, Chittagong University of Engineering & Technology, Bangladesh ²**Email¹: sadiabnat025@gmail.com, Email²: moon.tahmina@cuet.ac.bd*

Abstract

Parki Beach situated in Anowara, Chittagong, is a well-known tourist destination in Bangladesh that beautifully frames the country with its natural enchantments. The research study identifies the variables that will enable this virgin beach to become one of the country's most popular tourist destinations in the near future. The single most pressing issue confronting nature-based tourism today is how to effectively manage tourism destinations so that the resources that visitors come to experience are not depleted. In light of this, the study includes an understanding of the current state, as well as the sociocultural, economic, and environmental effects of tourism development in the area. The paper will compare other similar tourist destinations and evaluate them using SWOT analysis. Finally, the findings of this study will suggest a method for better understanding tourist expectations and developing improved strategies, regional policy, and comprehensive approach to sustainable tourism growth within the Parki beach region.

Keywords: Tourism Impact; Parki Beach Tourism; SWOT Analysis; Development Factors; Sustainable Tourism Development.

Manuscript ID: ICCAUA2023EN0120

Sustainability Impact of Tall Buildings on Low-Rise Residential Environments: Analyzing the Case of Yenişehir (Neapolis), Nicosia, Cyprus

¹ Assist. Prof. Dr. Ayten Özsvağ-Akçay, ² Assist. Prof. Dr. Mustafa Eyyamoğlu*Department of Architecture, Faculty of Architecture 99138, Near East University, North Cyprus, Mersin 10 Turkey. ¹**Department of Architecture, Faculty of Architecture and Engineering 99138, Bahçeşehir Cyprus University, North Cyprus, Mersin 10 Turkey. ²**E-mail ¹: ayten.akcay@neu.edu.tr, E-mail ²: mustafa.eyyamoglu@cyprus.bau.edu.tr*

Abstract

Tall buildings are structures that are the dominant symbol of the city and they become increasingly widespread in all cities in the World. Recently increasing number of tall buildings are taking place of the low-rise residential buildings and creating sustainable development problems. This study is focusing on the Yenişehir (Neapolis) district, which is one of the first settlements where the construction started to grow out of the historic walled city of Nicosia. Region has a unique plan, consisting of traditional architecture examples that are environmentally and physically sustainable, and ensure the continuity of social and cultural life by the residents. The aim of this paper is to examine the socio-cultural, physical and environmental impact of tall buildings on urban texture and low-rise houses' residents in the Yenişehir/ Neapolis neighborhood in Nicosia through the perspective of sustainable development.

Keywords: Impact; Sustainability; Tall Buildings; Residential Environment; Yenişehir.

Manuscript ID: ICCAUA2023EN0124

The Irreplaceable Construct of a Place in History: Dhanyakuria, India

¹ Professor B. ARCH., M. ARCH. Sonia Gupta, ² Associate Professor B. ARCH, M.URP. Poulami Banerjee Das*School of Architecture and Planning, Woxsen University, Hyderabad, India ¹**School of Architecture and Planning, Sister Nivedita University, Kolkata, India. ²**E-mail ¹: sonia.gupta@woxsen.edu.in, E-mail ²: poulami.bd@snuniv.ac.in*

Abstract

The rich annals of history are illuminated by stories of great civilizations. However, Dhanyakuria, West Bengal, India flourished little known, concurrent with rise of the most powerful empire in the world at the time with its capital in neighbouring Kolkata. The study looks at identification of this place that nurtures socio-cultural processes from its inception, through analysis of socio-political and resultant economic circumstances leading to creation of a unique arrangement of physical spaces. While establishing pointers towards reasons for creation of this built asset it traces relationships and connections with authorities, occupants and larger community. It is realised that a sense of awe in the present day lingers because the soul of the place is enshrined within and without the tangible, reaching much wider realms of consciousness. This acknowledgement of spiritual and cultural resilience provides great impetus to the dynamic circularity and protective transmission of the spirit of a place.

Keywords: Socio-Cultural; Socio-Political; Spaces; Resilience; Spirit.

Manuscript ID: ICCAUA2023EN0139

Architectural Decoding and Analysis of the Krishnabai Temple in Mahabaleshwar, India: A Comprehensive Documentation Study

¹ Assistant Professor **Shreya Parikh**, ² Associate Professor **Archana Baghel**
School of Architecture, Anant National, Ahmedabad, India. ^{1&2}
 E-mail ¹: shreya.parikh@anu.edu.in, E-mail ²: archana.baghel@anu.edu.in

Abstract

This research paper represents a detailed documentation study and architectural analysis of Krishnabai temple, located in Mahabaleshwar, India. The temple is built in the Hemadpanti style of Architecture, which celebrates the origin of River Krishna and hence gets its name from. The paper focuses on the architectural nuances of this ancient monument like its form, spatial order, built character, construction systems, details etc. The paper investigates the historic and physical features of this structure through a systematic survey and detailed architectural documentation. In spite of being an ASI -protected monument, the structure is under the threat of decay and anthropogenic destruction without an effort of conservation and less maintenance. Moreover, this research will lay a foundation for future conservation work for the monument and also will contribute to the study of the historic temple architecture of India.

Keywords: Temple Architecture; Hemadpanti Style; Krishnabai Temple; Stone Construction System; Architectural Documentation.

Manuscript ID: ICCAUA2023EN0141

Exploring Gentrification in the Global South: A Case Study on Bangalore Urban Agglomeration

¹ Ph.D. Scholar **Sagar Sinha**, ² Associate Professor **Arindam Biswas**
Department of Architecture and Planning, Indian Institute of Technology, Roorkee, India. ^{1&2}
 E-mail ¹: s_sinha@ar.iitr.ac.in, E-mail ²: arindam.biswas@ar.iitr.ac.in

Abstract

Gentrification is a global and inevitable phenomenon. It affects urban growth by changing neighborhoods' physical, social, and economic character. Whilst there is a growing field of scholarship in European and American settings, research on the gentrification of urban space for the global south, especially India, is limited. As the pattern of development and governance setup varies widely in Asian cities due to diverse demographic and socio-economic factors, there is a significant gap in the study of gentrification and displacement in Indian urban agglomerations. The paper maps and analyses the micro-level changes in Bangalore through spatio-temporal and quantitative methods using Geographic Information Systems (GIS) tools. The findings reveal the increasing inequalities and spatial disparities owing to exclusionary urban development. The study provides empirical evidence of the gentrification process in the context of a developing Indian city. The study concludes by outlining the implications of this gentrification process on citizen's access to urban infrastructures.

Keywords: Gentrification; Displacement; Neoliberalism; Spatio-Temporal Analysis; Global South; Bangalore.

Manuscript ID: ICCAUA2023EN0154

Use of Photogrammetry and Terrestrial Laser Scanning to Measure Superficial Weathering Damage on the Façades of Hanfelden Castle/ Austria

¹ Professor Dr. **Wolfgang Sulzer**, ² Professor Dr. **Josef Gspurning**, ³ Professor Dr. **Viktor Kaufmann**, ⁴ **Robert Fuerhacker**, ⁵ **Fabian Wack**, ⁶ **Justin Catau**,
⁷ **Dominik Held**
Institute for Geography and Regional Sciences, University of Graz, Heinrichstrasse 36, A-8010 Graz, Austria. ^{1,2,5,6&7}
Institute of Geodesy, Graz Technical University, Steyrergasse 30, 8010 Graz, Austria ³
Conservation and Restoration, Archaeology, Unterzeiring 5, 8762 Oberzeiring, Austria ⁴
 E-mail ¹: wolfgang.sulzer@uni-graz.at, E-mail ²: josef.gspurning@uni-graz.at, E-Mail ³: viktor.kaufmann@tugraz.at, E-Mail ⁴: fuerhacker@gmail.com,
 Email⁵: fabian.wack@edu.uni-graz.at, Email⁶: justin.catau@edu.uni-graz.at, Email⁷: dominik.held@bernard-gruppe.com

Abstract

Hanfelden Castle is one of the few Renaissance castles in Austria, which were subsequently hardly redesigned and changed since the tower building from the 14th century, and the extension in the 16th century to the today's appearance. This includes the facade from the 16th century on the south and west side. With regard to the determination of mostly conservation measures- the facade should be preserved - it is important to check the facades made of plaster, natural stone or brick for the extent of superficial damage - such as weathering, flaking, bulging or bending. Non-contact 3D measuring systems are available as an alternative to visual inspection using standard cherry pickers or scaffolding. These include terrestrial photogrammetry, UAV assisted photogrammetry, and terrestrial laser scanning (TLS). The results of the multitemporal and -sensorial recording of the facade are presented using the facade example through a methodical comparison of used methods.

Keywords: Digital Cultural Heritage; Facade Inspection; Photogrammetry; Terrestrial Laser Scanning.

Manuscript ID: ICCAUA2023EN0156

Installation of Photovoltaic Panels on Historic Buildings and Heritage Areas: Lessons to Learn and Consideration for North Cyprus

¹ Assist. Prof. Dr. **Ayten Özsvağ-Akçay**, ² Assoc. Prof. Dr. **Rifat Resatoglu**, ³ Ph.D. Student. **Shaghayegh Ostovar Ravari**

Department of Architecture, Faculty of Architecture 99138, Near East University, North Cyprus, Mersin 10 Turkey. ¹

Department of Civil Engineering, Faculty of Civil and Environmental Engineering 99138, Near East University, North Cyprus, Mersin 10 Turkey. ^{2,3}

E-mail ¹: ayten.akcay@neu.edu.tr, E-mail ²: rifat.resatoglu@neu.edu.tr, E-mail ³: sh.ostovar987@gmail.com

Abstract

The preservation of heritage areas and historic buildings and the adoption of new technology to reduce energy losses in these buildings are simultaneously crucial. In different cities all over the world, the installation of photovoltaic panels (PV panels) on historic buildings has expanded recently. In this study, the standards for installation and collaboration between PV panels, historic buildings, and heritage areas are reviewed, ten famous historic monuments that use PV panels are studied, and the main impacts, effectiveness, risks, and benefits of installing PV panels in heritage areas are investigated. Finally, the possibility, risks, and benefits of installing PV panels on historic buildings and considerations for collaboration between heritage areas and PV panels in accordance with North Cyprus conditions are discounted. Some recommendations are then made to enhance a planning guide for PV panel installation regulations for historic buildings in North Cyprus.

Keywords: Heritage Areas; Historic Buildings; Installation; North Cyprus; PV Panels.

Manuscript ID: ICCAUA2023EN0160

Religious Territorialism through Architecture: Parametrizing a Dynamic Trend of the Third World

¹ Pratik Mour, ² Ar. Ramiya Gopalakrishnan

SMEF's BRICK School of Architecture, Pune, Maharashtra, India ¹

SMEF's BRICK School of Architecture, Faculty of Architecture and Design, Pune, Maharashtra, India ²

E-mail ¹: mour,pratik@gmail.com, E-mail ²: ramiyagopal@brick.edu.in

Abstract

'Territorialism', 'Architectural Territorialism' and 'Religious Territorialism through Architecture' (RTTA), all implicate the voluntary or involuntary act of territorializing other communities, a noticeable trend for centuries. The hypothesis is explored along Warburton's principal argument on origins, spatiality, and transformative capacity of religious architecture. The discussion is most relevant to the third world scenario, especially India. The paper deals with understanding the trends on local, national, and global scales through court jurisdictions, books, official documentation, and research to plot the variety of factors that influence religious territorialism through architecture in India and the third world countries. Post-identification of the parameters, they are mapped on a thematic map, against their degrees of dependency and co-dependency to transparentize the trend. It is concluded that RTTA is dynamic by nature as a result of the parameters being influential on varying degrees, consequentially sensitizing communities in different ways.

Keywords: Territorialism; Religious Architecture; Warburton's Principles; Architectural Territorialism.

Manuscript ID: ICCAUA2023EN0165

Reflections of the Memories: A Microhistory on Konak Atatürk Square, İzmir, 1960-70s

¹ B.A. **Bengi Şentürk**, ² Dr. **Gülnur Ballice**, ³ Dr. **Eda Paykoç Özçelik**, ⁴ Ph.D. Candidate **Gizem Güler Nakıp**

Yasar University, Graduate School, İzmir, Turkey ¹

Yasar University, Faculty of Architecture, İzmir, Turkey. ^{2,3}

Silesian University of Technology, Faculty of Architecture, Gliwice, Poland ⁴

E-mail ¹: bengisenturk16@gmail.com, E-mail ²: gulnur.ballice@yasar.edu.tr, E-mail ³: eda.paykocozcelik@yasar.edu.tr, E-mail ⁴: gizem.gulernakip@polsl.pl

Abstract

The spaces can be described by the experiences of real characters who lived in that period. In this study, the spatial relations of İzmir Konak Atatürk Square and its surroundings are explained and the reflections of the social and cultural life on the urban and architectural environment are revealed. This study emphasizes the architectural and interior values of the main buildings that give the Konak Atatürk Square its identity and some important public spaces in the city in 1960-1970. The method includes a literature review, photographic examinations, and oral history studies. Spatial stories will be created based on the data obtained and the memories of the characters who lived in the city. The study, which connects people's memories and archival documents through spatial storytelling, creates a different urban story from the past to the present by focusing on microhistory.

Keywords: Urban Narrative; Social and Cultural History; Urban Memory; Konak Atatürk Square; İzmir.

Manuscript ID: ICCAUA2023EN0166

Adaptive Reuse of Abandoned Jute Mills along the Hooghly River in Bengal: A Sustainable Approach

¹ Ar. Debalina Ghosh, ² Ar. Abhijit D. Shirodkar

Assistant Professor, School of Architecture and Planning, Woxsen University, Hyderabad, India.¹

Dean, School of Architecture and Planning, Woxsen University, Hyderabad, India.²

E-mail ¹: ghashdebalina1606@gmail.com, E-mail ²: adshirodkar@hotmail.com

Abstract

Heritage structures presently in dilapidated state, abandoned due to social, cultural, or demographic shifts are experiencing unprecedented revitalization as they are being used as anchors for redevelopment. Today we can build energy efficient structures that require almost no carbon footprint to operate annually but still require plenty of resources and energy to build them. Thus, preserving, and repurposing old structures into new, mixed-used developments becomes a more sustainable option. Parts of the Bengal region of India were once colonial settlements of Europe and therefore, the colorful heritage of the Europeans continues to be visible in towns along the Hooghly River. This paper aims to explore the possibilities of adaptive reuse of the abandoned Jute Mills along the Hooghly River with the objective of historic preservation and sustainable design to create functionally efficient spaces.

Keywords: Adaptive Reuse; Preservation; Heritage; Sustainable; Jute Mills.

Manuscript ID: ICCAUA2023EN0167

Investigating the Role of a Mosque in a Society: A Residential Neighborhood in Rajshahi City

* ¹ B. Arch. Farjana Jesmin, ² MUD, B. Arch. Md. Asaduzzaman, ³ B. Arch. Md. Hasib

Department of Architecture, Rajshahi University of Engineering & Technology, Rajshahi, Bangladesh. ^{1 & 2}

Architecture Discipline, Khulna University, Bangladesh. ³

E-mail ¹: f.jesmin@arch.ruet.ac.bd, E-mail ²: md.asaduzzaman@arch.ruet.ac.bd, E-mail ³: arcmdhasib@gmail.com

Abstract

From early days in Islamic practice, the mosque as the principle religious institution has played a central role in developing the social interaction. As the religion has spread around the globe, the role of mosque has evolved from its original concept. In today's Bangladesh, the access to mosque is vastly limited to male part of the society and furthermore the scope of social interaction has almost come to a halt due to activities being limited to only praying. This paper attempts to investigate the present scenario in a residential neighborhood, Upashahar in Rajshahi city by conducting a survey on the residents belonging to different age group, gender, occupation and academic qualification. The outcome of this research will help us to identify the key factors leading to the difference between Islamic values and human perception; therefore, direct us to practise the teachings of Islam more consciously in a society.

Keywords: Religious Institution; Social Interaction; Residential Neighborhood; Islamic Values; Human Perception; Practise.

Manuscript ID: ICCAUA2023EN0172

A Study on the Morphology of Large-Sized Handicraft Streets: The Cases from China

* Ph.D. Candidate. Lin Zhang

School of Architecture, Tsinghua University, Beijing, China.

E-mail: zhanglin19@mails.tsinghua.edu.cn

Abstract

China has long been a major crafts country, with a number of city blocks that are well-known for the production, display and trade of handicrafts. Among them, the large-sized handicraft streets, represented by stone and wood carvings, are particularly notable in the urban landscape. The size of the handicrafts referred to here should be larger than or equal to the scale of common furniture. For the morphology of these craft streets, the study used multiple case studies with a combination of satellite map, urban traffic and architectural analysis to find common and distinctive patterns in the morphology of large-sized craft streets. The results show that these streets are mostly located in the outskirts of the city, but are more accessible to cars, and have large scale of space; differ in their streetscape, urban block pattern, and architectural spatial form, can be grouped into separate categories.

Keywords: Handicraft Street; Large-Sized; Streetscape; Urban Block Pattern; Spatial Form.

Manuscript ID: ICCAUA2023EN0177

Identifying Challenges and Solutions in the Architectural Conservation of 'Zamindar Houses': Insight from Chattogram, Bangladesh

*¹ B.Arch. Murchana Madhury, ² B.Arch. Shaptarshi Das Gupta, ³ B.Arch. Shajia Mumtahina Niha, ⁴ B.Arch. Sabreen Shafique Chowdhury
Chittagong University of Engineering and Technology, Chattogram, Bangladesh. ^{1,2,3&4}

E-mail ¹: madhuryurchana@yahoo.com, E-mail ²: shaptarshi03@gmail.com, E-mail ³: sajia011@gmail.com, E-mail ⁴: sabreenctg17@gmail.com

Abstract

The traditional Zamindar houses of East Bengal are witnesses to the rising of the merchant class between the eighteenth and nineteenth centuries and the vanishing cultural history. After the abolition of the Zamindari system, many of these historic buildings have undergone years of neglect as well as suffered the damaging effects of war and natural disasters. Initiatives taken for conservation and management after the independence of the country have been proved ineffective and further contributed to the poor state of these centuries-old buildings. The study explores the practices and challenges in safeguarding the structures using in-depth data from three such houses in Chattogram city, Bangladesh. The paper evaluates past studies on conservation challenges, carries documentation and analysis of the architectural features of the selected houses, and gathers data through one-to-one interviews, focus group discussions, questionnaires, and field surveys in the chosen historic sites. It concludes by proposing solutions for future practice and emphasizing the importance of implementing them.

Keywords: Zamindar Houses; Conservation; Cultural Heritage; Architectural Styles, Historical Area.

Manuscript ID: ICCAUA2023EN0182

Preserving the Shoreline: A Potential Approach of Eco-Architecture on The Seacoast of Bay of Bengal

* ¹ B.Arch. Mahbuba Afrin, ² B.Arch. Ahmed Sifat

Chittagong University of Engineering & Technology, Department of Architecture, Chattogram, Bangladesh. ^{1&2}

E-mail ¹: ar.afrinmahbuba@gmail.com, E-mail ²: ar.ahmedsifat@gmail.com

Abstract

The natural beauty of the coastline of the Bay of Bengal is undoubtedly heavily scenic, with the sea on one side and green hills on the other. To preserve this mesmerizing beauty of the remote area of Inani, the project aimed to establish an eco-friendly tourism hub following an eco-architecture approach without creating any visual disruptions to nature and featuring the ecological, social, cultural, and socio-economic aspects. The methodology involved designing and implementing lightweight structures using sustainable and recycled materials on the site to ensure a full panoramic view from every level of design so that the tourists can enjoy every drop of connection with nature. This successful eco-friendly design has created a sense of environmental awareness among the locals of this remote area, who came to know a different aspect of architecture that focuses more on the environment's potentiality rather than designing a concrete jungle.

Keywords: Eco-Architecture; Eco-Friendly; Beach Resort; Recycling; Sustainability; Hospitality.

Manuscript ID: ICCAUA2023EN0186

Smart Access to the Past: Studying Digital Applications for Interaction with Cultural Heritage

* Assist. Prof. Dr. Sara Tarek

Cairo University, Architecture Department, Faculty of Engineering, Giza, Egypt

E-mail: sarat@cu.edu.eg

Abstract

Last decades witnessed an amalgamation between cultural heritage practices and digital/smart technology resulting of new heritage experience. The presented research addresses the problem of lacking in specific guidelines or frameworks for generating memorable experience for heritage sites using digital technologies (like VR and AR). Subsequently, the presented study aims to identify a framework addressing the impact of applying novel digital immersive technologies in heritage preservation and its impacts on different users. The study answers two question; How new immersive technologies enhances the attractiveness of cultural heritage sites? And how does new technologies integration with heritage sites communicate cultural significance of tangible and intangible heritage? In doing so, the study focuses on theoretical and empirical aspects of users' engagement in digital heritage applications. This results in developing a conceptual model for developing an interactive digital experience for heritage sites to facilitate the analysis and evaluation of the presented digital heritage projects.

Keywords: Cultural Heritage; Digital Heritage; Virtual Reality; Mixed Reality; Interactive Experience.

