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Sepuluh Nopember



ITS  
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INDONESIA JAYA

ARDC  
2023

# ABSTRACT

12th International Conference on Architecture Research and Design  
In Conjunction With CIVPLAN's International Conference

## Architecture & Urban Resilience

Sustainability through adaptation

October 25-26, 2023 | Double Tree by Hillton Surabaya

Department of Architecture  
Faculty of Civil, Planning, and Geo Engineering  
Institut Teknologi Sepuluh Nopember  
[www.its.ac.id/arsitektur](http://www.its.ac.id/arsitektur)



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2023

# INTRODUCTION

International Conference on Architecture Research and Design (AR+DC) is an annual event organized by the Department of Architecture, Faculty of Civil Engineering and Planning, Institut Teknologi Sepuluh Nopember. This international event was first initiated in 2009 and has invited academics, researchers, and professionals from a wide range of expertise and field. For years, AR+DC topics focused on architecture and its related subjects, such as architecture design, architectural theory, history, and criticism, environmental architecture, housing and settlement, and urban design.

To commemorate Institut Teknologi Sepuluh Nopember (ITS) 63rd Anniversary on November 10th, 2023, this year ARDC 2023 will be held concurrently with the CIVPLAN International Conference (CIC). The CIC, organized by the Faculty of Civil, Planning, and Geo-engineering, ITS, focuses on the theme of "**Smart Infrastructure for Sustainable Living**". This conference also serves as a platform to bring together seminars from various departments under the Faculty of CIVPLAN, namely: Architecture, Civil engineering, Urban and Regional Planning, Environmental Engineering, and Geo-Engineering.

## **ARDC 2023 : Architecture & Urban Resilience Sustainability Through Adaptation**

In an era of rapid environmental change, resilience has become critical for sustainable built environments, and adaptability is key to maintaining continuity. Architecture and urban design play a significant role in environmental quality and need to prioritize sustainability and resilience, while also engaging stakeholder, academics, and communities for more comprehensive and impactful benefits. The design of built environments should anticipate and prepare for future uncertainties, as they are the systems that organize human life. This conference address following themes :

1. Resilient and Livable Cities:
2. Resilient Architectural Design and Practice:
3. Resilient Housing and Settlement:
4. Theoretical, Historical, and critical perspective of resilient Architecture & urban design:
5. Resilient Buildings and Technology:
6. Other Topics

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| FX. Teddy Badai Samodra, S.T.,<br>M.T., Ph.D. |   |
| Setyo Nugroho, S.T., M.T. Ph.D.               |   |

# PROGRAM SCHEDULE

**Day 1: Wednesday October 25<sup>th</sup>, 2023 | CIC 2023**

| Time                     | Activities  |
|--------------------------|---|
| 07.00 - 09.00<br>(UTC+7) | <b>Onsite Registration</b>  |
| 09.00 - 09.30<br>(UTC+7) | <b>Opening Ceremony and Performance</b><br>At Tunjungan Grand Ballroom – DoubleTree by Hilton Surabaya  |
| 09.30 - 09.40            | <b>Welcoming Speech</b><br><i>Welcoming Speech: Chairman of The 2023 CIC Committee</i><br>Ir. Ervina Ahyudanari, M.T., Ph.D.<br><i>Welcoming Speech: Chairman of The ITS Alumni Association (IKA ITS)</i><br>Ir. Sutopo Kristianto, M.M, IPU  |
| 09.40 - 10.05            | <b>Introduction to Stadium Generale</b><br><i>Introduction to Stadium Generale: Rector of Institut Teknologi Sepuluh Nopember</i><br>Prof. Dr. Ir. Mochamad Ashari M.Eng., IPU, A.Eng.<br><i>Introduction to Stadium Generale: Minister of Public Works and Public Housing</i><br>Dr. (H.C.) Ir. H. Basuki Hadimoeljono, M.Sc., Ph.D. |
| 10.05 - 10.20            | <b>Inauguration of The Event</b>  |
| 10.20 - 10.35            | <b>Break</b>  |
|                          | <b>Keynote Presentation</b>   |
| 10.35 - 11.05            | <b>Keynote Speaker 1: Prof. Amira Osman</b><br>Department of Architecture at the Tshwane University of Technology, South Africa   |
| 11.05 - 11.35            | <b>Keynote Speaker 2: Prof. Ir. Dr. Siti Rozaimah Sheikh Abdullah</b><br>Faculty of Engineering and Built Environment, Universiti Kebangsaan Malaysia (UKM), Malaysia   |
| 11.35 - 12.05            | <b>Keynote Speaker 3: Prof. Ir. Dwikorita Karnawati, M.Sc. Ph.D.</b><br>Head of the Indonesian Meteorology, Climatology, and Geophysics Agency (BMKG)   |
| 12.05 - 12.20            | <b>Discussion</b><br>QnA - Moderator  |

|               |   |
|---------------|---|
| 12.20 - 13.20 | <b>Break</b>  |
|               | <b>Keynote Presentation</b>   |
| 13.20 - 13.50 | <b>Keynote Speaker 4: Prof. Indrasurya B. Mochtar</b><br>Institut Teknologi Sepuluh Nopember, Indonesia   |
| 13.50 - 14.20 | <b>Keynote Speaker 5: Prof. Chien-Kuo Chiu</b><br>National Taiwan University Science and Technology, Taiwan   |
| 14.20 - 14.50 | <b>Keynote Speaker 6: Prof. Ir. Tan Yigitcanlar</b><br>School of Architecture and Build Environment, Faculty of Engineering, Queensland University of Technology, Australia |
| 14.50 - 15.05 | <b>Discussion</b><br>QnA - Moderator  |
| 15.05 - 15.20 | <b>Break</b>  |
|               | <b>Keynote Presentation</b>   |
| 15.20 - 15.50 | <b>Keynote Speaker 7: Dr. Abdul Halim Abdul Latiff</b><br>Centre for Subsurface Imaging (CSI), Universiti Teknologi Petronas (UTP), Malaysia                                |
| 15.50 - 16.20 | <b>Keynote Speaker 8: Dr. Rulli Pratiwi Setiawan ST, M.Sc., PhD</b><br>Department of Urban and Regional Planning, Institut Teknologi Sepuluh Nopember (ITS), Indonesia      |
| 16.20 - 16.50 | <b>Keynote Speaker 9: Setyo Nugroho, ST, MT, PhD</b><br>Department of Architecture, Institut Teknologi Sepuluh Nopember (ITS), Indonesia                                    |
| 16.50 - 17.05 | <b>Discussion</b><br>QnA - Moderator  |
| 17.05 - 17.20 | <b>Closing</b><br>Closing Session First Day   |

