



Mimarlık ve Tasarım Fakültesi

İstanbul Aydın Üniversitesi Mimarlık ve Tasarım Fakültesi Tarafından Hazırlanmıştır.

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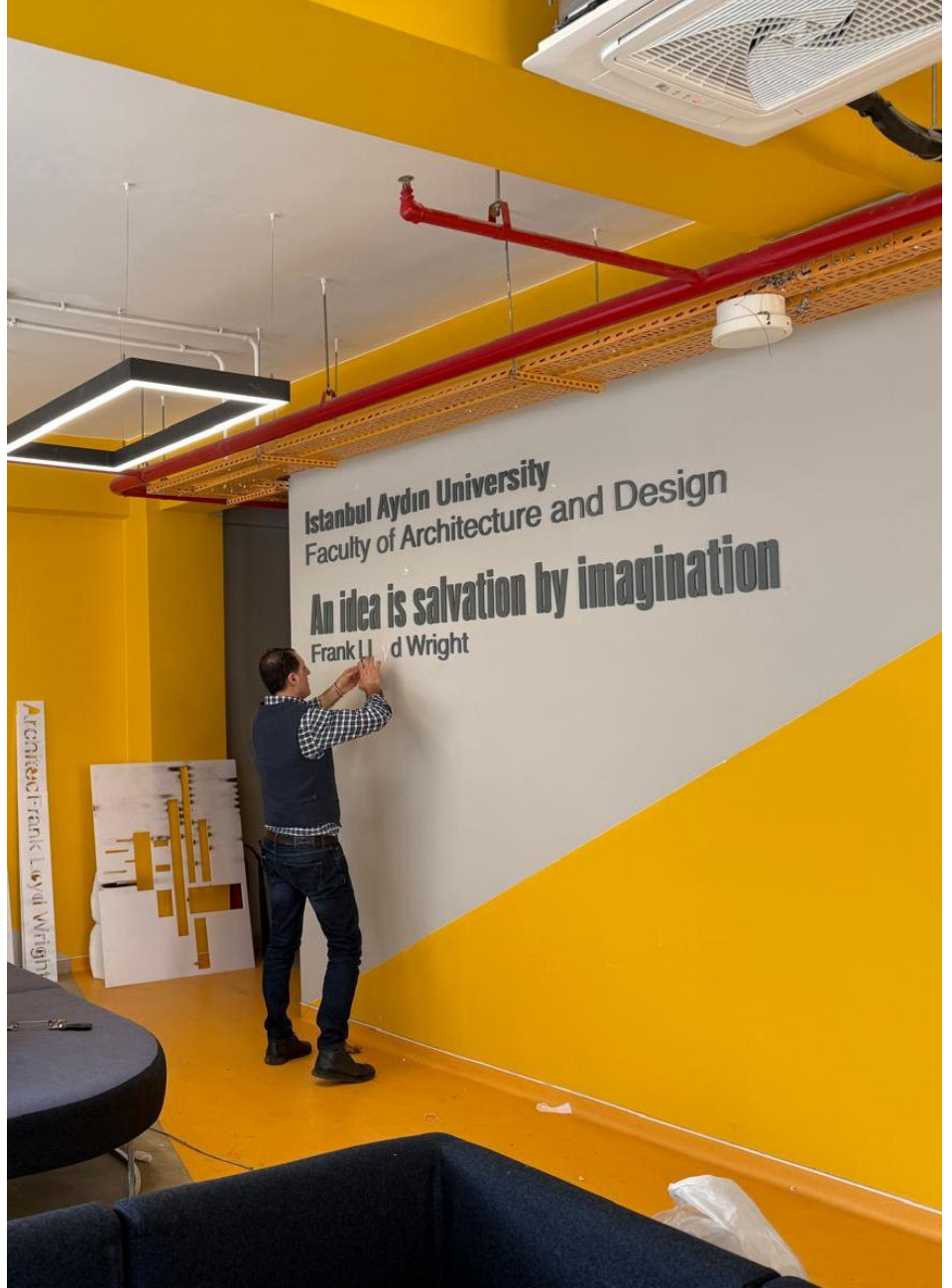
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Dr. Öğr. Üyesi Pınar TABAK

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Y BLOK Mimarlık ve Tasarım Fakültesi Girişi

Kurumsal İletişim ve Pazarlama Direktör Yardımcımız Nabi Sarıbaş'a teşekkürlerimizle...