Manuscript ID: ICCAUA2023EN0190

Genius Loci on the Case Study of the Restoration of the Old Matlapana Bridge at Maun, Botswana

¹* Dr. Zoran Markovic, ² Assoc. Prof. Dr. Hourakhsh Ahmad Nia

ARCHI - Research and Design Institute, Gaborone, Botswana ¹

Faculty of Architecture, Department of Architecture, Alanya, Alanya, Turkey ²

E-mail ¹: zoranmarkovic1958@gmail.com, E-mail ²: hourakhsh_ahmadnia@yahoo.com

Abstract

The paper is analysing interaction between architectural object and Genius Loci, the pervading spirit of a place. The restoration project of the Old Matlapana Bridge, at Maun, Botswana was used as case study. The old bridge is under government protection as the national monument due to its historical, architectural and cultural values. The paper is analysing not only the significance of the old bridge, but also the approach to restoration, with an emphasis on its historical, artistic and cultural features. The main problem was conflict of the original construction with the today's expectation from the bridge, including engineering and safety requirements. The local government authorities fully understand and accepted proposed solution. The paper explains and provides solutions to several problems of the installation and synergy of the old elements in a newly built environment, as answers of time in correlation with space and with accent on the genius loci.

Keywords: Architectural Restauration; Genius Loci; Built Heritage; Reconstruction; Architectural History.

Manuscript ID: ICCAUA2023EN0192

Popular Genius and its Role in the Reconstruction of the Algerian City: Images and Reflections, "The Case of the North Algerian"

MCB Professor Dr. Samar MENNOUR

Institute of Architecture and Earth Sciences

Ferhat Abbas Sétif 1 University, Algeria.

E-mail: samarmennour@gmail.com

Abstract

Large socio-spatial changes have manifested throughout Algerian territory in the last two decades, especially at the Northern part, rebuilding the configuration of cities and campaigns in a global or partial manner and imposing new modes of production and consumption of the space. The objective sought through this communication is to give elements of answer to the following question: what role of Algerian citizens in the reconstruction of their cities? In this attempt to answer, we are based on a method that meets: Photo-interpretation to individualize the different forms of spatial production; The sociological survey, developed in order to identify actors having a role in the reconstruction of the cities in question (actors); Using SIG as a tool for processing, analyzing and scanning results. which is summed up in new forms of space production, and therefore new images, transmitting a message of identity!

Keywords: Popular Genius; Reconstruction; Image and Landscape; Identity.

Manuscript ID: ICCAUA2023EN0194

The Place and the Project. The Fornace Morandi Park along the Brenta River in Noventa Padovana, Italy

^{*1} Prof. Enrico Pietrogrande, ² Dr. Alessandro Dalla Caneva

Department of Civil, Environmental, Architectural Engineering, University of Padua, via Marzolo 9, 35131 Padua, Italy

E-mail ¹: enrico.pietrogrande@unipd.it, E-mail ²: alessandro.dallacaneva@unipd.it

Abstract

Noventa Padovana is a town in the province of Padua, located a short distance from Venice. This contribution considers the wide area, today in degraded conditions, including the ruins of a kiln for the production of tiles and bricks which was built at the end of the 19th century by the Morandi family. The furnace was definitively closed in the 1960s and the area remained abandoned for several years. In 2006, the property was acquired by the Municipality of Noventa Padovana and this enabled some essential maintenance work, providing the basis for a project that will enable the population to fully enjoy this large green area. This subject has been recently investigated by our students at the 'Architectural and Urban Composition 2' course taught on the master's degree in Architectural Engineering at the Department of Civil, Environmental and Architectural Engineering of the University of Padua.

Keywords: Regeneration; Public Space; Environmental Values; Industrial Archaeology; Noventa Padovana; Brenta River.

Manuscript ID: ICCAUA2023EN0199

Integrating Natural and Cultural Heritage for Sustainable Small Cities: Network of Eco-Cultural Routes in the Danube Region, Serbia

*¹ Dr. Biserka Mitrović, ² Dr. Jelena Marić, ³ Mirjana Barać, ⁴ Dr. Aleksandra Đukić, ⁵ Dr. Danijela Milovanovic Rodić, and
⁶ Dr. Branislav Antonić

University of Belgrade, Faculty of Architecture, Belgrade, Serbia. ^{1, 2, 3, 4, 5 & 6}

E-mail ¹: biserkamitrovic@gmail.com, E-mail ²: jelena.maric1989@yahoo.com, E-mail ³: mirjana.barac@arh.bg.ac.rs,
E-mail ⁴: arh.aleksandra.djukic@gmail.com, E-mail ⁵: danijela@arh.bg.ac.rs, E-mail ⁶: antonic83@gmail.com

Abstract

The paper represents a part of the research conducted through the EU Interreg project DANUrB+ (Danube Urban Brand), which gathered six European countries including Serbia around the common goal: to foster the development of small cities along the Danube region through sustainable and heritage-based tourism and cross-border cooperation. One of the main outcomes of the project was the development of Action plans, defined by the set of goals and specific methodology, which included: analysis of strategic regional and local planning documents; field study; meetings, workshops and surveys with local stakeholders; research through participation, and thematic exhibitions. The Action plan for Golubac, the city with a declining population in the Eastern part of Serbia, represents a model for shaping new authentic tourist products and routes by combining natural and cultural heritage, and it could serve as a knowledge base and unique methodological model for action planning and building self-sustaining communities.

Keywords: Action Plans; Natural and Cultural Heritage; Eco-Cultural Routes; Danube Region; Participation; Golubac; DANUrB+.

Manuscript ID: ICCAUA2023EN0207

Land Uses Integration in Revitalization of Heritage Urban Sites : Foah City as a Case Study

Assoc. Professor Dr. **Mohamed M. Youssef**

Cairo University, Faculty of Urban and Regional Planning, Giza City, Egypt

E-mail: drmmyoussef@icloud.com

Abstract

heritage areas considered an asset within the city urban context, its value on the socio-economic body of urban city mechanism is important for land uses planning in the revitalization process. despite that fact, heritage sites in Foah city are neglected and no involved in any kind of planning process. this paper highlights the importance of heritage site integration in the urban planning process to maximize the socio-economic and role of land-uses planning aspects in heritage cities. Foah city ranked third of the most important heritage cities in Egypt after Cairo city and Rasheed city. it has around 26 historical buildings that form an important heritage action area in the heart of the city. the results highlight the role of land-uses planning and revitalization approaches that ensure the benefits of integrating these 26 hestorical building in the socio-economic process of Foah City.

Keywords: Revitalization; Action Area Planning; Heritage Sites; Land-Uses Planning.

Manuscript ID: ICCAUA2023EN0209

Harmonizing Modern Japanese Architecture with Historic Environment: Case Study Higashi Chaya District in Japan

¹ Ph.D. Student **Nadereh Afzhoor**, ² Assist. Prof. Dr. **Ayten Özsavas Akçay**

Near East University, Faculty of Architecture, Nicosia, Cyprus. ^{1 & 2}

Email ¹: nadereh.afzool@gmail.com, Email ²: ayten.akcay@neu.edu.tr

Abstract

Japanese architecture used the word harmonizing as an aesthetic term to describe the value of creating by correcting two or more elements. Modern Japanese architects today also pull references from older styles that were successful and incorporate them into the design and planning of their structures with harmonizing where one essential neither separates nor excludes the other and all become one object. This knowledge of Japanese harmonizing architecture is evident in the Higashi Chaya district in Japan a long history back, new architecture combined with a historical environment. This paper focuses on how Japanese architecture harmonizes with Higashi Chaya. Furthermore, the paper aims to examine the essentials of modern Japanese architecture in a historic environment. The methods comprise secondary data from documentaries, books and journals related to Japanese architecture.

Keywords: Harmonizing; Japanese Architecture; Modern Architecture; Historic Environment.

Manuscript ID: ICCAUA2023EN0213

Revitalization Approaches to Maximize Heritage Urban DNA Characteristics in Declined Cities: Foah City as a Case Study

¹ Arch. Rowida Essam, ² Assoc. Professor Dr. Mohamed M. Youssef, ³ Professor Dr. Walaal Nour

Architecture Department, Faculty of Engineering, Tanta University, Egypt. ^{1&3}

Cairo University, Faculty of Urban and Regional Planning, Giza City, Egypt ²

E-mail ¹: rowidaessam4@gmail.com, E-mail ²: drmmyoussef@icloud.com, E-mail ³: walaanour@f-eng.tanta.edu.eg

Abstract

Revitalization process is important in action areas planning specially in conservation of heritage sites that located within urban area context. the process varied in techniques and tools that are dealing with various spatial level, some techniques deal with urban context and others deal with architectural building. in the journey of maximizing the urban DNA characteristics of heritage sites, sometimes the visual and physical urban DNA is lost in the process. this paper encapsulates the most important Urban DNA of heritage sites that needs to be considered in in the revitalization process of Heritage urban location to maximize the visual and physical impacts on the overall declined cities socio-economic aspects to sustain the urban life quality. the results are discussing the suitable tools and approaches to deal with heritage area in Foah City, one of the declined cities in Egypt, despite the importance of the city as a ranked third of heritage cities in the country.

Keywords: Revitalization; Action Area Planning; Heritage Sites; Urban DNA; Land-Uses Planning.

Manuscript ID: ICCAUA2023EN0224

Ritual Void in the Sacred Architecture of Montenegro

*Ph.D. Candidate, MA. Nemanja Milićević, ² Associate Professor, Ph.D. Ema Alihodžić Jašarović

Faculty of Architecture, University of Montenegro, Street Đžordža Vašingtona, 81 000, Podgorica, Montenegro. ^{1&2}

E-mail ¹: nemanjamilicevic93@gmail.com, E-mail ²: emajasarovic@gmail.com

Abstract

Sacral architecture has always aimed at the ritualization of space, which gained its spatial form by making the *void*. Common to all religions is the need to create a grandiose space with a "sacred void", which achieves mystification, sublimity, as a special experience of the religious space. Historical examples show that religion has demonstrated its power precisely through volumetrics that exceeded expected proportions. However, contemporary realizations of sacral architecture point to the need for a redefinition of the "sacred void". In this sense, the goal of this work is analysis the smaller scale of the sacral void, which is present in numerous examples of sacral architecture in the Balkans. In this paper, several relevant examples in the territory of Montenegro will be processed, whose idea of emptiness remains as a consequence of religious, cultural, but also contextual conditions, where the wall - the beginning, as a building element of emptiness, plays an important role.

Keywords: Ritual Void; Sacred Architecture; Religious Space; Poche; Montenegro.

Manuscript ID: ICCAUA2023EN0238

Investigating the Flow Conditions of an Ancient Drainage Channel in Alanya

*¹ Dr. Elif Gizem Yetkin, ² Dr. Murat Aksel, ³ Dr. Mehmet Dikici, ⁴ Dr. Cengiz İpek

Alanya HEP University, Faculty of Architecture, Antalya, Turkey ¹

Alanya Alaaddin Keykubat University, Faculty of Engineering, Antalya, Turkey. ^{2&3}

Istanbul Medeniyet University, Faculty of Engineering, Istanbul, Turkey ⁴

E-mail ¹: elifgizemyetkin@gmail.com, E-mail ²: murat.aksel@alanya.edu.tr, E-mail ³: mehmet.dikici@alanya.edu.tr,

E-mail ⁴: cengiz.ipek@medeniyet.edu.tr

Abstract

Alanya (Alaiye) is a historical city that has taken its place in the status of a port city, capital, and imperative city by various civilizations throughout history. This situation ensures the existence of ancient infrastructures, especially in the old city center and neighborhood. Some of the infrastructures that have served this historic city have been preserved today. One of these ancient infrastructures is the Meyyit drainage channel was built in the 13th century and was restored in 2011. Fluid dynamics science is used better to understand the usage and functions of such historical buildings. In particular, the CFD method helps us understand the hydrodynamics of flow conditions in historical structures by fluid dynamics calculations of the functions of historic structures. Flow conditions at the Meyyit drainage system service were investigated using the CFD tools. The findings on the drainage capacity of this drainage system and flood risks were evaluated.

Keywords: Ancient Infrastructures; Numerical Modelling; Architectural Design; Drainage Channel; CFD.

Manuscript ID: ICCAUA2023EN0250

Walkability as a Criterion for Demarcating the Area of Urban Heritage Regeneration: Maadi as a Case Study

¹ Dr. Mariam Ahmad Abdullah, ² Dr. Nesma Ahmed Fadda*School of Science and Engineering, Architecture department, The American University in Cairo, Egypt. ^{1&2}**E-mail ¹: mariam.ahmad@aucegypt.edu, E-mail ²: nfadda@aucegypt.edu*

Abstract

In Egypt, recently dealing with urban heritage has lacked a comprehensively integral vision and strategy, which is vital while selecting the area of intervention in the historic neighborhoods, especially the 20th-century neighborhoods. This has led to the disappearance of some distinctive cultural values in these areas, as well as wasting precious opportunities for adequate conservation, unlike the case in developed countries. The problem was analyzed using a methodology that is based on investigating new urbanism theories, such as walkability theories adopted in developed countries as an integrated approach for demarcating the area of intervention. The walkability approach successfully raised awareness of the value of the built heritage and enhanced the urban regeneration process. The results include an integrated strategy that acts as a tool kit and criteria for selecting the area of intervention to be applied to the Maadi neighborhood as an example of the 20th-century neighborhood.

Keywords: Walkability; Heritage Regeneration; 20th Century Neighborhoods; New Urbanism; Sense of Belonging; Maadi Neighborhood.

Manuscript ID: ICCAUA2023EN0251

A Qualitative Approach to Investigate Stakeholders' Perceptions of Heritage in Tourist-Centric Colonial Hill Town of Mussoorie, India

¹ Ph.D. Candidate. Samiksha Chaudhary, ² Dr. Ram Sateesh Pasupuleti*Department of Architecture and Planning, Indian Institute of Technology, Roorkee, India. ^{1&2}**E-mail ¹: samiksha1605@gmail.com, E-mail ²: ram.pasupuleti@ar.iitr.ac.in*

Abstract

The colonial hill towns in India inherited the predominant architectural style and cultural mannerisms from a mother country, before undergoing transformations that reshaped their authentic cultural landscapes. In developing countries like India, the negligence of colonial tourism concerning stakeholder involvement is a perpetual phenomenon. Stakeholders, being the primary custodians of heritage, have a significant role in the tourism management plans. Thus, the present study comprehends the stakeholders' perceptions of heritage in the colonial hill town of Mussoorie, India, through Focus group surveys. The qualitative Inductive research approach is implemented for data synthesis. Findings elucidate that involvement of the stakeholders in Mussoorie's tourism and heritage management can provide a remedial impact to the large-scale destruction imposed on the colonial lineage for decades. The research will inform practitioners and researchers about a methodological approach to developing the relationships between the heritage's tangible and intangible aspects for preparing holistic development plans.

Keywords: Cultural Landscape; Tourism Management; Stakeholder Perceptions; Qualitative Approach.

Manuscript ID: ICCAUA2023EN0254

The Governance of Minor Ports in Italy: MSP as an Enabler to Better- Integrated Management

¹ Ph.D. Candidate Fabio Carella, ² Ph.D. Paolo De Martino, ³ Ph.D. Vittore Negretto, ⁴ Professor Francesco Musco*Department of Architecture and Arts, Venice, Italy, Cotonificio Veneziano, 30135, Iuav University of Venice, Venice, Italy. ^{1,2,3,4}**E-mail ¹: fcarella@iuav.it, E-mail ²: pdemartino@iuav.it, E-mail ³: vnegretto@iuav.it, E-mail ⁴: francesco.musco@iuav.it*

Abstract

The over 700 ports of the Italian coast differ in type, role, and relationship to surrounding regions. The high fragmentation both in terms of space and governance processes is among the main critical issues affecting Italian port systems, especially minor ports such as marinas and docks, which today are excluded from national and regional planning. This contribution argues that minor ports can play a significant role in integrating economic, social, and cultural values. The article, through three parts, presents the state-of-art of existing legislation on ports and whether this includes minor ports; discusses interactions between the two strategic instruments of MSP and ICZM and their role in connecting minor ports to the regional and national scenario; and, finally, explores the case of the Adriatic Sea and in particular the marinas and canal ports of Rimini and Cesenatico as emblematic examples for understanding the challenges and potential that minor ports are facing.

Keywords: Integrated Planning; Maritime Spatial Planning; Governance; Port Cooperation; Land-Sea Interaction.

Manuscript ID: ICCAUA2023EN0256

Research on Traditional Performing Places in Wuling Mountain Area of China

*¹ Professor Dr. **Peng Ran**, ² M.A. **Cheng Jie**, ³ M.A. **Ding keyuan**, ⁴ B.S. **Liu Yehao**, ⁵ B.S. **Liu Xueliang**
School of Civil Engineering and Architecture, 30074, Wuhan Institute of Technology, Wuhan, China.
E-mail¹: pengran@wit.edu.cn, 15050101@wit.edu.cn

Abstract

From the perspective of architecture, this paper discusses the historical culture and architectural functional attributes of traditional performance places in Wuling Mountain Area, China, and holds that the development of traditional drama and sacrificial activities in Wuling Mountain depends on the traditional performance places and complement each other. Influenced by Chinese traditional etiquette, patriarchal clan system, water transportation and other historical cultures, as well as natural and geographical factors such as mountains, forests and rich water systems, the traditional performance venues in Wuling Mountain area are widely distributed, with various kinds and various shapes, which show strong regional characteristics. By analyzing their spatial pattern and decorative characteristics, the material skills and spiritual connotations contained in them are summarized, and the present situation and development prospect are combined to provide reference for the current protection of ancient Chinese buildings and the revival of traditional culture.

Keywords: Wuling Mountains; Performance Place; Culture; Spatial Pattern; Decorative Features.

Manuscript ID: ICCAUA2023EN0257

Living Heritage Approach for Sustainability of Agraharams in Palakkad, Kerala, India

Assistant Professor Ar. **Ramiya Gopalakrishnan**
SMEFs Brick school of Architecture, Pune, India
E-mail: ramiyagopal@brick.edu.in

Abstract

Palakkad, a town in the central part of Kerala, has witnessed a plethora of historic events in the past. Today, the reminiscence of this past is still visible in the constantly evolving fabric of the town. Agraharams, a typology of settlement where the Brahmin community resides, is a physical manifestation of such a past that occurred due to an exodus from Tamilnadu, between the 14th and 15th centuries. With globalization becoming a major threat to the sustainability of these settlements, there is a need to assess the conservation approaches for the same. A value-based approach might not work for this typology. In this paper, the author discusses how a living heritage approach is the right direction for the sustainability of Agraharams. The research would contribute to the creation of a framework for the sustainability of Agraharams, multitudinous of which is seen in Palakkad, and other parts of Kerala.

Keywords: Living Heritage; Cultural Heritage; Continuity; Living Heritage Approach; Agraharams of Palakkad.

Manuscript ID: ICCAUA2023EN0263

The Spatial Narrative of Island Cultural Landscapes: A Case of Lakshadweep Group of Islands, India

¹ Ph.D. Candidate. **Safiya MD**, ² Assistant Professor, Dr. **Ram Sateesh Pasupuleti**
Indian Institute of Technology, Roorkee, Uttarakhand, India. ^{1&2}
E-mail¹: safiya_d@ar.iitr.ac.in, E-mail²: ram.pasupuleti@ar.iitr.ac.in

Abstract

Islands, with their unique landscapes, have played a significant role in shaping the cultures and societies of the individuals who have inhabited them. The Isolation inherent to island environments leads to distinct customs and traditions heavily influenced by the ocean and environment. The cultural landscapes of islands manifest in land use, agriculture, and architecture. It also encompasses intangible heritage such as myths, stories, and rituals. This paper aims to understand the Lakshadweep group of Islands within the cultural landscape framework, examining both tangible and intangible resources of island contexts. The study will use inventory formats and in-depth interviews of both key informants and the local community to document the characterizing components of the cultural landscape of Lakshadweep. The study concludes upon by defining the cultural landscape of the islands from a spatial discourse and community perspective.

Keywords: Islands; Landscape; Cultural Landscape; Lakshadweep.

Manuscript ID: ICCAUA2023EN0269

Community Based Tourism for Economic Growth: A Case of Mawlyngot the Urlong Tea Village in Meghalaya, India

¹ Ph.D. Candidate **Nishith Srivastava**, ² Professor Dr. **Prafulla Parlewar**
School of Planning and Architecture, 4-B, IP Estate, New Delhi, 110 002, India. ^{1 & 2}
 E-mail ¹: nishithsri@yahoo.com, E-mail ²: prafulla.parlewar@spa.ac.in

Abstract

The significance of Tourism and more specifically the Community Based Tourism was realized in the wake of global pandemic situation. The growing trends towards the popularity of niche tourism such as the Community Based Tourism was a notable change. Tourism is today recognized as one of the fastest growing industries in the world. The question however remains, should the benefits of the industry be limited to select few. Is the industry benefiting local communities who deserve their fair share? The research paper attempts to answer this, citing the example of Mawlyngot village which was a sleepy village full of social evils. The village has seen transformation after promotion of local tea through community-based efforts and promoting Tourism. Based on the structured interactions with the key stakeholders and the local community the paper examines the key factors leading to such transformation.

Keywords: Community Based Tourism; Niche Tourism; Rural Tourism.