## Day 2: Thursday, October 26<sup>th</sup>, 2023 | AR+DC 2023

| Time                     | Activities  |
|--------------------------|---|
| 08.00 - 08.20<br>(UTC+7) | <b>Onsite Registration</b>  |
| 08.20 - 08.30<br>(UTC+7) | <b>Opening Ceremony</b><br>At Tunjungan Grand Ballroom – DoubleTree by Hilton Surabaya  |
| 08.30 - 10.00            | <b>Keynote Session</b><br>Dr. Ing. Ir. Bambang Soemardiono (ITS)<br>Prof. Wanxiang Yao (Qingdao University of Technology)   |
| 10.00 - 10.20            | <b>Coffee Break</b>   |
| 10.30 - 12.00            | <b>Parallel Session 1</b>   |
|                          | <b>Room A</b>   |
|                          | <b>Moderator: Sarah Cahyadi, ST. MT., Ph.D</b><br>Placing Concepts of Sensory Gardens As Social Nodes in An Elderly Daycare Centre's Design Towards A Sustainable Community: Surabaya<br>The Image of Gresik Town Square Based on Participatory Design of Multicultural Society in Gresik<br>Tourism Photography: A Form of Sustainable Tourism in the Heritage Area of Malioboro, Yogyakarta<br>Metaphorical Architecture of Tanean Lanjhang as a programming concept for Indonesia Islamic Science Park (IISP) – Madura, towards Sustainable Urban Tourism<br>The Subjective Quality of City and Its Correlation with Citizen Happiness<br>Smart Cities for All: Leveraging Technology to Reduce Urban Inequality |
|                          | <b>Room B</b>   |
|                          | <b>Moderator: Dr. Arina Hayati, ST. MT.</b><br>Architecture As Terrain: Harapan Mulia Park Provides Possibilities for Urban Life<br>Manipulation of Public Space Design within Cities: Architecture as a Crime Control Theory as a Response to Cases of Child Violence Defining Wellness-Focused Design for Rural Tourism: Study Case of Penanggungan Village<br>Study of Space Configuration in The Directorate Building of Politeknik Negeri Pontianak Using The Space Syntax Analysis Approach   |



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14.40 - 16.10

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**Room A**

**Moderator: FX. Teddy Badai Samodra, ST. MT., Ph.D**

The Efficacy of Horizontal Adjustable Bend Louver Shading for Enhancing Daylighting Performance in Walk-Up Apartment Buildings

IES-VE Validation for Assessing Daylight Performance of Building Integrating Horizontal Light Pipe and Shading Systems in the Tropics

Behavior and Comfort During Floor Usage in Gathering Activities on Indonesia Apartments

Indoor Thermal Environment Measurement and Simulation in Traditional Japanese House

Integration of Green and Blue Space, and Their Potential to Support The Mental Health of Tropical Urban Residents

Slope Failure Lines Analysis to Determine Landslide Potential Based on Standard Penetration Test Method

**Room B**

**Moderator: Prof. Wanxiang Yao**

The Affect of Rusunawa Design Changes to Resident's Physical Quality Satisfaction

Spatial Flexibility for Housing in Urban Kampung toward Sustainability

Exploring Architectural Attributes of Javanese Dwellings: A Case Study of Mr. Maryanto's Century-Old House

Transformation of Communal Spaces on Boarding Houses in Settlements around Campus during Pandemic

The Resilience Level of Kampung Sekretaris as Urban Village in Response to Urban Development in The Surrounding Area

Fluidity in Space: Defining Threshold in Dwelling and Temporal Market for Resilient Kampung Settlement

17.05 - 17.20

**Closing Ceremony**

*Closing Ceremony: Head of Architecture Department*  
Dr. Dewi Septianti, S.Pd., S.T., M.T.

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## Keynote Speakers



**Prof. Amira Osman**

Tshwane University of Technology  
South Africa

Participatory and Multi-Governance  
Approaches for Urban Resilience



**Setyo Nugroho, S.T., M.T.,  
Ph.D**

Institut Teknologi Sepuluh Nopember  
Indonesia

Urban Design Qualities to Increase a  
Willingness to Walk: Challenges in  
Asian Cities



**Dr. Ing. Ir. Bambang  
Soemardiono**

Institut Teknologi Sepuluh Nopember  
Indonesia

The Arrangement of Building and  
Environment in New Urban Areas



**Prof. Wanxiang Yao**

Qingdao University of Technology  
China

Popularized Traditional Chinese  
Architecture: Environmental  
Performance Analysis





The image features a large, textured, orange-brown hand reaching from the left side, holding a small, detailed model of a city. The city model is composed of various rectangular blocks of different heights and colors, including shades of orange, brown, and grey, set against a dark blue background speckled with white stars, suggesting a night sky or outer space. The text is overlaid on the right side of the hand and city model.

Abstract  
**Resilient and  
Livable Cities**

# PLACING CONCEPT OF SENSORY GARDENS AS SOCIAL NODES IN AN ELDERLY DAYCARE CENTRE'S DESIGN TOWARDS A SUSTAINABLE COMMUNITY: SURABAYA

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## ABSTRACT

The urban ageing population has become a global issue that affects the world's population composition, with an increasing proportion of elderly individuals in urban environments. Elderly communities, as integral parts of society, can respond to this achieving active ageing. The term 'active ageing' refers to efforts to maximize health, safety, and community participation to enhance the quality of life in line with advancing age. Facilities catering to the elderly, such as nursing homes, often do not comprehensively consider the mobility limitations of the elderly when providing accessibility. The human-centred method is employed in the implementation process of a sensory garden at the elderly daycare center facility. This method places its focus on deriving solutions for conflicts between the elderly group and other groups in the context of connectivity and accessibility, with the objective of creating integration between outdoor spaces and the building mass within the elderly daycare center facility. By utilizing the human-centred method, the root causes of accessibility issues and elderly's declining abilities can be systematically understood and resolved through a straightforward design intervention, namely the implementation of a centrally located sensory garden that serves as social nodes. Using a centralized spatial organization in the arrangement of the building masses fosters a connected circulation in the form of a linear loop. With a clear sequence, this linear configuration can accommodate ease of visual access and movement. In the built environment with accessibility amenities, it can foster a sustainable elderly community. Furthermore, through the holistic implementation of sensory garden arrangements, the elderly community can achieve sustainability and optimal productivity.