An idea is salvation by imagination /

Fikir, hayal gücünün sunduğu bir özgürleşmedir.

Frank Lloyd Wright

Makale

İç Mimarlık Bölümü Öğretim Üyesi Doç. Dr. Dilek Yasar'ın "Biomimetic Mechanism Transfer in Interior Environmental Comfort: A Systematic Mapping and Evidence-Stratified Framework" başlıklı çalışması, Web of Science Q1 kategorisinde indekslenen uluslararası hakemli Biomimetics dergisinde yayımlanmıştır.

Abstract

Biomimetic strategies have increasingly informed adaptive environmental systems; however, biomimetic mechanism transfer into interior environmental comfort remains unevenly operationalized and weakly evidence-stratified. Despite rapid post-2020 expansion of nature-inspired strategies, cross-domain translation across thermal comfort, indoor air quality (IAQ), visual comfort, and acoustic performance remains fragmented. This study addresses this gap by systematically mapping biomimetic mechanism transfer pathways within interior environmental systems, using biophilic strategies as a comparative baseline. A systematic mapping review was conducted following PRISMA 2020 guidelines to examine biomimetic mechanism transfer across interior environmental comfort domains. Studies were coded according to comfort domain, intervention scale, evidence type, and empirical strength. Results indicate three recurrent imbalances in the screened corpus: biophilic strategies dominate the literature (71.8%), intervention activity is concentrated at system scale and within multi-domain configurations, and acoustic bio-inspired optimisation is absent as a primary research domain. At the same time, the evidence base remains weakly stratified: only 10.3% of studies report statistically validated empirical findings, whereas 50.0% remain review-based or concept-led. To address these imbalances, the study proposes the Biomimetic Mechanism Transfer Mapping Framework (CPMF), a six-layer model linking biological logic, physical process activation, measurable IEQ outputs, empirical robustness, and implementation feasibility. The framework advances biomimetics by structuring mechanism translation into operational interior environmental performance systems.

Keywords: biomimetic mechanism transfer; indoor environmental quality; performance-based evaluation; evidence-stratified analysis; systematic mapping review

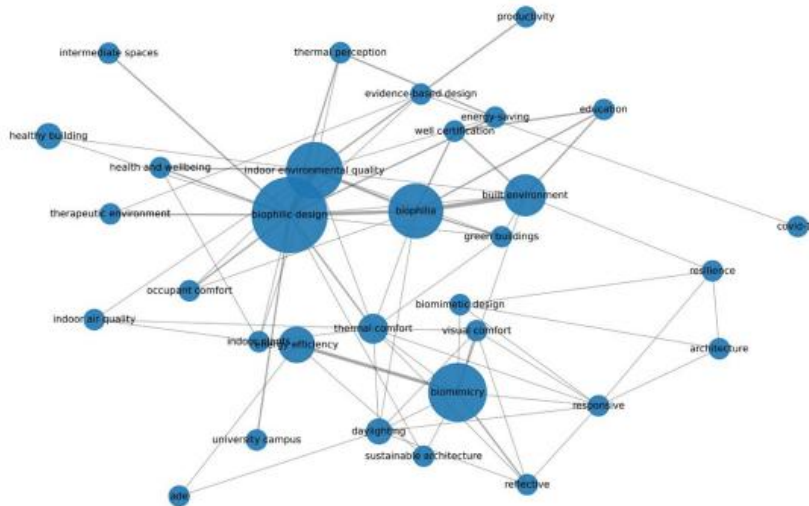


Figure 3. Author keyword co-occurrence network of the final screened Scopus/WoS corpus (n = 78). Node size and line thickness indicate keyword frequency and link strength, respectively.



Makale

Mimarlık Bölümü (İngilizce) Öğretim Personeli Arş. Gör. Tuba Kaya'nın Nur Atakul ile "Unveiling neighborhood housing preferences in Istanbul: a hedonic pricing perspective on urban livability" başlıklı çalışması, Scopus Q2 kategorilerinde indekslenen International Journal of Housing Markets and Analysis dergisinde yayımlanmıştır.