Manuscript ID: ICCAUA2023EN0271

Categorization of Heritage and Landscape Values in the Conservation of the Historical Environment: The Case of Algiers City

¹ Student **BOUKRATHEM Oumelkheir**, ² Dr. **NAIMI AIT-AOUDIA Meriem**
Saad Dahleb Blida University, Institute of Architecture and Urbanism of Blida, Soumaa Road, BP 270, Blida ¹
Laboratory City Urbanism Sustainable Development (VUDD). EPAU, Polytechnic School of Architecture and Urbanism, Route de Beaulieu, El-Harrach,
16200 Algiers, Algeria
Saad Dahleb Blida University, Institute of Architecture and Urbanism of Blida, Soumaa Road, BP 270, Blida ²
Laboratory: Environment and Technology for Architecture and Heritage; Institute of Architecture and Urbanism of Blida
 E-mail ¹: boukratem.oumelkheir@gmail.com, oumelkheir.boukratem@univ-blida.dz, E-mail ²: meriem.aitaoudia@gmail.com,
 naimiaitaoudia.meriem@univ-blida.dz

Abstract

The historic urban environment remains a field of exploration for determining the spatial context of heritage sites and properties. The question of spatial scales interacts to preserve all the values contributing to the historicity of places and buildings; starting with imposing the 500-metre perimeter around the historic monument; then introducing the notion of context to claim actually the historic landscape. This paper leads as a first step to a careful analysis of the different recommendations and charters emanating from UNESCO and ICOMOS to distinguish the meanings of values in conservation. This results in levels of attribution of landscape values and levels of attribution of heritage values, of which nineteen levels correspond to landscape conservation values and fourteen levels relate to heritage values. The confrontation of these values by their application in the diachronic reading of the historic urban area of Algiers gives different implications where the landscape representations qualify immensely these historic places. The significance of the interdependencies between heritage values and landscape values is crucial in determining the spatial extent of the historic urban area of Algiers to be conserved. The spatial scope of conservation allows for the management of natural and built elements and the prevention of risks and threats to the variety of recognised and unrecognised architectural heritage and to the natural and built landscape of the historic urban area.

Keywords: Historical Urban Area; Spatial Scale; Diachronic Reading; Heritage Values; Landscape Values; Recognised and Unrecognized Architectural Heritage.

Manuscript ID: ICCAUA2023EN0285

Regenerating Lost Urban Spaces for Sustainable Cities: A Case Study of Lucknow's Core Areas

*¹ (Ar.) Professor **Sumit Wadhwa**, ² Assistant Professor **Mahinder Bawaria**, *³ (Ar.) Professor **Jagbir Singh**

*Chitkara School of Planning and Architecture, Chitkara University, Punjab, India and Research Scholar at Faculty of Architecture, Dr APJ Abdul Kalam Technical University, Lucknow, India*¹

*Chitkara School of Planning and Architecture, Chitkara University, Punjab, India and Research Scholar Indian Institute of Technology Roorkee, Roorkee, India*²

*Ex Principal – Faculty of Architecture, Dr APJ Abdul Kalam Technical University Lucknow, India and currently Director and Professor at Amity School of Architecture and Planning, Amity University Lucknow, India*³

*E-mail*¹: sumit.wadhwa@chitkara.edu.in, *E-mail*²: mahinder.bawaria@chitkara.edu.in, *E-mail*³: jsingh2@lko.amity.edu

Abstract

The growth and development of cities and countries has led to concerns about sustainability. The focus on sustainability has brought attention to the importance of sustainable city planning, including city policies, planning principles, and stakeholder perspectives. Land as a key resource has led to discussions about its unjust utilization and loss of potential use, which is a result of crude and unregulated city growth, resource abuse, and spatial imbalance. This paper focuses on the concept of "lost urban spaces," which exclaims the Planning Lost Spaces and Social Lost spaces jointly due to multiple overlaps and similar constructs, which are lost, without human connect, vitality, unutilized or underutilized spaces in cities that are a result of the abuse of land or wrongly designated uses under changing paradigms of the urbanism. Various studies conducted across the globe have repeatedly brought to the fore the concerns for urban public areas and green spaces which are experiencing deterioration and neglect in the changing patterns of city development. However, a knowledge gap exists in the identification of these spaces, their current construct and vitality under lost spaces. This is further not even included as part of planning for the cities which require immediate actions to mitigate the loss of this land use in the rapid urbanization race and changing needs and spatial identities in a city. The paper considers the evolution of these spaces and the mindset of different stakeholders towards them, and tries to identify the spaces that are lost or misused in urban human settlements. In view of the same, this study presents the issue of such lost spaces in the core high potential zones of Lucknow, historically exclaimed and identified as a rich heritage city with important and high valued core area. Based on the existing literature review, the study validates the evolution of these spaces, their comparisons with pre-existent knowledge bank to identify and parameters of lost spaces, their reasons further complimented by the series of surveys and stakeholder perception and their analysis. Further more the analysis is done under four constructs of the stakeholder typology, namely, user, neighbour, concerned agencies and passerby. Qualitative research methodology through questionnaires surveys and interviews followed by statistical quantitative information analysis with series of checks for normalcy, correlations and Indexing have been done for the analysis of the collecting information and responses. Study sample comprised of people and respondents from different neighbourhoods and adjoining area with radius of approx. 300 mts around each site typology under considerations, each possessing different socio-economic and perceptual characteristics. Data was compiled through extensive mapping activity and superimpositions and cross analysis with existing government policies and provisions. The findings of the study suggest that the spaces under considerations had been designated with land uses which have not been re-analysed for their use, feasibility and stakeholder requirements and have least connect with the growing city requirements further derogated through non-participatory approach of planning bodies for use appropriateness check of these spaces. The study concludes with the finding and recommendations of preparing an indexing mechanism as part of Inclusive Planning technique to just and incorporate rather assign land uses to spaces on their feasible, use appropriateness and inclusive planning parameters through stakeholder analysis and should be re-evaluated on periodicity under due to the changed idea and definitions of urbanism with which a city grows. This study will further hold the planners and designers to look at a space in the core areas of the city, which are high potential zone and cannot afford to have wasted or lost spaces, to work out the mitigational regulations to avoid their occurrence in the very first phase. It will also help the planning community to work out novel solutions for amplifying the inclusive planning approach usage for green open spaces and parks of a city, thus boosting the judicious use and utilization of the non-renewable and scarce resource like land.

Keywords: Sustainable Cities, Open Spaces; Lost Spaces; Liminal Spaces; Inclusive Planning.

Manuscript ID: ICCAUA2023EN0301

Another Chance: Adaptive Reuse of the Built Heritage as a Tool for Sustainable Circular Creativity

¹ Full Professor Dr. **Gianluigi Mondaini**, ² Ph.D. Student **Francesco Chiacchiera**

Hub for Heritage and Habitat, DICEA – Department of Civil, Building Engineering and Architecture, Marche Polytechnic University, Ancona, Italy. ^{1&2}

E-mail ¹: g.mondaini@univpm.it, E-mail ²: f.chiacchiera@pm.univpm.it

Abstract

In recent years, adaptive reuse of the built heritage become an established discipline in which the potential transformation of existing buildings can be considered as a tool for sustainable urban development, given the rising of knowledge economies and European and international policies based on transformative action strategies. On this framework, the paper analyses, through a multiple case study methodology, based on qualitative ‘transformative attitudes schemes’, recent transformations of historical sites to host public and creative related facilities. The objective is to present a method of investigation of case studies in the field of adaptive reuse architectural projects that highlight “reuse attitudes” and innovative processes towards the existing building stock. The study provides insights for future research on adaptive reuse strategies for the public and creative fields, and on innovative ways to transform the city’s public unused or abandoned building stock.

Keywords: Architecture; Adaptive Reuse; Public Buildings; Urban Regeneration; Heritage.

Manuscript ID: ICCAUA2023EN0302

Cultural Heritage as a Potential for Connecting Settlements along the Danube River - Case Study

¹ Professor Dr. **Milena Krklješ**, ² Professor Dr. **Dejana Nedučin**

University of Novi Sad, Faculty of Technical Sciences, Novi Sad, Serbia ^{1&2}

E-mail ¹: mkrkljes@uns.ac.rs, E-mail ²: d.neducin@uns.ac.rs

Abstract

The aim of the research is to identify potential that cultural heritage (both tangible and intangible) has on the connection of different settlements and countries along the Danube River. It is considered that the same historic and cultural backgrounds are not always necessary to develop great connections among people and to provide visitors to recognize local values of different locations. Recognition and preservation of cultural heritage can be generating elements to connect different places and cultures in a unique framework that can include tourist attractiveness and distinctiveness. With improvements of the visibility of cultural heritage and creation of comprehensive spatial and cultural network, connection of communities along the river Danube could bring benefit not just on local level, but also to the whole region.

Keywords: Cultural Heritage; Settlements; Cultural Network; Spatial Network; Danube.

Manuscript ID: ICCAUA2023EN0303

Heritage in (Trans)Formation: The Built Vernacular as a Case of Adaptive Reuse for Architecture

Ph.D. Candidate **Carolina de Lurdes Teixeira Sousa**

3rd cycle of Studies in Heritage, Faculty of Arts and Humanities, University of Porto, Porto, Portugal

E-mail: ctsousa98@gmail.com, carolt.sousa.up@gmail.com

Abstract

The continuous reinterpretation of the various conceptual perspectives on *vernacular* construction, combined with the progressive transformations of rural areas and the consequent awakening of nostalgia for a heritage in constant obsolescence, have accentuated the ambiguity of the term and, weakening the boundaries of “*what is or is not vernacular*”, have led to a new and controversial architectural expression. The forms that for years were considered disruptive to the vernacular heritage have become the closest reality that exists to the vernacular and have progressively invaded the places that remain faithful to rurality itself. The concept of vernacular, until then consecrated, becomes insufficient to incorporate and characterize the architectural heritage that constitute the villages. Starting from two opposite realities inserted by the Romanesque Route – Village of Quintandona and Village of Ordins, - the present research aims at showing the typological variety of the architectures that constitute these contemporary villages in order to underline, on one hand, the continuity and adaptive reuse of a (disappearing) *know-how* properly adjusted and in dialogue with techniques and forms interpreted as *disruptive* and away from rurality and, consequently, the need to rethink the vernacular architectural heritage in face of the values and meanings associated with it.

Keywords: Vernacular Built Heritage; Adaptive Reuse; Transformation.

Manuscript ID: ICCAUA2023EN0305

Between Plain Architecture and the Baroque: A Facade Model of the Churches of São Miguel in the Azores

* ¹Ph.D. Candidate **Maria Antónia Vieira**, ² Professor Dr. **Mafalda Sampayo**, ³ Dr. **João Alves da Cunha**
ISCTE-IUL, University Institute of Lisbon, Portugal. ^{1 & 2}

Universidade Católica Portuguesa, Portugal ³

E-mail ¹: marva@iscte-iul.pt, E-mail ²: mafalda.sampaio@iscte-iul.pt, E-mail ³: joaoalvesdacunha.arq@gmail.com

Abstract

There is a post-Kublerian historiography that has been refined over the last few years by various authors. George Kubler (1912-1996) played a key role in developing the concept of "Plain architecture" and drawing attention to its design and morphology. For many years various examples of architecture were ignored by European historiography, as they did not fit into the Renaissance, Mannerist and Baroque styles, corresponding to what Kubler called "Plain architecture". Azorean religious architecture remains on the fringes of this reading. This article presents an analysis of the design of the main façades of churches in the Azores, built in the 18th and 19th centuries, highlighting the existence of a façade typology. It concludes that there is a disarticulation between the design of the churches in plan and in façade, corresponding the plan to an ideology of "plain architecture" and the facades to a baroque language.

Keywords: Plain Architecture; Azores; Typology; Facade; Synthesis Drawings.

Manuscript ID: ICCAUA2023EN0316

The Aestheticization of the Real Estate Market as a Gentrifier in the City: A Case Study of Roberto Crespo Toral Avenue, Cuenca, Ecuador

* ¹ Arq. **Esteban Felipe Cordero Ortiz**, ² Asoc. Prof. Dr. **Hourakhsh Ahmad Nia**, ³ Arq. **Natalia Pacurucu Cáceres**, ⁴ Arq. **Boris Orellana Alvear**
Faculty of Architecture and Urbanism, University of Cuenca, Ecuador. ^{1, 3 & 4}

Faculty of Architecture, Department of Architecture, Alanya University, Turkey ²

E-mail ¹: esteban_cordero1@hotmail.com, E-mail ²: hourakhsh_ahmadnia@yahoo.com, E-mail ³: natalia.pacurucu@ucuenca.edu.ec,

E-mail⁴: boris.orellana@ucuenca.edu.ec

Abstract

Architectural intervention has the ability to increase the value of buildings through commercial interventions that provide greater profitability to the owners of the properties or their tenants. This behavior was analyzed along Roberto Crespo Avenue in the city of Cuenca, Ecuador. The analysis shows how the houses located along the avenue, some of them of heritage character, which have been remodeled or restored, demonstrate greater profitability, with the possibility of renting their spaces for local businesses. These architectural interventions, the use of setbacks in some areas, and in others, the use of commercial ground floors, allow for an increase in the value of buildings, making their study important for zoning commercial axes in city planning that benefit citizens.

Keywords: Gentrifier; Aestheticization; Value; Urban Gentrification; Urban Planning; Urban Renewal.

Manuscript ID: ICCAUA2023EN0324

Influence of PUOGS on the Loss of Cultural Heritage: Macaji-Riobamba

Arq. **Fredy Ruiz Ortiz**

Universidad Nacional de Chimborazo, Riobamba, Ecuador

E-mail: frui@unach.edu.ec

Abstract

The Cultural Heritage in all its types are important for the development of the towns. The site called Macaji-Riobamba was studied by the historian Jacinto Jijon y Caamaño, where he found vestiges of the Puruha Culture dating from 700 BC. This site has been considered archaeological and at the same time has allowed the approval of developments that have influenced the disappearance of Cultural Heritage. The research is an analysis of the influence of these Land Use and Management Plans in the loss of vestiges of the Puruhá Culture in the last 30 years. An analysis of the DEMDUR 1992, Urban Code 2017 and Urban Code Update 2020 plans was carried out, the same ones that assign the Macaji site as an Archaeological Heritage Protection area, evidencing that this land use is not applied, which results in the Heritage Puruhá Archaeological miss.

Keywords: Archaeology; Cultural Heritage; PUOGS; Puruha.

Manuscript ID: ICCAUA2023EN0335

The Ottoman Architecture in Algeria, State and Perspective for a More Contemporary Function

¹ Dr. Saraoui Selma, ² Dr. Attar Abdelghani, ³ Dr. Sara Zineddine, ⁴ Dr. Khadraoui Mohamed Amine

Laboratory of Construction Engineering and Architecture (LGCA), Department of Architecture, Faculty of Technology, Abderrahmane Mira University, Bejaia, Algeria. ^{1, 2, 4}

Department of Architecture, Faculty of Technology, Mohamed Kheider University, Bejaia, Algeria. ³

E-mail ¹: selma.saraoui@univ-bejaia.dz, E-mail ²: abdelghani.attar@univ-bejaia.dz, E-mail ³: sara-ziddan@hotmail.fr,

E-mail ⁴: mohamedamine.khadraoui@univ-bejaia.dz

Abstract

Despite the various definitions that researchers around the world give to architectural space, each definition refers to the epistemological positionings that the researcher will make from the start of his research. As a result, we have observed three types of space: thought space, lived space, and perceived space, which can sometimes be the same space with the same configuration. The Ottoman architecture in Algeria remains a diverse heritage architecture, with habitats, administrations, places of worship and culture, and so on. In light of this diversity, the authorities are currently attempting to breathe new life into some buildings that are considered to be local Ottoman heritage, with mixed results. We hope to produce a report on this architectural typology as a result of this research, to determine whether the reconversion truly breathes new life into this architecture or simply accelerates its demise.

Keywords: Architectural Configuration; Space Syntax; Ottoman Architecture; Perception; Ambiences.

Manuscript ID: ICCAUA2023EN0336

Globalization and the Challenge of Urban Identity

Assoc. Prof. Dr. Hourakhsh Ahmad Nia

Alanya University, Alanya, Türkiye

E-mail: hourakhsh_ahmadnia@yahoo.com

Abstract

Globalization has challenged the traditional notion of urban identity by exposing cities to a constant flow of people, ideas, and cultural influences. This qualitative study systematically reviews the existing literature to examine the ways in which globalization has impacted the formation and maintenance of urban identity. The study considers the role of globalization in shaping the cultural, social, and architectural characteristics of cities, as well as the challenges cities face in preserving their unique identities in the face of global homogenization. The findings suggest that while globalization has had a significant impact on urban identity, cities are also actively resisting these changes through the preservation of traditional cultural practices, the promotion of local arts and culture, and the design of public spaces that reflect the city's unique character. This study contributes to a better understanding of the complex relationship between globalization and urban identity and provides insights into how cities can maintain their unique character in a rapidly changing world.

Keywords: Globalization; Urban Identity; Global Homogenization; Stematic Review.

Manuscript ID: ICCAUA2023EN0344

A Morphological Study of the Ancient Buddhist Monasteries of Bengal

*Ph.D. Candidate Pushpita Eshika

Heritage Studies Program, Arkansas State University, USA

E-mail: peshika9905@gmail.com

Abstract

Vajrayana, or Bengali Buddhism, was a significant derivation from traditional Buddhist schools of ancient India. This Buddhist school was erected in ancient Bengal, adopting the prevailing esoteric tantric practices, and reigned every corner of Bengal from around the 7th to the 13th century. This morphological research focuses on the spatial layout of five Bengal Buddhist monasteries constructed between the 5th and 12th centuries and tries to find the underlying pattern of evolution through the lens of the philosophical development of Buddhism in Bengal. The findings show a significant shift in the morphological character of the Bengal Buddhist monastery after the 8th century ad. The introduction and growth of tantra-oriented Buddhist schools, primarily the Vajrayana school, played a vital role in the spatial evolution and transformation of the Buddhist monasteries of Bengal. This study tries to unveil how religion's intrinsic and extrinsic forces shaped forms and spatial patterns of Buddhist architecture in Ancient Bengal.

Keywords: Morphology; Buddhism; Spatial Organization; Ancient; Monastery.

Manuscript ID: ICCAUA2023EN0351

Evaluating Adaptive Reuse of Historic Buildings in North Nicosia through Universal Design Parameters

*¹ Architect **Abdulsalam Jeraidah**, ² Assistant Prof. Dr. **Mustafa Eyyamoğlu**
Bahçeşehir Cyprus University, Faculty of Engineering and Architecture, Department of Architecture, Nicosia, North Cyprus. ^{1&2}
 E-mail ¹: abjeraidah@baucyprus.edu.tr, E-mail ²: mustafa.eyyamoglu@cyprus.bau.edu.tr

Abstract

The most important elements of the urban heritage are historical buildings. Preservation of historical buildings is directly related to the preservation of urban heritage and its transfer to future generations. The most appropriate way to provide preservation for historic structures is to restore and re-function. Today, many historical buildings in the North Nicosia city are being restored for new functions. The aim of this study is to evaluate restored buildings experimentally selected in North Nicosia in terms of universal design. Within the scope of the study, observational researches were made on the buildings depending on the literature review in the field of universal design and reuse. The new functions and universal design criteria of the restored buildings were evaluated and their weaknesses and strengths were determined. As a result, the compliance of the restoration works with the universal design criteria was determined and suggestions were made to contribute to the future studies.

Keywords: Urban Heritage; Historic Buildings; Universal Design; Adaptive Reuse; North Nicosia.

Manuscript ID: ICCAUA2023EN0359

Adaptive Multicultural Cities and Planning Policies in the Mediterranean Region

*¹ Ph.D. Candidate **Jacqueline M. Boulos**, ² Dr. **Husam R. Husain**
Architecture and Urban Design Program, German University in Cairo, Egypt. ^{1&2}
 E-mail ¹: jacqueline.magdi@gmail.com, E-mail ²: h.rhm@outlook.com

Abstract

Multicultural urban development is a strategy to provide reasonable accommodations to diverse cultural groups within a certain community, by identifying the needs of minorities on the one hand and rebuilding the common ground underlying policies and programs on the other. As the quality of life may shape the structure and form of urban areas, the multiplicity of communities in the Mediterranean region with distinct cultures living in the same place has become a prominent feature of many cities. Drawing on a series of quantitative studies and qualitative surveys, the study examines the challenge of Mediterranean multiculturalism, to build adaptable socio-infrastructure that reflects the concerns and interests of specific groups, while preserving cultural differences. The study discusses that achieving the special service needs of immigrants requires developing guidelines that suit different groups, and therefore recommends a set of policies to achieve comprehensive adaptive development to meet the challenges of the various forces that affect the stability of multicultural values.

Keywords: Multiculturalism; Cultural Value; Adaptive Planning; Mediterranean Cities.