# THE IMAGE OF GRESIK TOWN SQUARE BASED ON PARTICIPATORY DESIGN OF MULTICULTURAL SOCIETY IN GRESIK

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## ABSTRACT

Gresik Town Square, or Alun-alun Gresik, was originally an open space that was used by local residents for various activities. However, in 2017, the Gresik Town Square was converted into an Islamic Center, which caused pros and cons in the society. This refusal is based on the position of the Gresik Town Square as a cultural heritage and the conditions around the Square are not only based on Islamic culture. This is marked by the existence of the Pentecostal Church and Kim Hin Kiong Temple near the Alun-Alun. This phenomenon generates a “placelessness”, which describes the ignorance of special feature of places in the creation of the new landscapes. The existence of Alun-Alun Gresik, which is an Islamic Center, can slowly replace the special meaning of places, such as the Pentecostal Church and Kim Hin Kiong Temple which are also highly related to the cultural traditions. Based on this problem, the multicultural condition of the Old City of Gresik is the basis for restoring Gresik Town Square by respecting other cultures. Using participatory design approach, this project is trying to involve participants’ contributions in seeing this issue and giving aspirations on the design of multicultural Gresik Town Square. The research employs field observation, interview, survey, and literature review for data collection. The results showed that two groups (accepting and rejecting the design) are likely to have multicultural image of the town square, supported by activities and facilities that accommodate each communities’ culture.

# TOURISM PHOTOGRAPHY: A FORM A SUSTAINABLE TOURISM IN THE HERITAGE AREA OF MALIOBORO, YOGYAKARTA

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## ABSTRACT

The study discusses the role of tourism photography in the increasing existence and sustainability of heritage areas in Yogyakarta. Tourism photography has become a lifestyle trend in the current digital era. The principle of tourism photography as a promotion media of tourism objects and destinations contributes to the increasing popularity of the heritage areas in Yogyakarta as the uniqueness of urban tourism in Yogyakarta. Tourism photography is developing in the heritage area of Malioboro. It can be seen as an opportunity and a threat for the district as well. Therefore, the study aims to find out the sites and their architectural characteristics that are used as the setting of tourism photography. The study implemented an explorative case study method with Malioboro heritage area as the case study. Data was collected through a participatory observation, interviews with key persons and participants, and relevant documents. The result of the study shows that tourism photography plays a key role in the preservation of heritage buildings in the Malioboro heritage area. The activities of tourism photography in the Malioboro area involve the local community as the actors of tourism photography, such as photographers, renting traditional costumes and preparing the local transportation. The active participation of the local community gives financial benefits for the community. Furthermore, the old buildings are well maintained, so that they become more attractive for tourists. It can be said that tourism photography contributes to the effort to maintain the heritage buildings in Malioboro, Yogyakarta.

# **METAPHORICAL ARCHITECTURE OF TANEAN LANJHANG AS A PROGRAMMING CONCEPT FOR INDONESIA ISLAMIC SCIENCE PARK (IISP) – MADURA, TOWARDS SUSTAINABLE URBAN TOURISM**

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## **ABSTRACT**

The current trend in Indonesia involves extensive urban development across various sectors, including tourism. The province of East Java has plans to create an area that not only entertains but also educates and imparts cultural and Islamic values. This concept is known as the Indonesia Islamic Science Park (IISP), which is intended to be built on Madura Island. However, the Madurese community holds strong reservations towards modern infrastructure due to their cultural traditions. Therefore, the design concept for the Indonesia Islamic Science Park serves as an alternative approach to address these concerns. This research employs an intangible metaphorical approach that maps elements of the traditional Tanean Lanjhang house arrangement pattern into zones within the Indonesia Islamic Science Park. Data collection related to Tanean Lanjhang includes literature review and field surveys. The transformation process utilizes source-to-target mapping frameworks. This mapping is carried out to select source objects that can be explored for information to be directed towards the target domain (architecture). This data or information will be reduced into design criteria to be used in formulating the spatial program and zoning for the Indonesia Islamic Science Park area. Ultimately, a spatial program concept like this can become the hallmark of the Indonesia Islamic Science Park, offering a unique tourist destination that is not only reminiscent of the local culture but is also readily embraced by all members of the community.

# THE SUBJECTIVE QUALITY OF CITY AND ITS CORRELATION WITH CITIZEN HAPPINESS

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## ABSTRACT

Cities face various challenges particularly on city planning, environmental threats, technology, the lack of resources and social inequality. The ability of policy makers and urban leaders to deal with these challenges will determine the success of the city development and its people. Basically, people's happiness is the main purpose of city planning and infrastructure. The government needs to implement the happiness factor as city quality parameters in the future. The aim of this study is to examine the correlation between the subjective quality of the city which is reflected in the city planning policies and the citizens' level of happiness. The methodology of this research is quantitative descriptive applying correlation analysis. Data collection was done through questionnaires and distributed in three cities in Indonesia which are Bandung, Semarang and Denpasar. The finding implies that three cities indicate positive correlation. The level of correlation in Bandung is the highest among three cities.

# SMART CITIES FOR ALL: LEVERAGING TECHNOLOGY TO REDUCE URBAN INEQUALITY

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## ABSTRACT

This research paper delves into the transformative potential of technology to address urban inequality, a persistent challenge faced by urban centres marked by income disparity, limited access to essential services, and spatial segregation. Employing a multi-disciplinary approach, the study integrates insights from urban planning, social sciences, and technology innovation. Beginning with an extensive literature review, the research identifies key manifestations of inequality in cities and explores the ways technology has been harnessed to mitigate disparities in education, healthcare, transportation, housing, and public services, drawing from successful case studies and underlying principles that facilitated their success. The study also addresses the challenges and limitations associated with technology-driven solutions, including ethical considerations, digital divides, and potential unintended consequences, while investigating the role of public-private partnerships and policy frameworks in supporting technology-driven initiatives to reduce urban inequality. Presenting a comprehensive framework, the paper outlines various technological interventions and innovative strategies, ranging from smart city infrastructure and data-driven decision-making to inclusive digital platforms and community-driven solutions, all adaptable to specific urban contexts. In conclusion, the research offers actionable recommendations for policymakers, city planners, and technology developers to effectively utilize technology in reducing urban inequality, emphasizing collaborative efforts, participatory design, and continuous evaluation to ensure equitable distribution of benefits from technology-enabled urban development. By analyzing successful case studies and addressing potential challenges, this study provides valuable insights to create more inclusive cities through the judicious application of technology, fostering a broader dialogue among stakeholders and encouraging the adoption of innovative and ethical practices to establish sustainable, just, and equal urban spaces.





The background is a dark blue, starry space. A large, textured, orange-brown shape resembling a hand or a piece of paper is positioned on the left side. Scattered around and on top of this shape are several 3D architectural models of buildings, also in an orange-brown color. The text is centered over the hand-like shape.

Abstract  
**Resilient Architectural  
Design and Practice**

# ARCHITECTURE AS TERRAIN: HARAPAN MULIA PARK PROVIDES POSSIBILITIES FOR URBAN LIFE

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## ABSTRACT

This paper is a design exploration of the idea of looseness and topography. When the architecture as an extension of the existing environment. Space is created to celebrate movement (up, down, twist, turning, etc). A simple intervention that generates various activities, space is not clearly defined: where to sit, play, run, stay but every corner is a space of possibility. It depends on the body and mind that define it. The difference in elevation provides a new experience: moving through the trees provides a different perspective. Extend space and time, providing slowness and keeping eyesight to explore the space more deeply. Architecture becomes a stimulus of possibility.

# **MANIPULATION OF PUBLIC SPACE DESIGN WITHIN CITIES: ARCHITECTURE AS A CRIME CONTROL THEORY AS A RESPONSE TO CASES OF CHILD VIOLENCE**

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## **ABSTRACT**

The data shows that of all recorded cases of violence in Indonesia, most of the victims were children. architecture needs to respond to this phenomenon because these cases occur in architectural spaces by manipulating certain spatial designs that happened on a child. This issue should ideally be considered on a city scale, seeing that the highest mobility of children is movement within the city, perhaps going to school or to the playground within the same city. In order to create a safe environment for children from violence that lurk on a city scale, it is necessary to manipulate the design of spaces in the city where children usually carry out their activities, thus these spaces can be called child-friendly spaces. By using the theory of architecture as a crime control, which is a prevention and protection mechanism for victims and potential victims of urban-scale violence, the spatial and formal aspects that need special attention are visibility, dimensions and shape, and accessibility.

# DEFINING WELLNESS-FOCUSED DESIGN FOR RURAL TOURISM: STUDY CASE OF PENANGGUNGAN VILLAGE

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## ABSTRACT

Rural tourism has great potential in enhancing the local welfare in Indonesia regions. It offers natural environment and authentic experience for tourists in improving health and wellbeing. Architectural design can play an important role to promote wellness in rural tourism as a branding strategy. Healthy design guidelines are required to enhance healthy benefits of rural living without neglecting the local culture and identity. Thus, wellness-focused design of tourism village should consider contextual aspects aligned with vernacular design principles. This study investigates how rural tourism can promote wellness through architectural design ideation considering vernacular principles. It aims to formulate wellness-focused design concept of tourism village based on a case study of Penanggungan village, Mojokerto, Indonesia. Literature study was carried out to conceptualize the basic design concepts of healthy rural tourism. Field observations and interviews were also conducted to contextualize the findings from literature study. This study produces design principles for developing healthy tourism village: (1) Healthy Product as a core of agrotourism, (2) Healthy Environment signifying attachment on nature, (3) Healthy Lifestyle reflecting the enjoyment of simple rural life, and (4) Healthy image as an icon representing healthy rural life. The implementation of these design principles is also discussed.

# **STUDY OF SPACE CONFIGURATION IN THE DIRECTORATE BUILDING OF POLITEKNIK NEGERI PONTIANAK USING THE SPACE SYNTAX ANALYSIS APPROACH**

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## **ABSTRACT**

The Directorate Building is an essential component of every university. Apart from operating as a management area, it helps users, particularly employees and students, in their spatial functions. A neglected space plan might lead to insufficient spatial connection. The purpose of this study is to examine the spatial arrangement of the Directorate Building at Politeknik Negeri Pontianak and the extent to which it affects the movement of users inside it. The research involves a combined qualitative and quantitative technique, with the qualitative method describing the present building's performance and the quantitative method assessing its intelligibility using depthmap software. The results show that the ideal spatial design is on the third level, with an intelligibility score of 0.693598.

# HUMAN-CENTERED DESIGN: AN IMPLEMENTATION OF METHODS IN DESIGNING KENDARI FISH MARKET AS AN URBAN DESIGN OBJECT

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## ABSTRACT

In line with the regional development references contained in the medium-term regional development plan (RPJMD), Kendari City 2010-2030 has a focused goal to be achieved. Development of the Kota Lama area into an infrastructure area through its regional and cultural potential. Given the fact that there have been no significant changes regarding the development of the Kota Lama area compared to other areas in Kendari City which are more advanced, it is necessary to make efforts to harmonize this by looking at the context of the strategic location of the area and the conditions of the surrounding community. The majority of people whose profession is fishermen have made the Kendari City fish market a vital object that needs further attention for regional development efforts in accordance with the 2010-2030 Kendari City RPJMD. By focusing on humans in terms of activity and behavior patterns, the Human-Centered Design method is the ideal method to be implemented in the design of the Kendari City fish market. Implementation of this method is by applying 5 stages of the method with each stage having different techniques but still referring to humans as the main focus. By generating design alternatives at the Human-Centered Design method stage, the determining aspect for the elaboration of the best alternative that will be implemented is the aspect of circulation and community gathering points, in terms of human patterns and behavior at the Kendari City Fish Market site. The application of this method is used so that the design of an architectural object can return to the fundamental realm, namely focusing on humans. This is important to apply, especially to the urban design objects, because cities must be able to fulfill basic human needs so that the expected development can be realized.

# DESIGN RESEARCH EXPERIMENT FOR CONVERTIBILITY ARCHITECTURE BASED ON SEASONAL SPORT TOURNAMENT

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## ABSTRACT

Sport is a part of the entertainment industry that is entirely in demand by the public. The relationship between fans as spectators and athletes in a sports match can't be separated from the spatial role of architecture as space for interaction. The presence of architecture is not only as a supporting functional aspect in the form of sports arena buildings, but architecture also has a role to provide memorable experiences to users through interactions in sporting events or tournaments. In this research, the factors and principles that influence the quality of the sportscape consisting of functional and user aspects will be implemented into an architectural design. In the process to create a sportscape, the framework used is based on Concept-Based Framework with adaptable architecture as the design approach. The method applied are versatile and convertible which are two detailed parts of adaptable architecture that discuss the spatial changes of use and space. So, the result of the design can be presented in the form of sport facility with the application of spatial convertibility to accommodate several types of indoor sports that can be extended outside the building, or the main function area located inside the building to provide a different atmosphere and experience in the same spatial space

# CUSTOMIZATION EXPERIMENT OF HYBRID MUSIC FESTIVAL WITH MOVABLE ARCHITECTURE APPROACH

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## ABSTRACT

One important aspect of enjoying a music concert is the interaction pattern between the audience and musicians. Music concerts have the psychological effect of increasing interaction and appreciation between fans and musicians. The high public interest in music concerts caused the emergence of a new music concert concept. One of them is a concert that has a multistage concert concept. This concert concept often raises the problem of visitors' limitations and unawareness about their movement space. They also often ignore the relationship between the environment and the music concert location. Therefore, with this design proposal, efforts to use experimental customization technology aim to overcome this problem by considering the architectural characteristics that can be brought and the concept of an adaptable hybrid festival. In this effort, the architectural objects presented will combine movable architecture methods to respond to adaptation processes in various locations. Thus, the design aims to create a new experience of watching a live music concert. It is hoped that it will provide a comfortable space experience for the people inside and an excellent response to the existing site.