Manuscript ID: ICCAUA2023EN0360

Preservation of Islamic Urban Heritage to Enhance the Users' Expectations in the Holy City of Makkah

¹ Ph.D. Candidate. **Yahya M. Nabhan**, ² Dr. **Abdullah S Karban**, ³ Professor Dr. **Bin Lamit, Hasanuddin**, ⁴ Dr. **Bin Azizui, Muhammad**
Urban & Regional Planning, Faculty of Built Environment & Surveying, Johor Bahru, Malaysia. ^{1,3,4}
Department of Islamic Architecture, College of Engineering and Islamic Architecture, Umm Al-Qura University, Makkah, Saudi Arabia. ^{1&2}
 E-mail ^{1,3,4}: nabhan1980@graduate.utm.my, b-hasanuddin@utm.my, mdfaridazizul@utm.my, E-mail ^{1,2}: ymnbhan@uqu.edu.sa, askarban@uqu.edu.sa

Abstract

Enhancing the Urban Heritage's urban environment to suit religion-tourism expectations and return the cityscape to Islamic urban planning and design is one strategy to improve public space in the Holy City of Makkah (HCOM). This paper aims to offer historical context for the foundation of the holy City, highlight key moments in the City's urban fabric revolution chronology up to the present day, and outline plans for the City's future growth. This will be achieved by looking through the literature on the history of the Urban Development of the HCOM. Also, this paper used descriptive methods to examine the City's Urban fabric evolution over the last century. The findings light how the "Sharia" Islamic norms, both permitted and forbidden activities inside Makkah's limits, impacted the City's urban fabric. This paper provides a comprehensive understanding of the rules of designing public space and highlights the sustaining Islamic Urban Heritage.

Keywords: Urban Heritage; Holy City of Makkah (HCOM); Grand House.

Manuscript ID: ICCAUA2023EN0363

The Aesthetic of Arabic Calligraphy and Islamic Ornamentation in the Door of the Holy Kaaba in the Saudi Era: An Analytical Study

* Dr. Duaa Mohammed Alashari

Academy of Islamic Civilisation, Faculty of Social Sciences and Humanities, Universiti Teknologi Malaysia, Skudai
81310, Johor Bahru, Malaysia
E-mail: duaa1983@graduate.utm.my

Abstract

This article aims to identify the aesthetic of Arabic calligraphy and the Islamic ornamentation units embodied in the honorable door of the Kaaba in the Saudi era, according to a systematic analytical perspective, to reveal the effectiveness of the principles of artistic design that enhance the aesthetic of the Kaaba's door. The honorable Kaaba section contains many artistic and aesthetic values that added to its visual rhythmic beauty and luxury and enhanced the sense of aesthetic and spiritual artistic value for Arabic calligraphy and Islamic ornamentation units. In this study, the researcher will use the structural content analysis approach because this approach aims to study and analyze based on an external perspective. The researchers conclude that the aesthetic of Arabic calligraphy stems from the use of the apparent Thuluth style among the linear configurations of geometrical shapes in the door of the Kaaba.

Keywords: Aesthetic; Arabic Calligraphy; Islamic Ornamentation; The Door of the Holy Kaaba; Saudi Era.

Manuscript ID: ICCAUA2023EN0371

Heritage Building Conservation Projects Decision-Making Processes

Dr. Burcu Balaban-Ökten

Fatih Sultan Mehmet Vakif University, Faculty of Architecture and Design, Istanbul, Türkiye
E-mail: burcuokten@fsm.edu.tr

Abstract

Restoration projects of historical buildings involve decision-making processes that require researchers from different fields of expertise to work together. One of the most challenging stages of conservation projects is making decisions. Scientific committees need information about the entire life of the buildings to decide on conservation strategies. In addition, communication and information exchange between stakeholders are critical issues in restoration projects. This research examines restoration projects from a project management perspective with a systematic literature review. In this study, firstly, a literature review was conducted to see the decision-making processes in historical heritage research. Then, by using the content analysis method, the main themes of the current research were determined. The problems experienced in the field are mostly project management based. Some of the important research themes are determined as, special laws for conservation projects, collaborative planning, risk management, resource management, and interdisciplinary work environments.

Keywords: Heritage Conservation Projects; Decision-Making Processes; Project-Management; Collaborative Work Environments.

Manuscript ID: ICCAUA2023EN0374

Revitalizing Cities through Restorative Urbanism: Prioritizing Experience-Focused Design for Parks in the Post-Pandemic Era

* ¹ Associate Professor Dr. **Mahbubur Meenar**, ² Assistant Professor Dr. **Md Shahinoor Rahman**
Community Planning + Visualization Lab, School of Earth and Environment, Rowan University, USA ¹
Earth and Environmental Sciences, New Jersey City University ²
E-mail ¹: meenar@rowan.edu, E-mail ²: mrahman1@njcu.edu

Abstract

Urban parks have become increasingly crucial in the post-pandemic era due to their documented physical and mental health benefits, as well as their environmental advantages, such as mitigating heat-island effects, enhancing biodiversity, and managing flooding and stormwater. However, while many studies have focused on equitable access to parks, providing easy access does not necessarily ensure a positive experience for urban residents. A study in the City of Camden—a post-industrial, environmental justice community in New Jersey, USA, including geospatial modeling, surveys, and focus groups, revealed that mental health components and restorative design elements were largely absent in park planning and design processes. Therefore, prioritizing experience-focused design principles rooted in restorative urbanism is essential. The goal should be to provide high-quality, restorative experiences for park visitors, instead of solely focusing on proximity to city residents. Cities must recognize the importance of this approach in promoting equitable access to high-quality parks.

Keywords: Park Equity; Mental Health; Restorative Design; Post-Industrial Landscapes; Environmental Justice.

Manuscript ID: ICCAUA2023EN0377

Place Identity Translating into Culture: The Town of Rajapur in the Cultural Region of Konkan

*¹ Ar. Prachitee Naik, ² Dr. Vishakha Kawathekar*School of Planning and Architecture, Bhopal, M.P., India. ^{1 & 2}**E-mail ¹: prachiteenaik@gmail.com, E-mail ²: vishakhakawathekar@spabhupal.ac.in*

Abstract

This paper deals in defining the place identity of cultural town of Rajapur, located in the Konkan region. Rajapur is the valley situated at the confluence of the 'Arjuna' and 'Godi' river. Artistic temples, attractive mosques, Peshwa period structures at Jawahar Chowk and Varchi Peth are all adorning the town. The settlements of Rajapur that are the subject of this study have historical and cultural values with structures of regional culture, natural patterns, and traditions. Today, some parts of these settlements are totally neglected due to changing lifestyles, socio-economic conditions, and approaches towards rural areas. Paradoxically, Konkan is known for the coast and is the main magnet for a day's tourist destination. The heritage is losing its identity due to unsustainable tourism, development pressure, social, economic and political issues. However, Rajapur consists rich history, cultural background, traditional housing, geology, and other factors that make it an important town in South Konkan.

Keywords: Konkan; Rajapur; Heritage; Culture; Kuldevata; Laterite.

Manuscript ID: ICCAUA2023EN0378

Acoustical Characterization of Taramati Baradari

¹ M. Arch Student. Syed Azhar Akhtar, ² Associate Professor Dr. Vishakha Kawathekar*School of Planning and Architecture, Conservation, Bhauri, Bhopal, India ^{1 & 2}**E-mail ¹: azhar.akhtar19@gmail.com, E-mail ²: vishakhakawathekar@spabhupal.ac.in*

Abstract

India has a very rich and diverse cultural heritage and when studying from one built form to another, it can be observed that each plan and architectural form has a very close association with the purpose it was built for. The use of daylight in these structures is very well documented and studied, the acoustics of the structure are hidden, especially for a place of worship and performance. It needs special attention and should be addressed subjectively. The effect of architectural form and elements on the acoustics of the structure needs to be documented and studied. It should be documented using acoustical instruments like omnidirectional sound source and handheld analyzers and ODEON and EASE 4.3, a simulation of the space should be done to understand the original setting of that structure. Taramati Baradari in Hyderabad will be used as a case study.

Keywords: ODEON; EASE 4.3; Conservation; Acoustics; Worship; Taramati Baradari; Performance Structure.

Manuscript ID: ICCAUA2023EN0379

The Role of Traditional Craft in Shaping the Historic City: Case of Moradabad, Uttar Pradesh, India

¹ Architect. Ramesh P. Bhole, ² Architect. Kirti Bhardwaj*Faculty, School of Planning and Architecture, Bhopal ¹**Master's Student of Architecture Conservation, School of Planning and Architecture, Bhopal ²**E-mail ¹: rameshbhole@spabhupal.ac.in, E-mail ²: kirtibhardwaj0105@gmail.com*

Abstract

Moradabad is known as the Brass City of India. The paper would cover the study of the tangible heritage of Moradabad including the understanding of the historic city and identifying the historic structures of the old city. The second one would be to study the Intangible Heritage of Moradabad focusing on identifying the traditional brass making areas. This aspect would also focus on documenting the 'karkhanas' where they make brass items and the traditional knowledge system involved in the craft. This study would be based on primary on-site surveys. After studying both the layers, the paper would also try and find the connection between the traditional craft and the historic city. Artisans from the major backbone of the city. The conditions in which they are working has a direct implication on their health, the paper would aim to study these issues and give design solutions/ proposals for the same.

Keywords: Traditional Craft; Brass City; Tangible Heritage; Intangible Heritage.

Manuscript ID: ICCAUA2023EN0381

Indicators for Assessing the Economic Potential of Post-Industrial Sites: A Case Study of Mitrovica

¹ Ph.D. Candidate. **Rineta Jashari**, ² Assoc. Prof. Dr. **Sonja Ifko**, ³ **Arlinda Hajzeri**

University of Ljubljana; Slovenia, Faculty of Architecture ¹

Politecnico di Milano, Italy ²

E-mail ¹: rineta1@gmail.com, *E-mail* ²: Sonja.Ifko@fa.uni-lj.si, *E-mail* ³: arlinda.hajzeri@polimi.it

Abstract

This study aims to address the challenge of transforming post-industrial sites into productive social and economic assets by developing a set of indicators to assess their potential. The case study focuses on Mitrovica, a city that reached a significant level of industrial and economic development in the 1980s but suffered a decline in the 1990s due to political conflict. As a result, Mitrovica inherited many unused industrial areas that are now degraded and abandoned. Using a mixed methods approach that includes a literature review and data analysis, this study identifies physical, economic, and social indicators for evaluating the economic potential of post-industrial sites. The results of the study suggest that these sites can be repurposed and adapted for sustainable urban development, opening up opportunities for reuse and adaptive rehabilitation.

Keywords: Industrial Areas; Urban Regeneration; Post-Industrial Sites; Mitrovica; Abandoned; Urban Development.

Manuscript ID: ICCAUA2023EN0050

Requalification of Urban Identity According to the History of the Place: The Kasbah of Algiers

Menouer Ouassila

Institute of Architecture and Urbanism Saad Dahleb University, Blida-1, Algeria

Email : menouerouassila@yahoo.fr

Abstract

In 1992, the Kasbah of Algiers was proclaimed as a world cultural heritage, and in 2012, it benefited from a safeguard plan. These legal measures have raised the question of the methods of intervention in the protected sectors, in particular the integration of contemporary architecture into historic sites. This contribution is part of the process of making the city in the city and from the city, which is based on the recognition of urban structures that have disappeared. These structures will become elements for architectural and urban compositions, hence the reinterpretation of the memory of the place in a contemporary expression ensuring the preservation of its identity and authenticity. Through our experimentation, Bastion 23, which is today a fragment isolated from the rest of the urban fabric of the old town, has become an urban component restoring the city/sea relationship, a relationship interrupted since the demolitions of the 20th century.

Keywords: Kasbah of Algiers; Cultural Heritage Site; The Memory of the Place; Contemporary Architecture.

Manuscript ID: ICCAUA2023EN0281

Detecting Urban Growth Patterns and Conversion Processes of East Kolkata Wetlands

* ¹ Ph.D. Candidate **Pawan Kumar Yadav**, ² Professor **Taruna Bansal**, ³ Ph.D. Candidate **Priyanka Jha** ⁴ Ph.D. Candidate **Shehnaz Begam**, and ⁵ Ph.D. Candidate **Pankaj Rawat**

Department of Geography, Jamia Millia Islamia (A Central University), New Delhi-25, India ^{1,2,3,4,5}

E-mail ¹: pawanyadav835@gmail.com, *E-mail* ²: tbansal@jmi.ac.in, *E-mail* ³: priyankajha970@gmail.com, *E-mail* ⁴: shehnazbegam1119@gmail.com, and *E-mail* ⁵: rpankaj015@gmail.com

Abstract:

The East Kolkata wetlands are an important Ramsar site and the kidney of the city, providing vital ecosystem services. However, recent human encroachment, land reclamation for agriculture and aquaculture, and urban growth in and around east Kolkata have negatively impacted the wetlands. This study will examine the spatiotemporal land use and land cover changes, the process of urban expansion, and the shrinking of wetland areas in East Kolkata using remote sensing, GIS, Growth Rate Index, and Compactness Index. In addition, the wetland shrinkage monitoring (WSM) model will be used to determine wetland contraction. The multi-temporal data for the built-up area, a crucial indicator to quantify urban growth, collected over the decades will be utilized to find out the changes in the Kolkata Metropolitan Area. The study will ascertain the decent functioning of the local authorities for comprehensive land use planning that is indispensable to curb wetland degradation.

Keywords: Urban Growth; Land use/Land cover; Remote Sensing and GIS; Wetland Shrinkages; East Kolkata Wetland.

Manuscript ID: ICCAUA2023EN0398

Unraveling Urban Gentrification: A Comprehensive Analysis

Majid Gholizadeh

Independent researcher

E-mail: Majidgholizadeh1982@gmail.com

Abstract:

Gentrification, a process that has garnered considerable attention, profoundly impacts urban spaces and communities. This study aims to comprehensively analyze the phenomenon, drawing from empirical research, theoretical frameworks, and case studies. We define gentrification as the arrival of affluent individuals, businesses, and investments into marginalized neighborhoods. We explore the socioeconomic and spatial transformations associated with gentrification, including rising property values, displacement of lower-income residents, altered land use patterns, and changing community dynamics. The study investigates the drivers of gentrification, encompassing economic and sociocultural factors such as shifting housing markets, urban policies, cultural influences, and lifestyle preferences. The role of various stakeholders, including developers, policymakers, residents, and community organizations, is examined in shaping and responding to the process. Additionally, the impacts of gentrification on housing affordability, social cohesion, community identity, local businesses, and public spaces are assessed. The study recognizes both positive aspects, such as increased economic investment and cultural revitalization, and negative consequences, including loss of diversity, displacement, and social inequality. In conclusion, this analysis contributes to the existing knowledge on gentrification, enabling policymakers, urban planners, and community stakeholders to develop informed strategies. By understanding the dynamics of gentrification, it is possible to mitigate negative impacts and maximize positive outcomes. The abstract recommends future research directions to promote inclusive and sustainable urban development in the face of gentrification.

Keywords: Gentrification, Urban Spaces, Socioeconomic Transformation, Displacement, Urban Policy, Community Dynamics.

Historical Analysis of the Sümerbank Factories Established in Accordance with the First Five-Year Industrialization Plan

* ¹ M.A. Student **Begüm Kök**, ² Assist. Prof. Dr. **Elif Selena Ayhan Koçyiğit**
Başkent University, Department of Architecture, Ankara, Turkey. ^{1 & 2}
E-mail ¹: begumkok1993@gmail.com, E-mail ²: esayhan@baskent.edu.tr

Abstract

In its foundation years, The Republic of Turkey has adopted a development model based on modernization, innovation and the principle of statism in its economic policies. In this respect, the First Five-Year Industrial Plan, which includes the priority needs of Turkey, was prepared and the state started to build new factories in the 1930s. These factories not only brought employment and innovation to the city where they were located, but they also played an important role in shaping the life style of the Early Republican Period. Among the factories built in accordance with the First Five-Year Industrial Plan, this study aims to focus on Sümerbank factories, where the foundations of economic and social development were laid, and examine their transformation in the historical process. Firstly, an extensive literature review was conducted on the Sümerbank factories established between 1933 and 1938. Following that, the site selection criteria of Sümerbank factories located in different regions of Turkey and their physical aspects during the establishment phase were examined. Finally, by documenting the existing features of these industrial heritage places, a general assessment was made on the transformation from the 1930s to the present.

Keywords: Early Republican Period Architecture; The First Five-Year Industrialization Plan; Sümerbank Factories; Industrial Heritage; Transformation.

Birinci Beş Yıllık Sanayi Planı Uyarınca Kurulan Sümerbank Fabrikalarının Tarihsel Süreçte İncelenmesi

Özet

Türkiye Cumhuriyeti kuruluş yıllarında, çağdaşlaşmayı, yenilikçiliği ve ekonomi politikalarında devletçilik ilkesini temel alan bir kalkınma modelini benimsemiştir. Bu doğrultuda, Türkiye'nin öncelikli ihtiyaçlarının yer aldığı Birinci Beş Yıllık Sanayi Planı hazırlanmış ve devlet 1930'lu yıllarda devlet yeni fabrikalar inşa etmeye başlamıştır. Bu fabrikalar yalnızca buldukları kente istihdam ve yenilik getirmekle kalmamış, Erken Cumhuriyet Dönemi hayat biçiminin de şekillenmesinde önemli rol oynamıştır. Bu çalışmada Birinci Beş Yıllık Sanayi Planı uyarınca gerçekleştirilen fabrikalar içinden, ekonomik ve sosyal kalkınmanın temelini atıldığı Sümerbank fabrikalarına odaklanmayı ve bu fabrikaların tarihsel süreç içinde yaşadığı dönüşümü incelenmeyi amaçlamaktadır. Öncelikle, 1933-1938 yılları arasında kurulan Sümerbank fabrikaları üzerine geniş bir literatür taraması yapılmıştır. Sonrasında, Türkiye'nin farklı bölgelerinde bulunan Sümerbank fabrikalarının yer seçim kriterleri ve kuruluş aşamasındaki fiziksel özellikleri incelenmiştir. Son olarak, endüstri mirası olan bu fabrikaların mevcut özellikleri belgelenerek, 1930'lardan günümüze dönüşüm üzerine genel bir değerlendirme yapılmıştır.

Anahtar Kelimeler: Erken Cumhuriyet Dönemi Mimarlığı; Birinci Beş Yıllık Sanayi Planı; Sümerbank Fabrikaları; Endüstri Mirası; Dönüşüm.

Identification of Risks in Restoration Projects of Immovable Cultural Heritage

* ¹ Batuhan Göç, ² Assoc. Prof. Dr. Tuğçe Şimşekalp Ercan
Yıldız Technical University, Faculty of Architecture, Istanbul, Turkey. ^{1&2}
E-mail ¹: batuhangoc17@gmail.com, E-mail ²: tugcesim@yahoo.com

Abstract

Activities for the conservation of cultural heritage around the world are gaining importance day by day. Restoration of immovable cultural heritage has an important place among conservation activities. Restoration projects have different dynamics from standard construction projects. This causes restoration projects to have inherent risks. For a successful restoration project to be realized, these risks must be systematically addressed within the framework of a comprehensive risk management plan. The research aims to determine the risks in the restoration projects of immovable cultural heritage and to prepare the basis for a comprehensive risk management system. After the research topic and the literature review, the risk management process and risks in restoration projects were classified based on the existing literature, and risks were defined for each category. The significance levels of the identified risks were determined as a result of the Delphi questionnaires, which consisted of three stages in which a group of experts participated, using the Delphi Analysis Technique. The most critical risk categories and risks that experts agreed on were determined. The findings obtained as a result of the research will contribute to the efficiency of the process by supporting a planned risk management process for the stakeholders involved in restoration projects.

Keywords: Immovable Cultural Heritage; Restoration Projects; Risk Management; Delphi Technique.

Taşınmaz Kültür Varlıklarının Restorasyon Projelerinde Risklerin Belirlenmesi

Özet

Dünyada kültür varlıklarının korunmasına yönelik faaliyetler gün geçtikçe önem kazanmaktadır. Taşınmaz kültür varlıklarının restorasyonu ise koruma faaliyetleri arasında önemli bir yer tutmaktadır. Restorasyon projeleri, standart yapım projelerinden farklı dinamiklere sahiptir. Bu durum, restorasyon projelerinin bünyesinde kendine özgü riskler barındırmasına neden olmaktadır. Başarılı bir restorasyon projesinin gerçekleştirilebilmesi için bu risklerin kapsamlı bir risk yönetim planı çerçevesinde sistematik olarak ele alınması gerekmektedir. Araştırmanın amacı, taşınmaz kültür varlıklarının restorasyon projelerinde riskleri belirleyerek kapsamlı bir risk yönetim sistemine altlık hazırlamaktır. Araştırma konusu ile literatür araştırmasının ardından, mevcut literatür üzerinden restorasyon projelerinde risk yönetim süreci ve riskler sınıflandırılmış, her bir kategori için riskler tanımlanmıştır. Tanımlanan risklerin önem dereceleri ise, Delphi Analiz Tekniği kullanılarak bir grup uzmanın katıldığı üç aşamadan oluşan Delphi anketleri sonucunda belirlenmiştir. Uzmanların uzlaşması sağladığı en kritik risk kategorileri ve riskler belirlenmiştir. Araştırma sonucunda elde edilen bulgular, restorasyon projelerinde yer alan paydaşlar için planlı bir risk yönetim sürecini destekleyerek sürecin verimliliğine katkı sağlayacaktır.

Anahtar Kelimeler: Taşınmaz Kültür Varlıkları; Restorasyon Projeleri; Risk Yönetimi; Delphi Tekniği.