# EMPHATIC ARCHITECTURE: AN APPROACH TO SPATIAL QUALITY CONCEPT IN ACHIEVING ADAPTIVE RETAIL RESILIENCE

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## ABSTRACT

The retail environment is changing fast. A physical-based retail is developed by creating an experience with the concept of user empathy. The object is an art fashion retail, boutique with art content and experiences that represent the uniqueness of the customer. This type of retail will collapse if there are no repeat visits, consequently, the retail resilience will decline. It's important to conceptualize how the customer experience in a retail setting influence purchasing decision-making. This study focuses on customers with specific needs to gain their personal experiences. This experience is understood effectively through an empathic process. Understanding the atmosphere through spatial quality, and customers is related to the existence of spatial settings, activities, senses, and behavior. The relationship between these aspects is the basis for developing the concept of personalization from the customer's perspective. The strategy used is qualitative research to explore customer interaction experiences. The composition of the spatial quality elements represents the customer's experience and behavior. Varied experiences include being close to product, close to space, feeling at home, being imaginative with settings, and strengthening social relationships. Then customers gain a comfortable atmosphere, so the existence of retail can be resilient in the latest era of retail business.

# SUSTAINABLE DESIGN CRITERIA FOR BATIK CULTURAL CENTRE IN KLAMPAR, MADURA

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## ABSTRACT

Batik is part of the culture in Indonesia. With each region having its signature, the Government has taken various ways to ensure the sustainability of batik, providing a batik centre to support batik artisans and a batik museum to introduce culture to tourists. However, the program's sustainability cannot be maintained, and it always fails for several reasons. One can be seen in kampong batik in Klampar Village, Indonesia; the Government provided a Batik Centre in 2022, but the following year, it was abandoned, and the community returned to producing batik in their homes. This research aims to formulate sustainable design criteria for Batik Cultural Centre based on the four dimensions of sustainability and sustainable tourism. The sustainability review of kampong batik in Klampar Village is obtained by reviewing four dimensions of sustainability, which are carried out qualitatively. Sustainability analysis will be carried out descriptively according to the results of field observations, and the solutions offered will be carried out empirically with the support of previous theories to provide credibility. The results show that there is still a need for improvement regarding the four dimensions of sustainability, as seen in the sustainable design criteria for Batik Cultural Centre.

# RETROFITS OF MULTI-STOREY OFFICE BUILDING FACADE

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## ABSTRACT

The city of Jakarta is the 7th big city in the world that has the most high-rise buildings. High-rise buildings in Jakarta were built from 1971 until now and in the 90s it was the peak of the construction of high-rise buildings such as offices and apartment. Tall Buildings with glass facade, concentrating plans are the most typology of office high-rise buildings in Jakarta. Buildings with the dominance of glass facade that reflect heat cause an increase in temperature in the microclimate and a decrease in building performance resulting in the amount of energy used by buildings, especially air conditioners. Building facade play an important role in reducing the improvement of the microclimate and energy use in buildings. Therefore, an analysis was carried out on the BRI II building on Jalan Sudirman Jakarta as a case study that represents the typology of the most office buildings in Jakarta. It turns out that this building has a high OTTV (Overall Thermal Transfer Value) value, so the largest AC cooling load comes from the building casing. Therefore, facade retrofit is one of the alternatives that can be done to reduce energy use, especially air conditioning. After that, a simulation of the casing retrofit to obtain a significant retrofit action can reduce the AC energy used through ottv value reduction analysis.



An abstract graphic featuring a large, textured, orange-brown hand reaching out from the left side. The hand is set against a dark blue background with a fine, white speckled texture. Scattered around the hand are several smaller, orange-brown, 3D rectangular blocks that resemble building bricks or architectural components. The overall composition is dynamic and suggests themes of construction, support, and resilience.

Abstract  
**Resilient  
Housing and  
Settlement**

# **STUDY OF THE GREEN BUILDING IMPLEMENTATION: TOWARDS NET ZERO ENERGY HOUSING (CASE STUDY: SOUTH TANGERANG)**

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## **ABSTRACT**

The study investigates the use of green building concepts by private developers in South Tangerang. The implementation of green building policies has a significant impact on the government's target of reducing energy consumption and carbon emissions by 2030. The private sector, specifically large private developers in South Tangerang, has made significant contributions to the successful implementation of green building. The majority of new houses built in recent years have been built by large private developers with a lot of land in South Tangerang. This research is significant because a large developer with all of the financial and technical resources can be a pioneer in the future application of green building for residential homes. For governments with all financial and technical constraints, the active role of private developers will greatly aid in the mass implementation of green buildings. However, the constraints and challenges faced by private developers in incorporating green building concepts into their products remain poorly understood and discussed. A simulation of a typical model house built by a private developer can be used to assess the private sector's potential for energy and economic savings. There are still very few green building discussions that address the potential of housing to save energy. The study is expected to contribute to discussions about green building applications by providing an overview of the challenges and potential for implementation.

# RELATION BETWEEN RENOVATION AND SPACE DENSITY OF SMALL-TYPE HOUSE IN A ROW HOUSE PATTERN

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## ABSTRACT

Small type houses answer the need for residential housing in sub-urban areas. The increasing price of land and the affordability of buyers has encouraged the production of small type residential houses to increase. Small type residential houses have a land area of  $\geq 90$  m<sup>2</sup> and a building area of  $\geq 36$  m<sup>2</sup>. However, small type residential houses do not fully answer space needs. Small residential houses tend to undergo renovation to meet space needs. This research uses quantitative descriptive methods. This research aims to formulate a pattern for renovating small residential houses using the case study of the Jasmine Cluster, Sawangan, Depok. This research is necessary considering that during the pandemic, homes are the safest areas for quarantine and as a means of self-isolation for those who are infected. The pandemic event has become a valuable lesson, especially for getting a healthy home. Efforts to fill the space in small type houses in the Jasmine Cluster are carried out by renovating the houses vertically and horizontally. The development was carried out because the existing space does not meet needs. Factors that influence the development of this residence are the number of family members and other rooms that are not provided by developers of small type residences. The density levels before and after renovation show significant changes, and become alternative solutions (quarantine and isolation) as a response to future pandemics.

# THE AFFECT OF RUSUNAWA DESIGN CHANGES TO RESIDENT'S PHYSICAL QUALITY SATISFACION

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## ABSTRACT

The physical quality satisfaction has an essential contribution to shaping residents' sense of place, which affects the sustainability of a setting. Physical quality assessment can help measure the extent to which occupants are satisfied with the physical quality of their housing environment and enable the community to identify and organize their settings. This also includes the legibility and accessibility aspects that allow people to create clear, accurate images and help users adapt to their environment, especially housing and settlement. This study examines the effect of design changes on residents' physical quality satisfaction levels that occur in Rusunawa Sombo. Rusunawa Sombo is a rental flat complex with 10 blocks that was built in stages from 1989 to 1994. This flat underwent renovations to 2 building blocks (blocks E and K) which were completed in 2021. However, the design of the renovated building is very different from the original building, with a reduction in the corridor's area, which was previously the center of residents' communal and domestic activities. This study tries to examine the response of residents' to these changes. The method used in this study is a mixed method, where quantitative research is the dominant method. This study tried to collect a questionnaire assessment of the physical quality satisfaction for 48 respondents, of which 24 respondents lived in the old Rusunawa Sombo building design (Block A and B), and 24 respondents from the newly renovated building (blocks E and K). The results of the questionnaire were analyzed descriptively through the results of the mean value. The quantitative results were then analyzed using a qualitative descriptive method from observations and interviews with respondents to validate the results. This research is expected to be useful as a post-occupancy evaluation that obtains feedback on a Rusunawa Sombo building's performance in use after it has been built and occupied.



# SPATIAL FLEXIBILITY FOR HOUSING IN URBAN KAMPUNG TOWARD SUSTAINABILITY

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## ABSTRACT

Essentially, spatial flexibility and sustainable settlement share the same objective, which is easily adapted to change. The necessity for spatial flexibility in housing design stems from the expectation that houses will accommodate their inhabitants' changing needs. The difficulty in achieving spatial flexibility might occasionally be attributed to the changing needs of users. This article will discuss the adaptability of space in urban kampung dwellings. A primary survey is utilized in the qualitative research method. Investigating the spatial management carried out by the users is made easier with the use of visual documentation utilizing photographs and drawings during surveys and interviews. Following a comparison of three case studies, it is found that the spatial flexibility of housing in urban kampungs is due to high user activity, particularly in multifunctional areas. Indoor spatial, on the other hand, has less flexibility due to the use of fixed and semi-fixed features.

# EXPLORING ARCHITECTURAL ATTRIBUTES OF JAVANESE DWELLINGS: A CASE STUDY OF MR. MARYANTO'S CENTURY-OLD HOUSE

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## ABSTRACT

This paper examines the architectural characteristics of Javanese houses and investigates the factors that influence their development and evolution. The study focuses on Mr. Maryanto's house, a third-generation inhabitant of the house, which is estimated to be more than a century old. The research delves into the historical transformations of the house's structure and materials, particularly the "usuk" and "reng" replacements. Additionally, it explores the presence of unique ornamental features, such as the "naga" motifs on the "dhadha peksi", which is unusual for rural houses. The paper analyzes the spatial layout and function of the rooms within the house, revealing the significance of factors like cultural traditions, economic conditions, and environmental adaptations in shaping Javanese house architecture.

# TRANSFORMATION OF COMMUNAL SPACES ON BOARDING HOUSES IN SETTLEMENTS AROUND CAMPUS DURING PANDEMIC

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## ABSTRACT

The Covid-19 pandemic has caused it to be subjected to a variety of restrictions that affect changes in society's behavior. One of the behavioral changes is how we interact and how we use shared space. The kost house is one of the places in the settlement that is quite vulnerable to Covid-19. Residents with a wide range of local origins and customs make the boarding houses a reason why interlocutory interaction should be restricted. This research aims to find out what affects the occurrence of the degradation of the use of communal space in boarding houses and how residents make adaptations in the usage of such public space. The paradigm in this study is to use an intersubjective wherein the study uses the habit of behavior of the inhabitants of the kost as the cause of the degradation of communal space in the boarding house. Data collection techniques in this study use literature review and observation with methods of content analysis or content analysis. The expected outcome of this study is to obtain the factors that influence the occurrence of degradation of the function of communal spaces in houses kost and adaptation made by residents in the use of such public spaces by comparing the activity in the communal space before and after the pandemic.

# THE RESILIENCE LEVEL OF KAMPUNG SEKRETARIS AS URBAN VILLAGE IN RESPONSE TO URBAN DEVELOPMENT IN THE SURROUNDING AREA

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## ABSTRACT

Kampung Sekretaris is an urban village in a rapidly developing urban area. This urban development has transformed the area around Kampung Sekretaris into a commercial zone. Its central location surrounded by commercial area could potentially threaten the existence of the urban village due to its strategic significance. Like many settlements, this urban village faces common issues such as flooding, slums, and inadequate sanitation. Given these challenges, one might expect Kampung Sekretaris to struggle for survival. However, remarkably, Kampung Sekretaris not only persists but also features in the government's planning program. The aim of this study is to assess the level of resilience displayed by Kampung Sekretaris in response to urban development. The research method employed is quantitative descriptive analysis. Analytical techniques include scoring, which involves the use of Resilience Radar Index indicators, and quantitative descriptive analysis to evaluate Kampung Sekretaris's resilience to urban development over time. The results indicate that Kampung Sekretaris exhibits a very high level of resilience. The following factors explain the relationship between this result and urban development: (1) Community capacity affects building functions; (2) Social capital influences land use; (3) The interconnectedness is evident through the kampung's land use as a residential area; (4) The restoration of Kali Sekretaris river serves as disaster preparedness, with no more buildings along its banks; (5) A network of interconnected roads supports disaster evacuation; (6) Arterial roads facilitate the growth of trade; and (7) Changes in the functions of buildings reflect the community's adaptability in seeking livelihood sources.

# FLUIDITY IN SPACE: DEFINING THRESHOLD IN DWELLING AND TEMPORAL MARKET FOR RESILIENT KAMPUNG SETTLEMENT

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## ABSTRACT

In general, urban infrastructure development triggers typological changes, influencing the growth of the urban environment, including buildings, settlements, markets, roads, and zoning in urban areas. This paper explores the spatial and territorial boundaries of alleys as links and places in the kampung residential area. The alley is examined as a dynamic setting that undergoes changes and serves various purposes and activities over time. This phenomenon prompts the question of how spatial boundaries between economic and domestic settings coexist. The research aims to identify the relationship between the alley as a link and a place in a case of kampung's alley in Surabaya that has functioned as a temporary market since 1990 within the residential setting. Data is collected through observations of the alley in different times and activities, followed by qualitative descriptive analysis. The results reveal that spatial territory defines an individual or group's control over their space. This control is integral to the mechanisms governing the activities within a setting. Ultimately, the study investigates the interplay between the activity system and the regulatory system in the temporal market economic activities that occur alongside.