Synchronic Phenomenological Analysis Urban Identity Buildings

*¹ Res. Asst. **Özge Zenter**, ² Assoc. Prof. Dr. **M. Tayfun Yıldırım**
Gazi University, Faculty of Architecture, Ankara, Türkiye ^{1&2}
E-mail¹: ozgezenter@gazi.edu.tr, E-mail²: mtayfun@gazi.edu.tr

Abstract

In today's architectural design, besides the expectation of function, the meaning of the design in human perception is important. From the past to the present, the relationship between "urban and identity" has come to the fore more in design. Especially in Modernism, with the effect of globalization-global capitalism, competition between cities has increased and architectural products have become a country promotion tool. The concepts of place and space have changed in architecture; a process in the universalist style consisting of typified buildings that have no connection with the place has begun. Contrary to this attitude, it is seen that the buildings that can be the symbol of the country-city and aim to present the image of different cities are intensified. As one of the ways to give an identity to a city; symbolic buildings, which give information about the place, are the current approach in architecture. In this study, examples of buildings, which are considered as urban symbols, have been examined in diachronic and synchronic. As a phenomenological analysis method, building samples were analyzed in the context of C. Norberg-Schulz's "Genius Loci" concept and Roland Barthes's "Semiological" principles. As a result, the urban symbol buildings which analyzed diachronically and synchronously, either as its context to the place increases or when it exists with its unique qualities, it is seen that the promotional effect of the urban identity to the world also increases.

Keywords: Urban Identity; Iconic Building; Genius Loci; Semiotics.

Kent Kimliği Oluşturan Yapıların Eşzamanlı Fenomenolojik Analizi

Özet

Günümüzde mimari tasarımda fonksiyon beklentisinin yanı sıra, tasarımın insan algısında oluşturduğu anlam önem taşımaktadır. Geçmiş dönemlerden günümüze "kent ve kimlik" ilişkisi tasarımda daha fazla ön plana çıkmıştır. Özellikle Modernizmde küreselleşme-global kapitalizm etkisi ile, kentler arasındaki rekabet artmış, mimari ürünler bir ülke tanıtım aracı haline gelmiştir. Mimarlıkta yer ve mekan kavramları değişerek; yerle bağlantının koptuğu tipleşen binalardan oluşan universalist üslupta bir süreç yaşanmaktadır. Buna karşıt olarak, ülke-kent sembolü olabilecek, farklı kentlerin imajını sunabilmek amaçlı yapıların yoğunlaştığı görülmektedir. Bir kente kimlik kazandırabilmenin yollarından biri olarak; yeri hakkında bilgi veren, sembolik yapılar mimarlıkta güncel yaklaşım olmaktadır. Bu çalışmada kent sembolü olarak değerlendirilen bina örnekleri tarihsel süreç içerisinde (diakronik) ve farklı ülkelerde eş zamanlı (senkronik) ele alınmıştır. Bina örnekleri fenomenolojik analiz yöntemi olarak; C. Norberg-Schulz'un "Genius Loci (yerin ruhu)" kavramı ile Roland Barthes'in "Semantik (göstergebilim)" ilkeleri bağlamında analiz edilmiştir. Sonuç olarak, tarihsel süreç ve eşzamanlı ele alınan kent sembolü binaların ya yere bağlamsallığı arttıkça ya da özgün nitelikleri ile var olduğunda, kent kimliğinin dünyaya tanıtım etkisinin arttığı görülmektedir.

Anahtar Kelimeler: Kent Kimliği; Sembolik Yapılar; Yerin Ruhu; Göstergebilim.

Considering the Cultural Heritage Sites in the Context of Valuation

Ph.D. Student, M.A. **Zerrin Bostan**

Ankara University, Department of Real Estate Development and Management, Ankara, Türkiye

Rekabet Kurumu, Üniversiteler 1597. Cd. No:9, 06800 Çankaya, Ankara, Türkiye

E-mail: zerrinbostan@gmail.com, zbostan@rekabet.gov.tr

Abstract

In Turkey, which is located at a strategic transition point with its location and has witnessed important historical events, the potential of historical cultural assets cannot be used effectively for sustainable national development goals. In the study; It is aimed to bring a new perspective to the preservation of historical monuments, to reveal its value correctly and to contribute to the sustainability of conservation practices by bringing new expansions to existing conservation policies, strategies and practices. Literature review and face-to-face interviews were used as methods and conservation approaches at national and international level were examined comparatively. It has been concluded that it is important for national development to determine the real value of the cultural heritage, which is the national capital and resource, to give the right functions and to reconsider the strategies in the "Area Management" plans in this context, taking into account the value of the protected area.

Keywords: Valuation; Cultural Heritage; Sustainable Urban Conservation; Renewable Energy; UNESCO World Heritage Site Management Plan; Sustainability.

Kültürel Miras Alanları ve Değerleme İlişkisi

Özet

Konumuyla stratejik bir geçiş noktasında bulunan ve önemli tarihi olaylara şahit olmuş olan Türkiye’de, tarihi kültür varlığı potansiyeli sürdürülebilir ulusal kalkınma hedeflerine yönelik olarak etkin bir şekilde kullanılmamaktadır. Çalışmada; tarihi eser korumasına yeni bir bakış açısı kazandırmak, değerini doğru bir şekilde ortaya çıkarmak ve mevcut koruma politikalarına, stratejilerine ve uygulamalarına yeni açılımlar getirerek, koruma uygulamalarının sürdürülebilir olmasına katkı sağlamak amaçlanmıştır. Literatür taraması ve yüz yüze görüşmeler yöntem olarak kullanılmış ve ulusal ve uluslararası düzeyde koruma yaklaşımları karşılaştırmalı olarak incelenmiştir. Milli sermaye ve kaynak olan kültürel mirasın gerçek değerinin tespit edilmesi, doğru fonksiyonların verilmesinin ve bu bağlamda “Alan Yönetimi” planlarındaki stratejilerin koruma alanı değeri gözetilerek, yeniden ele alınmasının ulusal kalkınma açısından önemli olduğu sonucuna varılmıştır.

Anahtar Kelimeler: Değerleme; Kültürel Miras; Sürdürülebilir Kentsel Koruma; Yenilenebilir Enerji; UNESCO Dünya Miras Alanı Yönetim Planı.

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Evaluation of Cultural Heritage Conservation in the Context of Low-Carbon Urban Development

Ph.D. Student, M.A. **Zerrin Bostan**

Ankara University, Department of Real Estate Development and Management, Ankara, Türkiye

Rekabet Kurumu, Üniversiteler 1597. Cd. No:9, 06800 Çankaya, Ankara, Türkiye

E-mail: zerrinbostan@gmail.com, zbostan@rekabet.gov.tr

Abstract

The problem of climate change threatens the destruction of urban identity by negatively affecting the structure of cities. There is no strategy determined for 'urban protected areas' in the arrangements made for the solution. Contributing to the national 'sustainable development' goals, within the framework of energy efficiency, it is aimed to contribute to the evaluation of innovative application approaches and the determination of strategies for the current renewal methods of cultural assets. Literature review and face-to-face interviews were used as methods. A comparative analysis of the application differences between the repair of a national historical building and the repair of an international historical building was made. As a result; In order to increase the quality of urban life in protected areas, the basic principles of urban renewal should be considered integrated with all strategies and a climate action plan should be made from the national level to the local level.

Keywords: Climate Change; Low Carbon Urban Development; Sustainable Urban Conservation; Renewable Energy; UNESCO World Heritage Site Management Plan.

Düşük Karbonlu Kentsel Gelişme Çerçevesinde Korunacak Kültür Varlıklarının Değerlendirilmesi

Özet

İklim değişikliği sorunu, kentlerin yapısını olumsuz etkileyerek kentsel kimliğin yok edilmesini tehdit etmektedir. Çözüme yönelik yapılan düzenlemelerde 'kentsel sit alanları' için belirlenmiş bir strateji bulunmamaktadır. Ulusal 'sürdürülebilir kalkınma' hedeflerine katkı olarak, enerji verimliliği çerçevesinde, kültür varlıklarının güncel yenileme yöntemlerine yönelik yenilikçi uygulama yaklaşımlarının değerlendirilmesi ve stratejilerinin belirlenmesine katkıda bulunmak amaçlanmaktadır. Literatür taraması ve yüz yüze görüşmeler yöntem olarak kullanılmıştır. Ulusal tarihi bir yapı onarımı ile uluslararası düzeyde tarihi bina onarım yöntemleri arasındaki uygulama farklılıklarının karşılaştırmalı analizi yapılmıştır. Sonuç olarak; koruma alanlarında kentsel yaşam kalitesinin artırılması için kentsel yenileme temel prensipleri tüm stratejiler ile birlikte bütünlük olarak ele alınmalı ve ulusal düzeyden yerel düzeye iklim değişikliği eylem planı yapılmalıdır.

Anahtar kelimeler: İklim Değişikliği; Düşük Karbonlu Kentsel Gelişme; Sürdürülebilir Kentsel Koruma; Yenilenebilir Enerji; UNESCO Dünya Miras Alanı Yönetim Planı.

Prof. Dr. **Hatice Arzu Kocabaş Diren** anısına...

The Sense of Smell and Its Effects on the Construction of Urban Identity

* ¹ Zehra Çakır, ² Assoc. Prof. Dr. Nilgün Çolpan Erkan
Yıldız Technical University, Faculty of Architecture, Istanbul, Turkey. ^{1&2}
E-mail ¹: cakirzehra97@gmail.com, E-mail ²: nilgunerkan@gmail.com

Abstract

People smell thousands of times in a day, and each sniff creates a new experience. Every place has its own unique smell due to both the material produced, the landscape it has, and the functions performed there. However, for many years, the odors of the spaces have been taken into consideration only in a negative way so its relation to the individual is ignored. Ignoring the sense of smell, which is an important means of direct connection between space, moment and individual, prevents the formation of a common olfactory identity and memory. The aim of this study; To investigate the effects of the sense of smell on the perception of urban space, on the formation of urban identity and spatial memory, and to reveal the importance of including the sense of smell in urban design studies. During the research, related sources were scanned, field work was carried out with the volunteers and interviews were conducted. A quantitative study was conducted with the spatial analyzes to be carried out in the field, and a qualitative study was carried out with the data to be obtained with the participation of volunteers. As a result of the study, it was aimed to determine the interaction between the concepts of smell, space perception and urban identity.

Keywords: Urban Identity; Space Perception; Sense of Smell.

Kent Kimliğinin İnşasında Koku Duyusu ve Etkileri

Özet

İnsanlar günde binlerce kez koku alır ve her bir koklama yeni bir deneyim oluşturmaktadır. Her mekânın hem üretilen malzemeden hem sahip olduğu peyzajdan hem de orada gerçekleştirilen işlevlerden kaynaklı olarak kendine has bir kokusu vardır. Ancak uzun yıllar mekân kokuları yalnızca olumsuz yönden ele alınmış ve bireyle olan ilişkisi göz ardı edilmiştir. Mekân, an ve birey arasında doğrudan bağlantının önemli bir aracı olan koku duyusunun görmezden gelinmesi ortak bir koku kimliğinin ve belleğinin oluşmasına engel olmaktadır. Bu çalışmanın amacı; koku duyusunun kentsel mekânın algılanmasında, kent kimliğinin ve mekânsal belleğin oluşmasındaki etkilerini araştırmak ve kentsel tasarım çalışmalarına koku duyusunun dahil edilmesinin önemini ortaya koymaktır. Araştırma süresince; konuyla ilgili kaynaklar taranmış, gönüllülerle saha çalışması gerçekleştirilerek derinlemesine mülakat yapılmıştır. Sahada gerçekleştirilecek mekânsal analizlerle nicel, gönüllülerin katılımıyla elde edilecek verilerle de nitel bir çalışma yürütülmüştür. Çalışmanın sonucunda koku, mekân algısı ve kentsel kimlik kavramları arasındaki etkileşimin saptanması hedeflenmiştir.

Anahtar Kelimeler: Kent Kimliği; Mekân Algısı; Koku Duyusu.

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SESSION D: Habitat Studies / Infra Habitation

Session Chairs:

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Dr. Riham Nady Faragallah

Manuscript ID: ICCAUA2023EN0004

Informal Clients' Patronage Of Quantity Surveyors Services For Building Projects In Bauchi Metropolis, Nigeria

¹ Ahmad Mohammed AHMAD, ² Ibrahim Ibrahim INUWA.

Department of quantity surveying, Federal Polytechnic, Bauchi, Nigeria-West Africa ¹

Department of quantity surveying, Abubakar Tafawa Balewa University, Bauchi, Nigeria-West Africa ²

E-mail¹: maahmed.qs@fptb.edu.ng, E-mail²: iinuwa@atbu.edu.ng

Abstract

Studies have shown that patronage of Quantity Surveyors (QSs) by the public clients in Nigeria is discouraging in spite of the role they play in regulating professional services. This resulted in the Quantity Surveying (QS) services in building projects in the country not fully appreciated. Hence, this study investigates how to enhance informal clients' patronage of QS services for building projects in Bauchi metropolis, Nigeria. The study used the sample frame of 443 informal clients that got approval for their residential building projects from planning authority to arrive at a sample size of 205. Subsequently respondents were surveyed using questionnaires through convenience and simple random sample techniques respectively. Data obtained were analysed using descriptive (frequency, percentage, mean and cross-tabulation with Chi-square). Findings revealed that QS service patronage for building projects in Bauchi is very low. The implication of this finding is that low patronage of QS services would deprive informal clients in getting value for money in their building project procurement. The study recommends the application of effective marketing strategy.

Keywords: Quantity Surveying; Informal Clients; Patronage; Bauchi Metropolis.

Manuscript ID: ICCAUA2023EN0011

The Meaning of Home: Spatial Practice and The Process of 'Home-Making' in Multi-Ethnic Settings

* ¹ Ph.D. Candidate Erna Nuralia Zharani, ² Professor Gehan Selim

University of Leeds, Faculty of Engineering and Physical Science, Leeds, United Kingdom. ^{1&2}

E-mail ¹: cnenbz@leeds.ac.uk, E-mail ²: g.selim@leeds.ac.uk

Abstract

The phenomenon of mass row housing is a strategy imposed by the ruling parties to accommodate the rapid growth in the multi-ethnic urban populations. There is a lack of understanding about home dwellers' spatial practices in modern row housing schemes, produced by developers and governments which leads to excessive home modification by dwellers. This paper argues that the creation of a 'home' is a process of appropriation. It builds on De Certeau's theory of practice and Lefebvre's theory of production of space to better understand how people perceived space in modern row houses. A conceptual framework is developed, and phenomenology research methods are used to delve into participants' home experiences since the start of their occupancy, as well as the act of appropriating and modifying a home to facilitate their dynamic spatial practices. It provides a newer modern housing guideline to produce a sustainable and longer-term home occupancy in a multi-ethnic setting.

Keywords: Homes; Multi-Ethnic; Households; Spatial Practice; Interpretation.

Manuscript ID: ICCAUA2023EN0013

Flexible Architectural Interventions for Housing Issues in Bahrain

* ¹ B.A. Fatema Seddiq, ² Dr. Fay Al Khalifa

University of Bahrain, Faculty of Architecture and Interior Design, Isa Town, Bahrain. ^{1&2}

E-mail ¹: 202101633@uob.edu.bh, E-mail ²: fayalkhalifa@uob.edu.bh

Abstract

Houses are considered the center of our universe and our safe haven. Recently having a home that fulfills our desires became a challenge due to lack of space and overpopulation in the world. This pushed most governments to start producing social houses with design limitations and bulk production. This paper aims to identify the problems related to social housings in Bahrain and seeks the possibility of using flexible architectural interventions to solve these issues. A questioner is conducted for Bahraini families living in social housing projects to identify their issues and their thoughts about flexible solutions. The results show that almost all social housing occupants are not satisfied with their houses spatial design and have made costly modifications. They also lack the knowledge of flexible interventions and refused it as a solution while encouraging the idea of vertical housings. This study emphasizes on the need to improve occupants' satisfaction in Bahraini social by using efficient architectural interventions.

Keywords: Social Housings; Over Population; Residents Satisfaction; Flexibility; Architecture; Bahrain.

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Affordable Housing' Challenges. Cost, Price and Sustainability Energy Nexus

* Professor Dr. Carlo Alberini

*Africa Business School - Mohammed VI Polytechnic University, Rabat, Morocco
E-mail: carlo.alberini@um6p.ma*

Abstract

In developed and developing countries, affordable housing represents one of the key challenges of the decade. Whether the criticalities derive from the constant growth of real estate values, or from the phenomena of new urbanization resulting from rural-urban movements, AHs must be placed at the center of the actions of urban stakeholders and practitioners. Nowadays, the achievement of SDG 11 imply that affordability is dealt in a more innovative and comprehensive way. The global energy crisis generated by the war in Ukraine showed that energy costs may became unsustainable for medium-low-income families. In order to makes houses affordable in long-term, cost, price and sustainability energy nexus must be investigated based on a life-cycle cost perspective. In this context, this paper aims at stimulating a discussion on affordable housing in terms of costs of construction, carbon-foot print, selling prices, energy efficiency and consumption, as well as ownership' sustainability.

Keywords: Affordable Housing; Real Estate Development; Energy Efficiency; SDGs; Urban Growth; Sustainable Urban Planning.

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Liveability Considerations: Towards Designing Sustainable Public Housing in Niger State, Nigeria

¹ Ph.D. Student. Paul Baba Haruna, ² Prof. Stella Zubairu, ³ Prof. Remi Ebenezer Olagunju, ⁴ Assoc. Prof. Oluwafemi Kehinde Akande

Department of Architecture, Federal University of Technology Minna, Niger State, Nigeria

E-mail ¹: pbharuna@futminna.edu.ng, E-mail ²: stellazubairu@futminna.edu.ng, E-mail ³: olagunju@futminna.edu.ng,

E-mail ⁴: akande.femi@futminna.edu.ng

Abstract

Indicators of liveability have been linked in the literature to socioeconomic determinants of health, with environmental sustainability serving as an underpinning factor. Thus liveability is a sub-set of sustainability and no feature of liveability is opposing to sustainability. The study identified liveability indicators which can be utilised in designing sustainable public housing. Multi-stage cluster, random, and systematic random sampling were employed to select study locations, housing estates and units respectively. 910 Questionnaires containing 102 questions on liveability variables were administered. Hierarchical Cluster Analysis, Factor Analysis and Multiple Regression Analysis were used to respectively group, reduce number of variables, and validate and measure how well identified variables predicted Resident Perceived Satisfaction Index. Result identified 21 variables within components of Internal & External Building Environment, Building Finishes & Services, Associated Costs & Utilities, and Accessibility. These variables can achieve 92.9% satisfaction of residents if applied in the design of sustainable public housing.

Keywords: Environmental Sustainability; Liveability; Public Housing; Resident Satisfaction; Sustainable Housing.

Manuscript ID: ICCAUA2023EN0062

Urban and Architectural Dis-Identity in Development Areas of Vernacular Rural Settlements: Behramkale, Türkiye

*¹ Asst. Prof. Dr. Didem Boyacıoğlu, ² Dr. Özgür Göçer, ³ Assoc. Prof. Dr. Ebru Ergöz Karahan

Ozyegin University, Faculty of Architecture and Design, Istanbul, Turkey ^{1&3}

University of Sydney, School of Architecture, Design and Planning, Sydney, Australia ²

E-mail ¹: didem.boyacioglu@ozyegin.edu.tr, E-mail ²: ozgur.gocer@sydney.edu.au, E-mail ³: ebru.karahan@ozyegin.edu.tr

Abstract

Sustainable rural development is a challenging issue, considering the pressure of change that has been brought by the demands of globalization and intensified tourism activities in rural vernacular settlements. Studies in the field of different disciplines concentrate on mostly historical centers. However, research on the distinctive urban and architectural identity of the new development areas in rural vernacular settlements is very few. A field study in vernacular rural settlement Behramkale has been conducted to discuss environmental, socio-cultural, and socio-economic continuities and changes, inadequacies of planning policies, and the consequences of top-bottom decisions in vernacular rural Türkiye. Primary data is based on comprehensive household surveys, open-ended interview questions, architectural surveys, and archival documents. The key finding of that study is the need for a more participatory and site-specific approach to sustainable development. Therefore, this paper also proposes a human-centered and identity-based approach to identify well-adopted solutions for local communities in Türkiye.

Keywords: Vernacular Rural Heritage; Sustainable Development; Identity-Based Design; Human-Centered Design.

Manuscript ID: ICCAUA2023EN0079

Rethinking the Public Loggia to Improve Urban Resilience to Climate Change

*¹Dr. Carlos Mourão Pereira, ²Dr. Teresa Valsassina Heitor, ³Dr. Ann Heylighen
 CITUA, Instituto Superior Técnico, Universidade de Lisboa, Av. Rovisco Pais 1, 1049-001, Lisboa, Portugal ¹
 KU Leuven, Department of Architecture, Research [x] Design, Leuven, Belgium ¹
 CITUA, Instituto Superior Técnico, Universidade de Lisboa, Av. Rovisco Pais 1, 1049-001, Lisboa, Portugal ²
 KU Leuven, Department of Architecture, Research [x] Design, Leuven, Belgium ³

E-mail ¹: carlosmouraopereira@tecnico.ulisboa.pt, E-mail ²: teresa.heitor@tecnico.ulisboa.pt, E-mail³: ann.heylighen@kuleuven.be

Abstract

Microclimates within *loggia* spaces near public walkways and building entrances are potentially strategic for resilience to extreme weather conditions. However, the public *loggia* may also be a space of conflict of appropriation and vulnerability, resulting in obsolete voids problematic for buildings and cities. This raises questions about its morphology and essential requirements to improve its functional performance. Therefore, a transdisciplinary study based on qualitative research was developed combining spatial experiences of experts and users. The results suggest that a public *loggia* needs to consider local climate, social behaviour, usability, urban cleaning, visibility and connections, as far as possible, with the main urban walkways. The findings also suggest that the public *loggia* only contributes toward urban resilience if its architectural details approach affordances and diversity within its users.