The image features a dark blue, starry night sky background. In the foreground, a large, textured, reddish-brown hand is shown holding a brick. Several other bricks of the same color are scattered around the hand, some appearing to be falling or floating. The overall composition is centered around the theme of building and resilience.

**Abstract  
Theoretical, Historical, and  
Critical Perspective of  
Resilient Architecture &  
Urban Design**

# INVESTIGATION OF COLONIAL ARCHITECTURE'S INFLUENCE ON THE RESILIENCE AND SUSTAINABILITY OF THE LIMASAN HOUSE IN NDALEM NGABEAN

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## ABSTRACT

Vernacular architecture is one of the symbols that represent a certain area through various aspects that fits to the condition of the built environment. One of the vernacular architecture in Indonesia is the Limasan house which originated from Yogyakarta with a pyramid-shaped roof as its hallmark. The purpose of this research is to identify the sustainability and resilience of the design of Yogyakarta's Limasan house in Ndalem Ngabea in accordance with colonial architecture. The methods used in this paper are literature study, building observation on Limasan's architectural features, and field study conducted in Yogyakarta. The result shows that there are visible features of colonial architecture in the physical appearance of the Limasan house. This indicates that the sustainability and resilience of Limasan House is influenced by colonial architecture.



# ADAPTIVE RESTORATION OF SITE CONSERVATION: STRATEGY TO RECALL AND SUSTAIN SITE HISTORY (KALI MAS SURABAYA AS INITIAL DOWNTOWN PORT CASE STUDY)

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## ABSTRACT

An appropriate and directed strategy is needed to carry out conservation of places and buildings of historical value. A historical object is an object that is prone to damage and may not have an equivalent elsewhere. So, the damage or loss of a heritage thing is very fatal. Implementing a conservation strategy in an area takes time because a place or site has complex and varied constituent elements. The explanation of the existing strategy has yet to provide criteria and considerations in this case. Kali Mas Surabaya is one of the historical case studies. It was the initial downtown port in Surabaya before it was finally deactivated and is rarely maintained now. Therefore, this study will focus on developing criteria and considerations for adaptive restoration strategies of site conservation to recall and sustain site history based on selected case studies so that this strategy can be general and applied in other historical locations.

**Keywords :** adaptive restoration, conservation strategy, historical area, Surabaya, initial downtown

# FROM TRADITIONAL TO CONTEMPORARY: EVALUATING ENVIRONMENT CONDITION AND LIVING BEHAVIOR IN JOGLO HOUSE

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## ABSTRACT

The transmission of Indonesian vernacular architecture through generations without written documentation. The focus of this paper is on a specific type of Indonesian vernacular architecture known as the Joglo house, which was constructed 200 years ago and remains standing today. The house is in Juwana, Pati, Central Java, Indonesia, and has undergone changes over time in both its physical environment and its occupants. The objective of this research is to examine the transformations that have taken place in the Joglo house since its construction and investigate the impact of the indoor atmosphere. The method of this study examines the Joglo house through measurement of the temperature and humidity as evidence of the modernization to the present context. This research resulted in calculation to investigate the occupant's lifestyle and the concept of sustainability in vernacular architecture that is used by modern families.

**Keywords :** joglo house, lifestyle, modernization, sustainable, vernacular architecture

# ARCHITECTURE RESEARCH IN URBAN HERITAGE RESILIENCE: A SYSTEMATIC LITERATURE REVIEW

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## ABSTRACT

As the world's population increase, cities face the challenge of accommodating the needs of their people while creating a sustainable urban ecosystem. However, a sustainable city alone is not enough. To ensure the survival and resilience of cities in the face of future threats, it is crucial to explore the intersection of architecture and urban heritage resilience. Architecture plays a vital role in preserving and enhancing urban heritage, which includes historical buildings, cultural landmarks, and other elements that contribute to the identity of a city. This paper explores the existing body of knowledge on architecture research in urban heritage resilience through a systematic literature review. The methodology used in this study is the PRISMA 2020 Statement, which includes a comprehensive search for papers published between 2010 and 2023 in the DOAJ and Scopus databases. The goal of this paper is to identify the current knowledge gaps on architecture research in urban heritage resilience.

**Keywords :** Urban Resilience, Urban Heritage Resilience, Architecture Research, Resilience

# ARCHETYPE, PHENOMENOLOGY, HERMENEUTICS IN VERNACULAR ARCHITECTURE: A REVIEW OF THE LITERATURE

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## ABSTRACT

Lessons from vernacular architecture can contribute to contemporary building design and construction, promoting a climate-conscious approach and the preservation of social, cultural, and heritage values. Vernacular architecture refers to traditional building styles and construction techniques that are often adapted to local climate, materials resources and cultural contexts. This architecture has proven to be resilient over time due to its harmonization with the environment and community needs. Thiis-Evensen create an architectural theory based on its phenomenological perception, develop the idea of architectural expression and separates all architectural elements into three types; the wall, the floor and the ceiling, the primary function of the given archetype-elements is to separate the outer space from the inner one. The roof, marks the limit of the sky; the walls separate themselves from the horizon, whereas the floor delimits the ground. By substituting themselves with elements of the natural environment that they “delimit”, the floor, the roof, and the walls likewise designate the earth, the landscape, and the sky. From various studies on traditional Javanese houses, there is no research on archetypes in Joglo houses. The objective of this study was to overview theories of archetype in architecture, examines the phenomenological perception analysis that can be used to examine issues of vernacular architecture in the context of traditional architecture, as well as identifying knowledge gaps within the literature. The review then considered a specific hermeneutic-phenomenological studies.

**Keywords :** archetype in architecture, phenomenology perception, hermeneutic, vernacular architecture, Joglo

The background is a dark blue, textured surface with a large, semi-transparent orange hand reaching from the left side. Scattered around the hand are several orange, 3D-printed building blocks of various shapes and sizes, some resembling bricks and others like rectangular blocks with small protrusions. The overall aesthetic is modern and technological.

Abstract  
**Resilient Buildings  
and Technology**

# THE EFFICACY OF HORIZONTAL ADJUSTABLE BEND LOUVER SHADING FOR ENHANCING DAYLIGHTING PERFORMANCE IN WALK-UP APARTMENT BUILDINGS

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## ABSTRACT

This paper addressed the challenges posed by the limited windows and restricted areas in walk-up flats in Indonesia, resulting in insufficient and unequal indoor daylight distribution. The study proposes using outdoor horizontally bent, adjustable louver screens as daylight scoops to overcome this issue and improve the effectiveness of daylighting in apartment buildings. The quasi-experimental technique implemented the Radiance Desktop Plug-in Version 1.02 and Ecotect 2011 lighting software. Variables, such as slat shading geometry, i.e., flat, one-bend, two-bend slats, and rotation opening angles, i.e., 30°, 45°, 60°, 90°, were examined for interior daylight behavior performance regarding daylight intensity and distribution. The findings indicate that all types of adjustable louvers significantly improve daylighting performance. The most effective shading technique for harvesting and distributing daylight evenly in tropical walk-up apartments was a two-bend slat type, particularly with opening angles 90°. The results also demonstrate that louvers with multiple bent slat geometry are particularly effective in reflecting high altitudes of incident light often encountered in tropical regions and scattering the incoming light evenly into the innermost area of the room.