Keywords: Climate Change; Inclusive Architecture; Public Health; Resilient Cities; Spatial Justice; Urban Loggia.

Manuscript ID: ICCAUA2023EN0082

Rural Vernacular Heritage and Strategic Design: Matmata as an Example of Sustainable Development

¹Dr. Houda Kohli Kallel, ²Dr. Soumaya Gharsallah
 Kairouan University, The Higher Institute of Arts and Crafts, Sidi Bouzid, Tunisia. ^{1&2}
 E-mail ¹: houdaakohli@gmail.com, E-mail ²: soumyagharsallah74@gmail.com

Abstract

This paper examines the sustainable design strategies of Matmata mountains' vernacular architecture. Hence, the small town is located in southeastern Tunisia and it represents a perfect example of the Berber architectural heritage, offering the opportunity to analyze and discuss the building strategies of the past which are still nowadays considered relevant. Hence, the great potential of this Berber originality manifests itself in the troglodytic (underground) architecture. This article aims to showcase Matmata's originality and to present the underground living as a cultural heritage recently witnessing a massive decline due to the socio-economic changes the region has undergone. The article also aims to depict the development of hotels. The initial phase of the research consists of an interpretation of the basic theoretical and methodological concepts of sustainable design. Then, we will introduce a geo-historical study of the region. Afterwards, an analytical study researching the troglodytic architecture of Matmata will take place.

Keywords: Matmata; Rural Vernacular Heritage; Troglodyte; Strategic Design; Integrated Tourism; Sustainable Development.

Manuscript ID: ICCAUA2023EN0101

Systematic Ecological Resilience Strategies & Practices in China's National Land Space

Dr. Chengcheng LIU
 School of Environmental Science and Engineering, Tianjin University, Tianjin, China
 E-mail: vcbd62cc@163.com

Abstract

In the context of global climate change and rapid urbanization, faced with a series of ecological degradation problems, the Chinese government has continuously deepened the strategic deployment of ecological restoration in the past 20 years, explored and promoted the transformation of ecological restoration from partial and single-factor restoration to comprehensive, multi-scale and multi-factor integrated protection and restoration and comprehensive management. China focus on measures in three aspects: first, control territorial ecological space, delineate and strictly observe the national ecological protection red line, and ensure and safeguard the national ecological security bottom line; Second, research and practice on the localization of Nature-based Solutions in China to strengthen the natural resilience of the ecosystem; Finally, a major ecological protection and restoration project integrating mountains, water, forests, fields, lakes, grass and sand has been implemented, and the function of ecosystem services has been gradually enhanced.

Keywords: Ecological Protection Red Line; NbS Localization; Systematic Resilience of Multi-Scale & Multi-Factor.

Manuscript ID: ICCAUA2023EN0389

Slum Upgrading of Bariga District Lagos: A Social Sustainability Approach In The African Context

* ¹M.A Ekeneme Williams , ² Dr. Abdulsalam Ibrahim Shema , ³ Dr. Hassina Nafa*Girne American University, Faculty of Architecture and Design, Girne, TRNC ¹**International University of East Africa. Kampala, Uganda ²**Girne American University, Faculty of Architecture and Design, Girne, TRNC ³**E-mail ¹: willsekeneme@gmail.com, E-mail ²: abduksalam.shema@iuea.ac.ug, E-mail ³: hnafa@gau.edu.tr*

Abstract

The issue of Slums is a problem that plagues many developing countries. This is especially evident in cities across Africa, where the proliferation of Slums poses a significant urban challenge. Slum upgrading as an approach, is the most common strategy adopted for tackling this problem. This paper examines social sustainability slum upgrading projects in Africa, and the effectiveness of one of such projects implemented in Bariga, a district in Lagos, Nigeria. The study employed a mixed methods research approach to collate and analyse qualitative primary and secondary data through semi-structured interviews, and a review of existing literature. The findings show that prioritizing social sustainability and direct community participation can lead to sustainable slum upgrading interventions. The paper seeks to contribute to the knowledge base on social sustainability in slum upgrading projects, and provide insights and recommendations to policy makers, researchers and practitioners working on slum upgrading projects in Africa.

Keywords: Slums; Slum Upgrading; Social Sustainability; Community Participation; Urban Development.

Manuscript ID: ICCAUA2023EN0121

The Role of The Indonesian Army in Fulfilling Low Income Housing Need: A Case Study of The Magelang City Scavenger Community with Bank Jateng's Corporate Social Responsibility

¹ B.E. Kun Arsanti Dewi, ² B.E, M.P.A, M.A Fitasari Ayu Wardani, ³ B.E. Nurul Aini Sinta Dewi, Prof, ⁴ Ph.D. Kun Harismah*Housing and Settlement Area Agency Magelang Municipality – Indonesia. ^{1,2 & 3}**Chemical Engineering Department, Universitas Muhammadiyah Surakarta ⁴**E-mail ¹: kun_arsanti@pns.magelangkota.go.id, E-mail ²: fitasari.aw@gmail.com, E-mail ³: daunhujan2020@gmail.com, E-mail ⁴: kh107@ums.ac.id*

Abstract

Overcoming the housing construction stagnation of the Gumuk Sepiring Scavenger Community in Magelang City - Indonesia for several years, Magelang Municipality as local government collaborated with the Indonesian Army for solving the construction process by utilizing Bank Jateng's Corporate Social Responsibility budget. This research was intended to find out the role of the Indonesian Army in giving assistance for the housing construction implementation, especially for Low-Income Community in Gumuk Sepiring. The research used qualitative research method with persuasive writing. This study found that the existence of the Indonesian Army accelerated the implementation of house construction with several actions and steps facing unplanned situation and difficult terrain. The Indonesian Army also established the unexplored skills of the scavenger community members. Therefore, the Indonesian Army existence will be able to fulfil Indonesian low-income community housing need.

Keywords: Indonesian Army; CSR - Corporate Social Responsibility; Low-Income Community; Scavenger Community; Housing.

Manuscript ID: ICCAUA2023EN0125

Transitions in the Rural Built Environment of India: A Case Study Approach

* ¹ Ph.D. Candidate **Vidya Debilal Patle**, ² Dr. **Avlokita Agrawal***Indian Institute of Technology Roorkee, Roorkee, Uttarakhand, India. ^{1&2}**E-mail ¹: vidyadpatle@gmail.com, E-mail ²: avlokita.agrawal@gmail.com*

Abstract

Rural India is rapidly transitioning to contemporary building materials. This transition is damaging rural India's culture, identity, and environmental sustainability. According to the Ministry of Rural Development, over 70% of targeted dwellings are completed under the housing scheme, which uses contemporary materials. However, houses not eligible for subsidies are also updating to contemporary construction, suggesting that schemes are not the only factor. Many factors, including social, environmental, economic, governance and policies, lead to this transition. These rural transformation factors have been explored globally, but in India, it is limited. Exploring the factors causing this transition can assist in developing solutions for conserving rural India's culture, identity, and sustainability. The author undertook a systematic documentary review of five villages in Maharashtra. Ban on forest commodities, availability of contemporary materials, occupation change, people's perception of houses, desire to modernize, and government subsidies are among the factors that lead to these transitions.

Keywords: Vernacular Architecture; Contemporary Construction; Transition Factors; Built Environment; Rural Transformation.

Manuscript ID: ICCAUA2023EN0130

Potentials of Constructing Sustainable Rammed Earth Buildings in Hot-Arid Regions: Structural and Environmental Challenges

¹ Dr. **Amer Al-Jokhadar**, ² M.Arch **Yasmine Soudi**, ³ Dr. **Yasser Abuhashem***Assistant Professor, Department of Architecture, University of Petra, Jordan. ¹**Lecturer, Department of Architecture, University of Petra, Jordan. ²**Assistant Professor, Department of Architecture, University of Petra, Jordan. ³*** Corresponding Author: P.O. Box: 961343, Amman 11196, Jordan. Email: amer.aljokhadar@uop.edu.jo*

Abstract

The continuous increasing in the price of cement is one of the major challenges facing the construction industry. Moreover, concrete mixtures are main sources of CO₂ emissions. On the other hand, rammed earth material could be a good alternative to reduce costs and amounts of emissions. In addition, it is appropriate to be used in hot-arid regions due to its thermal mass properties. Yet, such a material has limitations in terms of durability and strength. This research aims firstly to test the suitability of rammed earth as urban modern construction material, through examining characteristics and specifications of soil, sand, and other stabilizers to improve the resistance to frost attack and avoid deterioration. Secondly, to explore the efficiency in terms of indoor environmental conditions. The research was implemented by constructing an experimental building within a university campus in Jordan, to conclude the best solutions in terms of environmental and structural challenges.

Keywords: Rammed Earth; Stabilizer; Compressive Strength; Water Content; Sustainability; Thermal Comfort.

Manuscript ID: ICCAUA2023EN0138

Assessment of Spatial Sustainability of Settlement Layouts Prescribed in Vaastu Shastra Using Space Syntax

¹ M. Arch **Sandeep Kasina**, ² Dr. **Avlokita Agrawal***Department of Architecture and Planning, Indian Institute of Technology, Roorkee, Uttarakhand, India. ^{1&2}**E-mail ¹: sandeepkasina@gmail.com, E-mail ²: avlokita.agrawal@gmail.com*

Abstract

The concept of spatial sustainability focuses on the physical form of a city resulting from planning and development. Vaastu Shastra, the ancient Indian treatise on architecture, prescribes settlement planning concepts based on several layers of form, scale, mandala divisions, street patterns, sites' natural features, and inhabitants' zoning. These combinations result in thousands of layouts of different scales and shapes. The Space syntax approach is applied to quantitatively analyze and compare the spatial layouts of eight selected settlement types of similar scales prescribed in Vaastu Shastra. This syntactic approach critically analyzes the spatial configuration of these settlements to explore the interrelation of those ancient recommendations and contemporary theories of spatial sustainability. This assessment reveals the vital concepts underlying the planning of several cities of ancient India. At the same time, study promotes Vaastu Shastra's contemporary application for planning settlements of varied scales and presents it as a potent theory of planning.

Keywords: Vaastu Shastra; Settlement Planning; Street Patterns; Spatial Configuration; Spatial Sustainability; Space Syntax.

Manuscript ID: ICCAUA2023EN0148

Mixed Perspective Mixed-Income Housing in Nigeria and South Africa: A Comparative Literature Review

* ¹ Mr. **Temitope Olufolahan Olaniran**, ² Assoc. Prof. Dr. **Rokhsaneh Rahbarianyazd**
Durban University of Technology, Faculty of Engineering and the Built Environment, Durban, South Africa ¹
Faculty of Architecture, Department of Architecture, Alanya University, Turkey ²
E-mail ¹: TemitopeO@dut.ac.za, *E-mail* ²: Rokhsaneh.Rahbarianyazd@gmail.com

Abstract

Low-cost The importance of affordable housing worldwide cannot be over-emphasized as it forms part of the right to an adequate standard of living. With recent urbanization and demographic growth, there has been an increased need for affordable housing worldwide. Housing delivery remains a major challenge for both the government of Nigeria and South Africa. Although both governments have been involved in different initiatives and interventions aimed at providing succour to housing problems, the current state of housing particularly for low-income residents remains insufficient. Given the daunting task of delivering low-cost housing, research into various models of delivery and how this impacts the lives of citizens is crucial. One model that proposes to impact positively on sustainable housing development is the mixed-housing model. It aims to ensure affordability, social integration, and sustainability. In South Africa, this model is currently used in what is known as Mega-human settlements where the government provides housing for mixed-income groupings. This paper offers an extensive comparative literature review that explores mixed-income housing in Nigeria and South- Africa. It examines how mega-human settlements attempt to make more efficient and sustainable housing environments. The key findings reveal that mixed-income housing developments have been instrumental to a more sustainable approach to low-cost housing delivery, in the countries explored.

Keywords: Low-Cost Housing; Mixed-Income Housing; Sustainable Human Settlement; Nigeria; South Africa.

Manuscript ID: ICCAUA2023EN0170

Urban Livelihoods and Rural Landholdings: Inter-related Regional Labor and Land Markets in China

* Assistant Professor Dr. **Pu Hao**
Department of Geography, Hong Kong Baptist University, 15 Baptist University Road, Kowloon Tong, Hong Kong, China.
E-mail: ppuhao@hkbu.edu.hk

Abstract

Existing literature on China's social transformation has focused on the role of urban areas in driving rural citizens to move across the country and up the social ladder. Participation in the urban economy promotes social mobility, while rural landholdings are often expropriated at low compensation rates to provide a "hidden subsidy" for urban growth. Nevertheless, as investment capital frenetically acquires rural land for development and centralized agricultural production, rural communities are also motivated to capitalize on the potential of their landholdings. Against this backdrop, this research proposes a new conceptual framework to understand the mechanism of rural-urban migration and social mobility through the prism of rural landholdings. Urban opportunities and rural landholdings are treated as integral components of the complex process of transregional class formation and reproduction. Findings from this research inform sustainable urban development that better facilitates the inter-related nature of regional labor and land markets.

Keywords: Urbanization; Migration; Sustainable Urban Development; Livelihoods; Landholdings; Urban-Rural Divide.

Manuscript ID: ICCAUA2023EN0181

Reviving Surface Water Bodies with Ecological Resilience through Water-Sensitive Urban Design Approach: A Case of Rajshahi City, Bangladesh

*¹(Assistant Professor, MUD, B.Arch.) Md. Asaduzzaman, ² Prithwiraj Hore Durlav, ³ Mehnaz Khan*Department of Architecture, Rajshahi University of Engineering & Technology, Rajshahi, Bangladesh. ^{1,2&3}**E-mail ¹: asaduzzaman@arch.ruet.ac.bd, E-mail ²: prithwirajdurlav1609006@gmail.com, E-mail ³: mehnaz.khan.pia.arch@gmail.com*

Abstract

Ecological resilience is a measure of an ecosystem's ability to recover rapidly from disruption. Human interventions and urbanization dramatically affect surface water bodies over land, which are integral parts of the ecosystem. There were approximately 729 ponds and canals in 2002, but only 393 remain in 2011, which increases temperatures, water logging, and drought conditions. As pollutants enter water bodies through rainwater, they disrupt the ecosystem and ecology. This paper provides an overview of the research and implementation, focused on Water-Sensitive Urban Design toward ecological resilience. In line with the theory, the outcomes are impressive, and fruitful, in addition to improving ecological resilience. These can provide direction on future water body preservation process in city like Rajshahi due to climate change adaptation. As the method provides a relative assessment of resilience and makes some basic assumptions, additional research is needed to explore assessment methods that account for this effect.

Keywords: Water-Sensitive Urban Design; Ecological Resilience; Surface Pollutants; Climate Change; Rajshahi City.

Manuscript ID: ICCAUA2023EN0185

Socio-Spatial Inequalities in Algerian Cities: Guelma As a Case Study

¹MA. Mounira MIHOUBI; ²Pr. Kaddour BOUKHEMIS*8 Mai 1945 University, Faculty of Science and Technology, Department of Architecture, Guelma, Algeria ¹**Badji Mokhtar University, Faculty of Earth Sciences, Department of Land Use Planning, Annaba, Algeria ²**Research Laboratory "Architecture and Urbanism". ^{1&2}**E-mail ¹: mihoubi.mm@gmail.com, E-mail ²: boukhemisk@yahoo.com*

Abstract

Guelma, like a large majority of the Algerian cities, continues to experience a very high demographic growth, which results in a persistent housing crisis. To face this problem, new housing programs have been recommended and a new financing formula integrating the participation of society has been proposed. The concretization of these new policies has resulted in urban extensions towards the periphery of the city center and the creation of new urban neighborhoods with remarkable social inequality. The objective of this work is to analyze and measure the evolution of these inequalities from the 1990s to the present day, focusing on the new neighborhoods of the southern POS of the city of Guelma where the phenomenon observed is more obvious than in the inherited center.

Keywords: Socio-Spatial Inequalities; Urban Extensions; Socio-Spatial Structures; Urban Policy; Guelma.

Manuscript ID: ICCAUA2023EN0202

Collaborative Design for Resilient Kampong Upgrading: Evaluative Configurational Approach for Safe Emergency Evacuation in Urban Riverbank Kampongs of Yogyakarta, Indonesia

*¹ Ph.D. Candidate Irsyad Adhi Waskita Hutama, ² Dr. Hitoshi Nakamura*Graduate School of Engineering and Science, Shibaura Institute of Technology, Saitama, Japan ¹**Department of Planning, Architecture and Environmental System, Shibaura Institute of Technology, Saitama, Japan ²**E-mail ¹: na21101@shibaura-it.ac.jp, E-mail ²: nakamu-h@shibaura-it.ac.jp*

Abstract

In case of flood/lahar flood disasters in informal kampong (settlement) in Indonesia, emergency evacuation creates significant challenges owing to multiple risk factors from the informal built space and vulnerability of its populations. The objective of this paper is two-fold: first, to describe design and planning strategies for scenarios development of kampong upgrading plan by soliciting the stakeholders' vision and ideas. Second, the ex-ante evaluation of kampong's scenario plans by means of space syntax technique. We employed a collaborative design workshop with a map to harness knowledge related to design/planning ideas and as dialog to develop scenarios. Accordingly, four scenarios (baseline, disruptive event, and two proposals) were developed and supported with analytical evidence based on the space syntax and contextual narrative from the stakeholders. This research suggests that design workshop can effectively generate valid ideas and balance the stakeholder's interest to conceptualize the design/planning proposal. Additionally, collaborative workshop can bridge the power gaps among stakeholders to obtain design/planning consensus, and therefore, build a resilient and sustainable kampong.

Keywords: Emergency Resilience System; Kampong Upgrading Plan; Space Syntax; Collaborative Design Workshop; Scenario Planning; Emergency Evacuation Plan.

Manuscript ID: ICCAUA2023EN0217

Nigerian Worship Space Based on Religion Culture in North Cyprus

¹ Ph.D. Student **Nadereh Afzhoor**, ² Assist. Prof. Dr. **Huriye Gurdalli**

Near East University, Faculty of Architecture, Nicosia, Cyprus. ^{1&2}

Email¹: nadereh.afzool@gmail.com, Email²: huriye.gurdalli@neu.edu.tr

Abstract

Nigerians are greatly influenced by their cultural heritage, when Christianity came to Nigeria in 16th century continent some cultural practices like the use of herbs, African musical and instruments stopped and new religion culture took over in Nigeria which concern about simplistic in space and dance pray music mix with Christian religion till this moment. Frustration with the socio-economic conditions of the country, along with high unemployment rates, has increased emigration from Nigeria come to north Cyprus for education and have better life, most of Nigerians have strong religion believe so Nigerian follow their religion culture in north Cyprus. The aim of this paper is how Nigerian religion culture effect on worship space in north Cyprus. The study will be describing how Nigerian create worship space based on their culture. mythology compose mixed methods qualitative and quantities research and using observations, interviews with Nigerian who are members of the church and other data sources collected in the field.

Keywords: Nigerian; Religion Culture; Space; Worship.

Manuscript ID: ICCAUA2023EN0221

A Critical Review on the Effect of Gender on Architectural Spaces

* Assist. Prof. Dr. **Ayça Arslan**

Faculty of Architecture and Design, Usak University, Usak, Turkey

E-mail: ayca.arslan@usak.edu.tr

Abstract

This paper, mainly examines the effect of gender on architectural spaces with the case of collective houses, firstly appear in North European countries; Denmark, Sweden and North Germany through the history of architecture, around 18th and early 19th century. The main reasons for the birth of collective dwellings has been researched by Dune Vestbro and Dolares Hayden studies, which both academician indicated the necessity for collective dwellings came forward with the beginning of women to work in industry, and to create democracy inside the house for both women and man. The changes on social structures after industrial revolution, created a grand domestic revolution, as indicated by Dolares Hayden; at her book 'Grand Domestic Revolution' she especially expresses the functional changes in physical structures, was a result of to relocate domestic activities so as to free females from unpaid, household labor. Shared spaces created the main spatial revolution on domestic architecture at industrial revolution time.

Keywords: Collective Houses; Working Class Women; Gender & Space; Spatial Transformations.

Manuscript ID: ICCAUA2023EN0228

Evaluation of Existing Slum Dwellings in Urban Settings to Meet the UN SDG Goals

¹ B.Arch. **Omkar Gund**, ² Ar. **Manali Deshmukh**

SMEF's Brick school of Architecture, Pune, India

E-mail¹: omkargund81@gmail.com, E-mail²: manalideshmukh@brick.edu.in

Abstract

Over the past two decades, urban environmental quality has declined, and slums are seen as the primary concern. Despite numerous slum upgrading strategies to address urban poverty in developing countries, the issue is only projected to get worse. The lack of sustainable slum redevelopment guidelines in India is a policy gap that needs to be addressed. To make sure that the upcoming LIG housing stocks are sustainable, a logical design and planning approach is required to address climate change and the Sustainable Development Goals. This paper focuses on the study and analysis of existing slum dwellings and their living conditions, and from the observations of the study, it aims to propose recommendations for creating sustainable and sensitive redevelopment. As part of a new approach for slum upgrading projects to meet SDG objectives, it will also investigate the criteria required to construct climate-responsive urban dwellings that are closer to Net-Zero Buildings.

Keywords: Sustainable Development; Slum Redevelopment; UN SDG; Climate Responsive; Urbanization.

Manuscript ID: ICCAUA2023EN0233

Prospects for Introducing Medium-Density Row Housing in Jeddah City

Assistant Professor. **Ayad Khalid Almaimani**

*Department of Architecture, Faculty of Architecture and Planning, King Abdulaziz University, Jeddah, Kingdom of Saudi Arabia
E-mail: ealmaimani@kau.edu.sa*

Abstract

Architectural researchers ensure that residential buildings in any area are appropriately planned for the landscape and meet the needs of current and future residents. Row houses are well known in residential sectors of the United States and many European countries, but the data on row housing in Saudi Arabia is very limited. As residential structures, row houses are reasonably priced and architecturally resilient. They also fill the affordable housing gap for middle-class residents – sometimes called the “missing middle” – in major urban centers such as Jeddah. Like other cities of its size, Jeddah has been slow to adopt medium-density residential structures. This research evaluates the Jeddah community’s likelihood of accepting row housing, surveying a cross-section of residents seeking housing options other than the apartments currently available. Our questionnaire investigated variables such as gender, age group awareness, house size, architectural functional features, preferable cost, and other considerations. The data and resulting analysis concluded that more than 90% of the respondents would prefer row houses to current options as their primary housing choice.

Keywords: Row Houses, Jeddah Residential Types, Affordable Houses, Medium-Density Housing Types.

Manuscript ID: ICCAUA2023EN0235

The Enhancement of Resilience Built Environment Using Human Social Capital: Post Covid-19 Recovery

*¹ Assist. Professor **Oluwagbemiga Paul Agboola**, ² Assoc. Prof. Dr. **Hourakhsh Ahmad Nia**

Department of Architecture, Faculty of Architecture and Engineering, Istanbul Gelisim University, Istanbul, 34310, Turkey. ¹

Faculty of Architecture, Department of Architecture, Alanya University, Türkiye ²

E-mail ¹: opagboola@gelisim.edu.tr, E-mail ²: hourakhsh_ahmadnia@yahoo.com

Abstract

There are strong indications that the built environment intertwines consistently with the advent of COVID-19 and the need for post-disaster recovery. Efforts to combat the menace call for an integrated human social capital index; which little research has adopted over the years in the framework of people and place study in Nigeria's context. This study proposes a framework examining the impact of a resilient built environment in the wake of the Covid-19 pandemic. Multivariate data analysis of AMOS software was used to analyze and test the research hypotheses proposal; while a confirmatory factor analysis was used to evaluate the reliability and validity of each construct in the model. This study reveals that built environment capitals, disaster management indices, and awareness on the Covid-19 have indirect effects on Covid-19 pandemic indices through Human social capital. The implication of the study is useful for Post-Covid 19 recovery; which is important for future planning of the built environment in Nigeria.

Keywords: Human Social Capital; Resilience Built Environment; Covid-19 Pandemic; Disaster Management, Structural Equation Modelling, Nigeria.

Manuscript ID: ICCAUA2023EN0244

For a Sustainable Use of Agricultural Land in Constantine (Algeria)

¹ Dr. **Sami Debbabi**, ² Dr. **Besma Bouteche**

Centre de Recherche en Aménagement du Territoire, Constantine, Algeria. ¹ & ²

E-mail ¹: debbabi.sami@yahoo.com, E-mail ²: besma_bouteche@yahoo.fr

Abstract

Constantine’s urbanization is a two-faced issue. In addition to its rapid and uncontrolled nature, the city's expansion boundaries lie entirely within the agricultural territory of the valleys of Oued El Rhumel and Oued Boumerzoug. These agricultural lands have unfortunately attracted large-scale housing, infrastructure, amenities, and services projects because of their favorable and inexpensive geological nature for urbanization. This contribution aims to assess the damage done to the region's agricultural heritage from the end of the 1980s to the year 2021, as well as the future urban development projections for the years 2030 to 2040 for a sustainable use of lands. The chosen approach entails conducting a spatiotemporal analysis of the phenomenon of urban sprawl on agricultural land using the DPSIR framework. The findings demonstrate that between 1985 and 2020, approximately 22 000 hectares of the total agricultural land were lost throughout the study area, of which approximately 50% were affected by urbanization.

Keywords: Agricultural Lands; Urbanization; Urban Sprawl; Sustainable Use.

Manuscript ID: ICCAUA2023EN0279

Cooperative Co-housing to Promote Healthy and Accompanied Ageing in Place (Co-aging). Case studies of Architectural Viability in Obsolete Neighbourhoods in Seville and Malaga

¹ Professor Dr. **Francisco-Javier Castellano-Pulido**, ² Professor Dr. **Eva Morales-Soler**, ³ Professor Dr. **Jorge Minguet-Medina**, ⁴ Professor Dr. **Carlos Rosa-Jimenez**

Institute for Habitat, Tourism, Territory, Edificio Ada Byron, Campus de Teatinos, 29071, University of Malaga, Malaga, Spain.^{1,3&4}

Department of Art and Architecture. Technical High School of Architecture. University of Málaga ^{1,2,3&4}

E-mail ¹: javiercastellano@uma.es, E-mail ²: evamorsol@uma.es, E-mail ³: jminguet@uma.es, E-mail ⁴: cjrosa@uma.es

Abstract

Spain is facing a progressive aging of its population and the inversion of its population pyramid, also inverting the income/expense balance of the Estate, and reducing its agency to control the housing market by construction. Our transdisciplinary project proposes cooperative co-housing ways of living inside the existing housing stock of obsolete and aged neighborhoods in both Seville and Málaga (south Spain). Re-densifying by sharing the use of obsolete too-big family houses, while renting the others, will provide a solution to the problems of both unwanted loneliness, active and financially independent aging, while increasing and re-activating the housing rental stock. By combining the results of focal meetings realized with inhabitants of the case study neighborhoods, and the analysis of the specific housing units via several teaching projects at different pre- and post-graduate levels and authors' design studies, we will test the architectural viability of our project by providing specific on-site solutions to the study cases.

Keywords: Architectural Design; Rental Stock; Co-living; Healthy Aging; Obsolete Neighborhoods.

Manuscript ID: ICCAUA2023EN0292

Vernacular Architecture in México: The Blue Corn Research Center in Michoacán

¹ Ph.D. Professor Dr. **Sindy Melissa Godínez De León**, ² BSc Research Assistant **Ivana Edith Zapata Castañeda**, ³ BSc Research Assistant **Lucero Alejandra Alvarez**

School of Architecture and Habitat Science, Universidad de Monterrey, Nuevo León, México. ^{1,2&3}

E-mail ¹: sindy.godinez@udem.edu, E-mail ²: ivana.zapata@udem.edu, E-mail ³: lucero.alvarez@udem.edu

Abstract

Currently, in Mexico, a large part of the population is still engaged in primary activities such as agriculture. That's why government and academic institutions have focused on encouraging the improvement and optimization of the farming of basic grains through research and technology. This work aimed to propose a building based on the Mexican vernacular architecture of Michoacán using local materials. The architectural project used the scientific method of analyzing socio-economic indicators, territory, and cultural conditions. As a result, we got a building that promotes the increase in the production of blue corn and solves part of the student lag in the rural area of Michoacán. The building contemplates open access for people of the surrounding towns through community use. Its design applies passive thermal control strategies. The project is a connection between local agricultural customs and the field of research.

Keywords: Mexican Contemporary Architecture; Vernacular Architecture; Research Center; Blue Corn Institute; Educational Architecture.

Manuscript ID: ICCAUA2023EN0294

Exploring Covid-19 Research in the Built Environment Literature: A Bibliometric Analysis

*Dr. Evren ÜLKERYILDIZ

*Akdeniz University, Faculty of Architecture, Department of Architecture, Antalya, Turkey**E-mail: evrenulkeryildizakdeniz@gmail.com*

Abstract

The disaster of "Covid-19 pandemic" which has been introducing various radical changes on the life style of people such as (1) the usage of urban spaces, (2) spatial problems, (3) the transformation of shared spaces and (4) working practices. These radical changes have been receiving an overwhelming interest from scholars from various disciplines since SARS-CoV-2 corona (i.e., Covid 19) virus set a global pandemic. As a result of this overwhelming interest, a rich but a fragment literature prevails on the radical changes caused by Covid 19 pandemic in built environment studies. The research presented herein explores this rich but fragmented literature on the effects of Covid-19 pandemic by adopting a systematic research design strategy namely bibliometric analysis. Bibliometric analysis is a research approach which enables to scholars to map the evolution of a concept, a research theme, a research stream or domain. It uses scholarly data to identify the publication patterns based on authors, research subjects, keywords, geographic locations, time and source type. A bibliometric analysis of the concept of Covid-19 pandemic presented herein is a timely response to the maturity level the research on the radical changes caused by Covid 19 evolved. The research presented herein offers bibliometric analysis of built environment studies on the disaster of Covid-19 based on 843 scholarly papers published between years 2020 and 2022. The research results reveal that the most commonly used research keywords or subject terms used in these scholarly published scholarly papers include epidemiology, risk assessment, aesthetic values, human activity, construction projects. It is also observed that research studies predominantly driven by two countries namely US and China. The results of bibliometric analysis also reveal that the main theme of the radical changes caused by Covid-19 pandemic includes housing, spatial, reorganization, neighborhood issues, city planning, and sustainable development and working practices. It is also discovered that the spatial reorganization response of countries to Covid 19 pandemic to varies from country to country mainly due to the regional characteristics of the countries.

Keywords: Covid-19; Pandemic; Spatial Reorganization; Working Conditions Bibliometric Analysis.

Manuscript ID: ICCAUA2023EN0296

A Methodology to Assess the Capacity of Neighborhoods to Accommodate Models of Active Aging Based on Sharing Housing. Málaga (Spain) as a Study Case

¹ Dr. Carlos Rosa-Jiménez, ² Dr. Sergio Reyes-Corredera, ³ Dr., Rubén Mora-Esteban*Institute for Habitat, Tourism, Territory, Edificio Ada Byron, Campus de Teatinos, 29071, University of Malaga, Malaga, Spain.^{1 & 3}**Geographical Analysis Research Group, Department of Geography, University of Malaga, Malaga.²**E-mail ¹: cjrosa@uma.es, E-mail ²: sergioreyes@uma.es, E-mail ³: rubenmora@uma.es*

Abstract

The aging of the world population, especially in Europe, and the increase in the longevity of the elderly pose a major challenge in the habitability of cities. Neighborhoods for active aging constitute socio-spatial and social relation units that are the basis of active aging in the place. Recent literature has analyzed the ideal conditions of neighborhoods and the criteria for selecting homes for the residence of the elderly, but there is a significant lack of studies that analyze the theoretical capacity of neighborhoods to accommodate coexistence initiatives among older people on a city scale. The research selects quantifiable variables and, through the use of GIS, determines the most appropriate areas of Malaga (Spain), as a case study, to promote models of coexistence based on sharing housing. The investigation concludes that the first peripheries in flat areas are the most propitious spaces. The paper concludes by discussing the keys to research that can influence public policies.

Keywords: Active Aging; Neighborhood; Ageing in Place; GIS; Healthy Cities.

Manuscript ID: ICCAUA2023EN0310

The Housing Archetype in the Work of Paulo Mendes da Rocha

Architect **Sebastian Larriva Novo***Universidad del Azuay, Facultad de Arquitectura Diseño y Arte, Cuenca, Ecuador**E-mail: sebastianlarrivanovo@gmail.com*

Abstract

Paulo Mendes da Rocha is a recognized Brazilian architect and winner of the Pritzker Prize in 2006. Throughout his career, he has carried out numerous works of different scales and programs, including single-family homes, residential developments, and social housing projects. Within his work, especially that of a residential nature, the frequency of certain design decisions is evident, both functional, constructive, and expressive. This reoccurrence of characteristics could be described as an archetype of residential spaces. Through a comparative process of 3 houses from different periods, it is intended to deduce what is the archetype of Mendes da Rocha's housing. A free and elevated floor plan above the sidewalk level, continuous rooms that share service cores, walls that do not completely enclose spaces are some of the characteristics that define the archetype of Mendes da Rocha's housing. Deciphering this archetype allows for a better understanding of the architect's influence within Brazilian modern architecture.

Keywords: Architectural History; Brazilian Architecture; Modern Architecture.

Manuscript ID: ICCAUA2023EN0319

Application of Rural Land Management Instruments in Ecuador's Territorial Planning

* **Fernando Zhunio C.***Graduate Center, Faculty of Architecture. University of Cuenca, Cuenca, Ecuador.**E-mail: fernandoz76@yahoo.com*

Abstract

The management of rural land has been the subject of scarce and confusing treatment in the legal regulations and instruments of territorial planning of Ecuador, the advances of proposals have prioritized the urban. The problems inherent to the rural environment such as the high concentration of agricultural property, informality in land tenure, implementation of activities incompatible with the physical environment, affectation to natural resources, merit the deepening of the analysis of management tools applicable to rurality. A comparative analysis of the management instruments proposed in three cantonal land use and management plans was carried out, their concordance with the critical problems of rural land detected in the Development and Land Use Plans. The revised proposals address with emphasis instruments established in the current Land Use Law, which are more applicable to urban areas, and do not specify instruments for the rural territorial problems identified.

Keywords: Management Instruments; Rural Land; Rural Development.

Manuscript ID: ICCAUA2023EN0329

Multi-Purpose Plants of Essential Oils in Residential Gardens

¹ Prof. Dr. **Kun Harismah**, ² B.E. **Kun Arsanti Dewi**, ³ Assist. Prof. Dr. **Mahmoud Mirzaei**, ⁴ Assoc. Prof. Dr. **Necmi Beser***Chemical Engineering Department, Universitas Muhammadiyah Surakarta, Surakarta, Indonesia¹**Housing and Settlement Area Agency Magelang Municipality, Magelang, Indonesia²**Laboratory of Molecular Computations (LMC), Department of Natural and Mathematical Sciences, Faculty of Engineering,**Tarsus University, Tarsus, Turkiye³**Trakya University, Engineering Faculty, Department of Genetics and Bioengineering, Prof. Dr. Ahmet Karadeniz Campus, Edirne-Türkiye⁴**E-mail¹: kh107@ums.ac.id, E-mail²: kun_arsanti@pns.magelangkota.go.id, E-mail³: mirzaei.res@gmail.com,**E-mail⁴: necmibeser@trakya.edu.tr*

Abstract:

Plants have many benefits both aesthetically and healthfully. One type of plant that can be used in residential gardens is essential oil-producing plants. The content of chemical compounds in various types of essential oils have been known to have various bioactivities as well as other miscellaneous activities. This study aims to identify the role of essential oil plants in providing benefits to the environment. This study uses qualitative research methods with persuasive writing. The results of this study found that some essential oil plants include *Rosmarinus officinalis*, *Ocimum basilicum*, *Mentha arvensis*, *Mentha piperita*, *Foeniculum vulgare*, *Cymbopogon nardus*, *Cymbopogon citratus*, and *Cosmos caudatus*. The role of essential oil plants are antiinflammatory, flavoring, fragrance, fungitoxicity, antimicrobial, fertilizer, antidiabetic, antihypertensive, repellents, and biopesticides. In addition, essential oil plants can also be used as salad vegetables and herbs. Therefore, essential oil plants have enormous potential to be developed as multi-purpose plants for residential environments.

Keywords: Bioactivity, Chemical Compound, Essential Oils; Residential Gardens.

Manuscript ID: ICCAUA2023EN0334

Are Malaysian Young Professionals in the Urban Area Making a Housing Decision toward Sustainability?

*¹Dr. Nor Suzylah Sohaimi, ²Dr. Syafiee Shuid*Department of Planning and Property Development, School of Government, Universiti Utara Malaysia ¹**Kulliyah of Architecture and Environmental Design, International Islamic University Malaysia ²**E-mail ¹: suzysuhaimi@uum.edu.my, E-mail ²: ssyafiee@iiu.edu.my*

Abstract

The price of housing supply and demand is mismatch in Malaysia, roughly house priced MYR 250,000 desired but the bulk of newly launched approximately MYR 500,000 and above. This situation root to the affordability and residential oversupply issues, as bountiful of house buyers cannot afford to buy a house and in turn caused most houses priced MYR 500,00 and above are overhang. These issues have an impact on achieving the sustainable development goals (SDGs). The aim of the study is to explore housing decision amongst young professionals. Key factors influencing housing decision often associated with economic aspect in term of housing affordability, yet social and environment aspects will not be being evaded as result of this study. The study results were obtained through mixed method with applied embedded design as the data were concurrently obtained and triangulated during the interpretation process.

Keywords: Sustainability; Sustainable Affordable Housing; Housing Decision; Housing Affordable; Young.

Manuscript ID: ICCAUA2023EN0349

Examining the Role of New Urban Communities in Redistributing Population: Empirical Evidence from Egypt

¹M.A Candidate. Mohamed Khaled Kadry, ²Dr. Husam Riyad Husain, ³Professor Dr. José Manuel Pagés Madrigal*Architecture and Urban Design Program, German University in Cairo, Egypt. ^{1&2}**Faculty of Engineering, the International University of East Africa ³**E-mail ¹: lixxke@hotmail.com, E-mail ²: H.rhm@outlook.com, E-mail ³: jose.madrigal@iuea.ac.ug*

Abstract

Previous studies on developing New Urban Communities (NUCs) examined selected case studies from one perspective, such as housing affordability, sustainability, and development policies, using qualitative data and map analysis. This study provides an additional participatory dimension. It aims to provide quantitative evidence from the viewpoints of residents and non-residents of the New Urban Communities in Egypt to bridge the gap in the strategic approach to developing new areas. The study analyses the quality of life, independence, attractiveness, and satisfaction in the NUCs based on a sample of more than six hundred respondents in October 2022. The results show that although the priorities of residents and non-residents in developing the New Urban Communities differed, they realized that the NUCs are less effective in solving the problem of overpopulation in big cities, leading to a lower overall quality of life. The study concludes with recommendations and legislation to strategically improve the population distribution in the NUCs while keeping expectations and standards as high as possible.

Keywords: Attraction and Satisfaction; Egypt; Independency; New Urban Communities; Quality of Life; Quantitative Analysis; Residence and Non-Residence.

Manuscript ID: ICCAUA2023EN0353

A Study on Female Accessibility and Prayer Space in the Mosque Architecture of Bangladesh: A Case Study near Kafrul, Dhaka

¹Asst. Prof. MUD Kashfia Alam Khan, ²Assoc. Prof. Dr. Hourakhsh Ahmad Nia*Primeasia University, Department of Architecture Dhaka, Bangladesh. ¹**Faculty of Architecture, Department of Architecture, Alanya University, Türkiye. ²**E-mail ¹: kash_fj@yahoo.com, Email ²: hourakhsh_ahmadnia@yahoo.com*

Abstract

The female prayer space in the mosques of Bangladesh is a bit different from what has been actually narrated in the hadith for women's prayer space at mosque. Women here are not socially allowed to enter the mosque unless there is a separate allotted prayer space for them. This paper is aimed to represent the status of female prayer space in the mosques of Dhaka, the capital city of Bangladesh. Sample mosques were selected within the walkable distance from a randomly chosen central residential area of Kafrul Thana. Data collection method includes Non-participant Complete Observation for the study of the cases. The research outcome shows none of the community mosques allow or have any separate space for women. A mosque containing a separate female zone located at the nearby cantonment area was also featured to represent the characteristics of female accessibility in a mosque where it is available.

Keywords: Architectural Design; Community Mosque; Islamic Prayer Space; Female Prayer Space.

Manuscript ID: ICCAUA2023EN0357

Public Housing Project Delivery in Nigeria: Quality vs. Quantity

*¹ Dr. Oluwafemi Kehinde AKANDE, ² MSc. Lilian Chioma OBI-GEORGE, ³ MTech Jonam Jacob LEMBI
 MTech Ibrahim Adamu UMAR⁴, MSc Amos Musa TARNIA⁵, MSc Adanna Joy NWOKORIE⁶ and MTech Paul Haruna BABA⁷
 Department of Architecture, Federal University of Technology, Minna, Nigeria. ^{1, 2, 3, 4 & 7}
 Department of Architecture, University of Jos, Nigeria ⁵
 Department of Architecture, Federal Polytechnic, Nekede, Owerri, Nigeria ⁶
 E-mail ¹: akande.femi@futminna.edu.ng, E-mail ²: e.chioma@futminna.edu.ng, E-mail ³: j.lambi@futminna.edu.ng
 E-mail ⁴: umar.adamu@futminna.edu.ng, E-mail ⁵: tarnia@unijos.edu.ng, E-mail ⁶: anwokorie@fpno.edu.ng,
 E-mail ⁷: pbharuna@futminna.edu.ng

Abstract

The arrival of COVID-19 and its effects have changed how people view the supply of high-quality housing. Nigeria, the most populous nation in sub-Saharan Africa, has a teeming and expanding population, and in an effort to meet their housing needs, significant emphasis has been placed on housing quantity at the expense of housing quality. This study investigates the interplay of factors affecting the completion of high-quality public housing projects in Nigeria. A questionnaire survey (n = 351) construction industry professionals as the sample size was used to obtain quantitative data. The findings emphasise three issues that must be addressed in order to create high-quality housing: the requirement for sufficient project financing, the evaluation of suitable building materials, and the requirement for project management expertise. The study's conclusion highlights the significance of factors like using high-quality materials and involving stakeholders in the delivery of livable public housing in Nigeria.