# IES-VE VALIDATION FOR ASSESSING DAYLIGHT PERFORMANCE OF BUILDING INTEGRATING HORIZONTAL LIGHT PIPE AND SHADING SYSTEMS IN THE TROPICS

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## ABSTRACT

Empirical validation of the daylight simulation tool is essential in determining its reliability, especially in simulating light transport and shading systems in the Tropics. Distinct from previous research, the validation involves Horizontal Light Pipe (HLP) and a side window with shading systems in different room aspect ratios and orientations. This study aims to validate the simulation results of Integrated Environmental Solutions-Virtual Environment (IES-VE) Radiance IES with the measurement results of physical scaled models for evaluating HLP, light shelves, and blinds' daylight performance under intermediate and overcast sky conditions. Two physical scaled models 1:10 represent office rooms with HLP and shading systems with different room aspect ratios were constructed. The Daylight Factor (DF) and Daylight Ratio (DR) of physical scaled model measurement and IES-VE simulation were compared. The results showed that under intermediate and overcast sky conditions, the Pearson correlation between simulation and measurement results using DR and DF was strong, significant, and positive, as high as 0.84 and 0.80, respectively. The Mean Bias Error between simulation and measurement results under intermediate and overcast sky conditions were -12% and -7.7%, respectively. IES-VE is reliable for evaluating the HLP and shading systems' daylight performance with different room orientations in the Tropics.

# BEHAVIOR AND COMFORT DURING FLOOR USAGE IN GATHERING ACTIVITIES ON INDONESIA APARTMENTS

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## ABSTRACT

In response to the development in housing needs, human habits and behavior inside the house have a decisive role, and changes in preference from landed houses to vertical houses should be considered. In correlation with body contact, every activity will involve attachment to a horizontal surface (floor surface), and the vertical surface will impact the surrounding area of human thermal comfort. In a tropical climate like Indonesia, climate, internal space, and the human body are essential interrelated things. Associated with the thermal comfort needs of the human body, direct transfer of thermal conditions and direct contact with the surface will also affect the comfort of living every day in the residential area, represented by the behavior of Indonesians in floor usage for daily activities. This part of the research will focus on the behavior in horizontal surface usage and human comfort, which data is collected by using multiple types of questions as subjective assessment questionnaires and cluster analysis to comprehend the result..



# INDOOR THERMAL ENVIRONMENT MEASUREMENT AND SIMULATION IN TRADITIONAL JAPANESE HOUSE

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## ABSTRACT

Traditional Japanese houses, also known as *Minka*, have been known for their passive cooling design, which utilizes natural resources to create a comfortable living environment. The purpose of this research is to explore and deepen the passive cooling secret of *Minka* through measurement and simulation of the *Doma* position. The indoor thermal environment in summer in a *Minka* (U house) in Koyanose, Kitakyushu City, which is an actual living space, was measured to explore the secrets of the passive cooling strategy, and the simulation was conducted to examine the impact of the *Doma* arrangement on the air temperature in surrounding rooms. *Doma* is considered to impact significantly, decreasing the surrounding rooms' indoor air temperature. In the existing building (U house), *Doma* is positioned on the North side of the house. The orientation or position of *Doma* presumably could change the indoor air temperature in every room in the house. Three layouts of *Doma* will be simulated to compare indoor air temperature in each room based on the position of *Doma*. The indoor air temperature simulation result will be expected to be useful for passive cooling design strategy, not only in the residential house but also in other building sectors.



The background is a dark blue, almost black, space-like texture with small white specks. Overlaid on this are several large, semi-transparent orange shapes. One large shape on the left resembles a hand or a large, curved object. To the right and scattered around are various 3D geometric shapes, including rectangular prisms, cubes, and irregular polyhedrons, some of which appear to be floating or falling. The overall aesthetic is abstract and futuristic.

Abstract  
**Other Topics**

# INTEGRATION OF GREEN AND BLUE SPACE, AND THEIR POTENTIAL TO SUPPORT THE MENTAL HEALTH OF TROPICAL URBAN RESIDENTS

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## ABSTRACT

Problems in metropolis cities such as rising air temperature, traffic density often cause discomfort. It will result in heat stress and impact on mental health. Integration of blue space and green space is needed to reduce these risks. Urban parks, natural or artificial lakes are examples of integration. This paper describes opportunities for integrating blue spaces and green nature urban parks that have the potential to support mental health of tropical urban residents. Method used in this research is observation. Pondok Jagung lake-Tangerang used as a case study. The study was conducted in context of biophilic design. Results of study indicate that the integration of blue space and green space in urban parks has potential to support mental health for residents. Aspects that are considered are design aspects and environmental aspects. Design aspects include proportion of blue and green space, arrangement of colored vegetation, natural or non-natural shading, lighting, activity with water, accessibility, safety, security. Environmental aspects are cleanliness, order of hawkers. All aspect affects multi-sensory such as thermal comfort, visual, audio, olfactory, tactile.

**Keywords :** hydrophilicity, mental health, multisensory public spaces, social interaction

# **SLOPE FAILURE LINES ANALYSIS TO DETERMINE LANDSLIDE POTENTIAL BASED ON STANDARD PENETRATION TEST METHOD**

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## **ABSTRACT**

Landslide events cause road access to be cut off, such as in the Payung area of Batu City, which connects Malang and Kediri. Analysis and evaluation of landslide disasters need to be carried out in this area to anticipate the next landslides and reduce economic losses. This study aims to determine landslide potential in the Payung Area, Batu City, using the Standard Penetration Test (N-SPT) method. The test is carried out at 2 points of the slope on the provincial roads and the slope above the road so that the two measurement points can be correlated. The data needed to analyze slope stability include the internal shear angle, cohesion, and soil unit weight; analysis and modeling of slope stability using Geostudio SLOPE/W software. The results of the slope stability analysis at point 1 show that the average failure line is at a depth of 6.00 m with the smallest Safety Factor (SF) value of 0.710 in scenario 2. While the slope at point 2, the failure line is at a depth of 1.50 m with the smallest FK value of 0.840 in scenario 2. Significant changes in the N-SPT value indicate differences in soil mechanical properties, such as shear angle and cohesion that affect the stability of the slope and cause landslides.



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