Keywords: Public Housing; Housing Quality; Livable Housing; Nigeria.

Manuscript ID: ICCAUA2023EN0361

The Interplay between Spatial Justice and Housing Prices

¹ Dr. Arlinda Hajzeri, ² Dr. Visar Hoxha
 Politecnico di Milano, Milano, Italy ¹
 College ESLG, Prishtina, Kosovo ²
 E-mail ¹: arlinda.hajzeri@polimi.it, E-mail ²: visarhoxha@eukos.org

Abstract

The issue of spatial justice and housing prices are closely intertwined and have significant implications for individuals, communities, and society. Throughout Europe, much research and debate has been dedicated to understanding the relationship between these two concepts as policymakers, researchers, and advocates seek to address spatial inequality and injustice. This paper specifically investigates the interplay between spatial justice and housing prices in Prishtina, Kosovo, utilizing regression analysis to examine the relationship between apartment prices and various spatial justice variables. The study's findings indicate that socio-economic status and access to emergency services are the most significant predictors of apartment prices in Prishtina. Additionally, access to transportation and ambulance services were found to have a significant impact on apartment prices, emphasizing the importance of public services when addressing housing affordability and accessibility. The complexity of the relationship between housing prices and spatial justice is underscored, highlighting the need for policymakers and urban planners to consider multiple factors when addressing housing affordability and accessibility. This study provides valuable contributions to the literature on housing prices and spatial justice by examining the relationship between various spatial justice variables and housing prices in Prishtina, Kosovo. The findings have important implications for both research and practice, with the potential to inform policies aimed at promoting spatial justice, reducing housing inequality, and enhancing the value of housing. Policymakers and urban planners can use these findings to inform decisions regarding urban development, housing policies, and the provision of public services aimed at promoting spatial justice and enhancing housing affordability and accessibility. Further research is necessary to gain a better understanding of the complex relationship between housing prices and various spatial justice variables in different geographical areas.

Keywords: Spatial Justice; Housing Prices; Policy; Urban Development; Quality of Life.

Manuscript ID: ICCAUA2023EN0370

The safety Dilemma of Gated Communities in Turkey: How Borders Threaten Safe Space Formation in Neighbourhoods

Assoc. Prof. Dr. **Hatice Kalfaoğlu Hatipoğlu**
Ankara Yıldırım Beyazıt University Faculty of Architecture and Fine Arts, Ankara, Turkey
E-mail: hhatipoglu@aybu.edu.tr

Abstract

The production of safe spaces in neighborhood areas is a challenge for the rapid urbanization in Turkey. The way of providing safety in housing areas has been ensured in the form of designing gated communities as clusters. However, it is possible to promote defensible spaces with the design of an urban form which increases users' impact area and sense of belonging. The urban tissue of neighborhoods in Turkey, before the transition to gated communities, has already had these characteristics by having the spatial configuration of neighborhood phenomenon. This study aims to emphasize the possibility of creating defensible spaces with planning and reveal design principles by reviewing the literature. Moreover, the study conducts a critical approach to gated communities segregated from urban tissue in terms of relationship of safety and their spatial design following the reviewed design principles.

Keywords: Gated Communities; Neighbourhood; Defensible Space; Urban Design.

Manuscript ID: ICCAUA2023EN0372

TOKİ and REITs: Dominating Housing Actors in Türkiye and their Design Approaches

¹MArch. Stu. **Hale DEMIRCI**, ² Professor Dr. **Rengin ZENGEL**
Dokuz Eylül University, Faculty of Architecture, Izmir, Türkiye. ^{1&2}
E-mail¹: haledemirci@ymail.com, E-mail ²: rengin.zengel@deu.edu.tr

Abstract

In Türkiye, after 1950's accessible housing started to emerge as a problem and in years slum areas created a necessity for urban transformation. In addition; global wars and other natural disasters has been playing important role in Türkiye's housing market. When it comes to mass housing production for alternative income groups in Türkiye; two big parties are TOKİ and REITs in means of economic power. As a governmental agency TOKİ is responsible for large-scale housing projects to provide affordable housing and their design approach prioritizes functionality, with an emphasis on meeting the basic needs. On the other hand, REITs aim in housing market is to generate income for investors and their design approach focuses on enhancing the value of the property thru prioritizing aesthetics and amenities that appeal to buyers. The result of the comparison between TOKİ and REITs design approach is also different in social and psychological dimensions.

Keywords: Architectural Design; Mass Housing Production; TOKİ; REITs; Türkiye.

Manuscript ID: ICCAUA2023EN0383

Designing for Disaster Preparedness: Resilient Guidelines for a Smart Archive-Building of a Turkish Bank

¹ M.A. **Birgül Begen**, ^{*2} Assoc. Prof. **Suzan Girginkaya Akdağ**
Sigma Mühendislik, Istanbul, Turkey ¹
Bahçeşehir University, Faculty of Architecture and Design, Istanbul, Turkey ²
E-mail ¹: birgulbegen@sigmamuhendislik.com.tr, E-mail ²: suzan.girginkayaakdag@bau.edu.tr

Abstract

In the face of disaster risks, this paper aims to discuss the role of design in disaster preparedness and examine the resilient design guidelines developed for the new archive-building of a Turkish bank. Despite the dilemma between the past and the future, between the printed and the digital, and between the conventional and the contemporary, the new archive design explores the boundaries of design and technology. As a smart building, it integrates automation and security systems that allow archiving with maximum limits, while maintaining the overall organization and actions with minimum personnel. Besides sustainable and low-consumption solutions, the nature and confidentiality of documents in the archive require preparedness for natural and man-made disasters, such as earthquakes, fires, and sabotage. Therefore, the original solutions developed in terms of location, materials, structure, accessibility, building systems, and community resilience criteria are explained in the context of disaster management strategies in architecture.

Keywords: Resilient Design; Disaster Preparedness; Smart Building Automation; Building System Solutions.

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Enhancing and Upgrading the Housing Camps and Settlements in the north of Syria

* ¹Dr. **Avin Ahmad Osman**, ² Arc. **Zeyna Alan**

Nawroz University, Faculty of Architecture, Duhok, Kurdistan Region, Iraq ¹

Kadir has university, Faculty of Architecture, Istanbul, Turkey ²

E-mail ¹:architectavin@gmail.com , E-mail ²:zeynaalan97@gmail.com

Abstract

The conflict in Syria has been described as the largest humanitarian crisis to date. The paper highlights the evolution of the project to establish settlements for those affected by war, earthquakes, and natural disasters in the north of Syria. This paper presents by tracking the efforts to enhance and upgrade the planned humanitarian housing camps or settlements in the north of Syria, particularly emphasizing the Molham Project. Examining the experiences and outcomes of the Molham Team investigates the strategies implemented by the Molham Project to address the challenges faced by housing camps in the north of Syria. The questions raised by this paper:

1. Are these settlements temporary, or Permanent, who and how can you determine that?
2. What are the design standards, urban controls, and human requirements, and are they applied during the construction of the conflict in Syria? It has been described as the largest humanitarian crisis to date.

Keywords: Upgrading; Humanitarian Camp and Settlement; construction; Policy Recommendations.

The Evolution of Human Habitat in the Context of Historical Turning Points and Crises

* ¹R.A. Taha Dutođlu, ²Assoc. Prof. Dr. Esin Özlem Aktuđlu Aktan
Yıldız Technical University, Faculty of Architecture, Istanbul, Turkey. ^{1&2}
E-mail ¹: taha.dutoglu@hotmail.com, E-mail ²: esinaktan@hotmail.com

Abstract

As a concept that has been constantly evolving since the first moment humanity acquired a permanent residence, human habitat has undergone significant transformations at turning points in the historical process and moments of crisis when the system was blocked. It has also triggered some changes in its environment. The aim of this study is to analyze the evolution of daily life during the three major milestones (Agricultural Revolution, Industrial Revolution, Information Revolution) when many social, cultural and economic consequences occur, and during crises (epidemics, mass wars) that interrupt all vital activities. It is also to discuss the spatial consequences of this evolution. In addition to daily life, the physiological conditions and needs of individuals are also revealed as important factors in the formation of a dwelling culture. The comparative historical methodology based on breaking points has been used in order to handle the research topic covering a wide period of time as a systematic process analysis. As a result of the research, it has been determined that the evolution of spaces, in particular, does not progress in a positive direction, and the changes that will be caused by the current parameters are also evaluated in this direction.

Keywords: Evolution of Human Habitats; Historical Turning Points; Crises; Life Practices.

Tarihsel Dönüm Noktaları ve Krizler Bağlamında Barınmanın Evrimi

Özet

İnsanlığın kalıcı bir ikamet edindiđi ilk andan bu yana sürekli evrilen bir kavram olarak barınma, tarihsel süreçte yaşanmış dönüm noktalarında ve sistemin tıkanıđı kriz anlarında önemli dönüşümler geçirmiş; yakın çevresinde de birtakım deđişimleri tetiklemiştir. Bu çalışmanın amacı; sosyal, kültürel ve ekonomik çok sayıda sonucun meydana geldiđi üç büyük dönüm noktasında (Tarım Devrimi, Sanayi Devrimi, Bilişim Devrimi) ve yaşamsal tüm aktiviteleri kesintiye uğratan krizler (salgın hastalıklar, kitlesel savaşlar) sırasında gündelik hayatın yaşadığı evrimi analiz etmek ve bu evrimin mekânsal sonuçlarını tartışmaktır. Gündelik hayatın yanı sıra, bireylerin içinde buldukları fizyolojik durum ve gereksinimler de barınma kültürünün inşasında önemli etmenler olarak ortaya koyulmaktadır. Geniş bir zaman dilimini kapsayan araştırma konusunu sistematik bir süreç çözümü olarak ele alabilmek için kırılma noktalarını temel alan, karşılaştırmalı tarihsel yöntem kullanılmıştır. Araştırma sonucunda, özellikle mekânların evrimi sürecinin sürekli pozitif bir yönde ilerlemediđi tespit edilmiş ve güncel parametrelerin neden olacağı deđişimler de bu yönde değerlendirilmiştir.

Anahtar Kelimeler: Barınmanın Evrimi; Tarihsel Dönüm Noktaları; Krizler; Yaşam Pratikleri.

BOOK OF ABSTRACTS

ICCAUA-2023

SESSION E: Civil Engineering

Session Chairs:

Dr. Maryam Iranfar
Dr. Marilisa Botte
Dr. Abdelbaki Benmounah

Manuscript ID: ICCAUA2023EN0017

Non- and Semi-Destructive Assessment Methods Used in Croatia After Recent Earthquakes

¹ Ph.D. Candidate **Luka Lulić**, ² M.A. **Ana Sušilović**, ³ Dr. **Mislav Stepinac**
Faculty of Civil Engineering, University of Zagreb, Croatia. ^{1, 2 & 3}

E-mail ¹: luka.lulic@grad.unizg.hr, E-mail ²: anasusilovic36@gmail.com, E-mail ³: mislav.stepinac@grad.unizg.hr

Abstract

In recent years countries around the world had devastating consequences due to seismic events. Among them is Croatia, which was hit by strong earthquakes in 2020. After the rapid assessments which determined whether it was safe to stay in the damaged buildings, it was time for more detailed assessments. Depending on the target level of reconstruction, different approaches were used; from simple calculations and purely visual inspections for lower levels to more complex numerical models and design methods accompanied by in-situ tests for higher levels. The paper lists the most common non-destructive (NDT) and semi-destructive (SDT) methods used in post-earthquake assessment in Croatia. They are described and supplemented with photos and test results from real case studies. The pros and cons of the mentioned methods are also presented. Finally, conclusions are drawn and recommendations are made for an adequate and effective combination of various in-situ tests for post-earthquake assessment.

Keywords: Existing Structures; Croatia; Earthquake; NDT; SDT.

Manuscript ID: ICCAUA2023EN0040

Modelling and Analysis of Virtual Coupling for Increasing Service Performance in the Case of Single-Track Rail Lines

^{*1} Professor Dr. **Marilisa Botte**, ² Dr. **Costantino La Selva**, ³ Dr. **Mario D'Avino**, ⁴ Dr. **Sebastiano D'Avanzo**, ⁵ Professor Dr. **Luca D'Acerno**
Federico II University of Naples, Department of Architecture, Naples, Italy ¹

Federico II University of Naples, Department of Civil, Architectural and Environmental Engineering, Naples, Italy ^{2 & 5}
Ente Autonomo Volturno S.R.L., Naples, Italy ^{3 & 4}

E-mail ¹: marilisa.botte@unina.it, E-mail ²: costantino94laselva@gmail.com, E-mail ³: m.davino@eavsrl.it, E-mail ⁴: s.davanzo@eavsrl.it, E-mail ⁵: luca.dacerno@unina.it

Abstract

Smart and green mobility systems are key factors for the sustainability of our cities which are experiencing increasingly growing density conditions. The goal is to make public and sharing transport systems more attractive than private vehicles, thus reducing congestion levels as well as air and noise pollution in favour of the quality of life in our urban and suburban areas. In this context, the proposed paper presents a simulation-based methodology for increasing the efficiency level of railway operations, through the implementation of virtual coupling systems, intending to lead the modal split towards a more sustainable scenario. To show the feasibility of the proposed approach, it has been applied in the case of a real regional rail line. Results confirm the benefits of the adoption of such systems on the attractiveness levels by showing an increase in carrying capacity with a related reduction in user waiting times.

Keywords: Sustainable Mobility; Traffic Engineering; Rail Operations; Virtual Coupling; Carrying Capacity.

Manuscript ID: ICCAUA2023EN0153

Investigating AI Applications in Construction Industry: A Systematic Review

Asst. Prof. **Tayibe Seyman Güray***Fenerbahçe University, Faculty of Engineering and Architecture, Istanbul, Turkey**E-mail: tayibe.guray@fbu.edu.tr*

Abstract

Artificial intelligence(AI) has become popular in all industries recently and provides numerous opportunities by simulating human intelligence processes. As a mainstream technology of an inevitable digital transformation in Industry 4.0, AI applications are hot research topics to deal with the different problems of several industries. The construction industry is no exception, but its main characteristic is resistant to new technologies and innovations. However, the construction industry has several challenges such as being a highly competitive arena, abundant participants, high financial risk, long-term periods of projects, and uniqueness of projects. Therefore, its productivity and performance growth level show relatively a poor increasing trend. This study aims to examine the contributions of AI to handling these challenges by performing both bibliometric and scientometric analysis using the PRISMA protocol. In this regard, this study presents the current state of adapting AI in the construction industry and its future directions.

Keywords: Artificial Intelligence; AI; Bibliometric Analysis; Construction Industry; Scientometric Analysis.

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Evaluation of Sport Structure's Concrete Durability: Case of the Colonel Amirouche Stadium

* ¹ Ph.D. Student **Asma Bousri**, ² Pr. **Mustapha Cheikh Zouaoui**, ³ Pr. **Amina Abdessemed Foufa***University of BLIDA1, ETAP Laboratory, Institute of Architecture and Urban Planning, B.P 270, Soumaa Road, Blida, Algeria. ^{1&2&3}**E-mail ¹: bousri_asma@univ-blida.dz, E-mail ²: czmustapha@gmail.com, E-mail ³: aafoufa@univ-blida.dz*

Abstract

Although new materials have been invented, concrete remains the go-to material for most of stadiums. The non-destructive evaluation of this material is an important aspect of an exciting field of research that might be a critical step in the process of conserving Algeria's sporting heritage. The current study evaluates Colonel Amirouche stadium in Jijel, Algeria, using the SonReb approach, which is primarily based on the combination of two non-destructive tests: the ultrasonic pulse velocity (UPV) and the rebound index (R). This method allows not only for the control of the physical condition of the structure, but also for the collection of the necessary information to predict the future usability of this sports structure and to intervene at the appropriate time for possible repairs and reinforcements. The testing results would represent the quality of the stadium's concrete; whether it is still appropriate for usage in the near future or whether it requires renovation.

Keywords: Concrete; Stadium; Non-Destructive Tests; SonReb.

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Structural and Cost Analysis of Reinforced Concrete and Steel Frame Structures: A Comparative Study in Nicosia, Northern Cyprus

M.Sc. **Hassan Idow Mohamed**, Assoc. Prof. Dr. **Rifat Resatoglu**, M.Sc **Shaghayegh Ostovar Ravari** *, M.Sc **Hama Issa Moctar***Department of Civil Engineering, Faculty of Civil and Environmental Engineering 99138, Near East University, North Cyprus, Mersin 10, Turkey.**E-mail: sh.ostovar987@gmail.com*

Abstract

The development of structural systems, materials, and analytical techniques has prepared a range of options for designing different structures. It is crucial to remember that doing comparative studies of various buildings helps identify the optimum choice depending on the project's requirements and conditions, while also staying within the approved construction budget. In this study, 8-story residential structures are designed in Nicosia, Northern Cyprus by steel and reinforced concrete frames are different load-resisting systems. Building Code Requirements for Structural Concrete (ACI 318-19) and American Institute of Steel Construction (AISC-15th edition) are both followed and Response Spectrum Method (RSM) is employed while ETABS v.20 and SAP2000 are used for modeling and designing the structures. The base shear, story shear, displacement, axial forces, and bending moments are compared for different structures and finally, the total cost of the structural materials including steel, rebars, and concrete is determined.

Keywords: Steel Structure; Reinforce Concrete Structure; Response Spectrum Method; Northern Cyprus.

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Analysis of Landslide Risk Management: Los Trigales, Cuenca as a Case Study

Architect, and Civil Engineer **Fredy Esteban Vizñay-Durán**
 University of Cuenca, Ecuador. Faculty of Architecture and Design, Cuenca, Ecuador
 E-mail: fredye.viznay@ucuenca.edu.ec, estebanvd@yahoo.com

Abstract

The landslide risk management is a cross-cutting issue, the most densified areas in use and occupation are more vulnerable because of a greater load on the ground and the greater discharges of solid wastes and effluents that don't have adequate treatment and conduction to public waste networks. The study of this problem was carried out using a methodology based on a socio-economic analysis of the sector, analysis of events that occurred and the analysis of determinants of land use and occupation in the Los Trigales of Cuenca. The results allow us to determine that the socio-economic factor is fundamental in the densification of the sector, the events that have produced mass movements are mainly due to the saturation of public networks, and that the lack of control of housing densification is a consequence of the inflection of the regulations and laws in the sector.

Keywords: Risk Management; Landslide Risk; Housing Densification; Saturation.

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Challenges in the Construction Mediation

Asst. Prof. Dr. **Yaprak ARICI USTUNER**
 Fatih Sultan Mehmet Vakif University, Faculty of Architecture and Design, Istanbul, Turkey
 E-mail: yarici@fsm.edu.tr

Abstract

In the construction sector, it is common to experience disputes between the parties during construction projects. The dynamics and interests-based structure of the sector necessitates the quickest resolution of these disputes. Studies in the literature show that this rapid dispute resolution method can be mediation in terms of the construction sector. Whether this complex and difficult structure of the construction sector differentiates these mediation processes from the processes of other sectors is not a subject that has been extensively researched in the literature. Therefore, in this study, it is aimed to determine the challenges and differences experienced in the construction mediation processes. Within this scope, surveys were conducted with the mediators who are experienced in the construction mediation. As a result of the study, it has been determined that the interest-based structure of the construction sector, involvement of multiple stakeholders in projects and the fact that the disputes in the sector are generally based on technical issues are among the challenges of the mediation processes in the construction sector.

Keywords: Dispute Resolution; ADR; Construction Sector; Challenges.

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On the Improvement of Physical and Mechanical Properties of High-Performance Sand Concrete by Using Silica Fume

*¹ M.B. **Kaci Chalah**, ² Professor. **Abdelbaki Benmounah**
 National Centre of Integrated Studies and Research on Building Engineering (CNERIB), Cité Nouvelle El Mokrani – Suidania W133, Souidania 16097, Algiers, Algeria. ^{1 & 2}
 Research Unit, Materials, Processes and Environment (UR/MPE), University of M'hamed Bougara, boumerdes 3500, Algeria. ²
 E-mail: kaci.chalah@yahoo.fr

Abstract

This paper studies the contribution of silica fume in the improvement of the mechanical and physical properties of high-performance sand concrete (HPSC). The experiment consists of the preparation of HPSC by adding different amounts of silica fume (0%, 4%, 6% and 8%) at a constant water-to-cement ratio. The assessment of the compressive strength, flexural strength, water absorption and water capillarity are carried out in the laboratory. The results show that the optimum using of silica fume in HPSC is 6%. At that percentage of adding, the compressive strength and flexural strength increase by 6.19 and 10.03%, respectively. The adding of silica fume at amount of 8% improves marginally the mechanical properties. In addition, the use of silica fume reduced the water absorption and the capillarity.

Keywords: High-Performance Sand Concrete; Silica Fume; Mechanical Properties; Physical Properties.

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