Abstract

Purpose: This paper aims to propose a guiding hedonic model for urban transformation and planning efforts by presenting an approach that can be used to examine the changing demands of users and investors following disasters such as pandemics and earthquakes, and their effects on housing prices, through a case study at the neighborhood scale.

Design/methodology/approach: The housing data and model were developed by synthesizing systematic literature review results and area analysis. Data from major real estate platforms were analyzed using hedonic pricing, with coefficients log-transformed for percentage-based interpretation. Correlation, regression and significance tests were conducted via SPSS 27.

Findings: The model identified eight statistically significant housing features affecting prices. In the study area, user preferences showed thresholds at buildings over ten floors and older than 15 years. Each additional floor reduced price by 0.17%, and each year of age by 0.9%, while a one-square-meter increase in area raised price by 0.6%. These numerical differences emphasize the contextual nature of housing preferences, suggesting that localized analysis yields more accurate insights for urban renewal and new developments.

Research limitations/implications: The mathematical findings are limited to the research area and the period during which the data were collected; however, this limitation does not undermine the overall applicability of the model.

Originality/value: In contrast to other studies using similar methods, this research focuses on the smaller scale of the neighborhood, linking user preferences to the characteristics of the study area through their willingness to pay.

Keywords: Neighborhood, İstanbul, Housing preferences, Housing prices, Hedonic pricing model, Real estate



Kitap Bölümü

Mimarlık Bölümü Öğretim Üyesi Dr. Öğr. Üyesi Ezgi Yılmaz'ın "Adaptif Yeniden Kullanım Projelerinde HBIM Ve İklim Duyarlı Tasarımın Entegrasyonu: Esmâ Sultan Yalısı Üzerinden Bir Model Önerisi" başlıklı kitap bölümü Gece Kitaplığı Yayınevi, Ankara tarafından Mimarlık Planlama ve Tasarım Alanında Araştırmalar ve Değerlendirmeler Mart 2026 Kitabında yayımlanmıştır.

Giriş

Günümüzde tarihi yapıların korunarak yeniden işlevlendirilmesi, sürdürülebilirlik hedefleri doğrultusunda giderek daha fazla önem kazanmaktadır (Bullen & Love, 2011; Plevoets & Van Cleempoel, 2011). Adaptif yeniden kullanım yaklaşımı, mevcut yapı stokunun değerlendirilmesini sağlayarak hem kültürel mirasın korunmasına katkıda bulunmakta hem de yeni yapı üretimine bağlı çevresel etkileri azaltmaktadır (Plevoets & Van Cleempoel, 2011). Ancak bu süreç, yalnızca fiziksel koruma ile sınırlı kalmayıp, aynı zamanda kullanıcı konforu, enerji verimliliği ve iklimle uyum gibi çağdaş gereksinimlerin de karşılanmasını zorunlu hale getirmiştir (Olgyay, 2015). Bu doğrultuda, dijital teknolojiler mimarlık ve iç mimarlık disiplinlerinde önemli bir dönüşüm yaratmaktadır. Özellikle Historic Building Information Modelling (HBIM), tarihi yapıların belgelenmesi, analiz edilmesi ve yönetilmesi için güçlü bir araç olarak öne çıkmaktadır (Murphy, McGovern & Pavia, 2013; Fai & Rafeiro, 2014). HBIM, yapıya ait geometrik, malzeme ve tarihsel verileri dijital ortamda bütüncül bir şekilde sunarak, koruma ve müdahale süreçlerinde karar vericilere önemli avantajlar sağlamaktadır. Bununla birlikte, mevcut uygulamalarda HBIM'in çoğunlukla belgeleme ve envanter oluşturma amacıyla kullanıldığı, tasarım karar süreçlerine yeterince entegre edilmediği görülmektedir (Bianchi & Fioravanti, 2020). Öte yandan, iklim duyarlı tasarım yaklaşımları, yapıların çevresel koşullara uyum sağlayarak enerji tüketimini azaltmasını ve kullanıcı konforunu artırmasını hedeflemektedir (Olgyay, 2015; Yeang, 2006). Güneşlenme, rüzgâr yönü, nem ve sıcaklık gibi iklimsel veriler, özellikle iç mekân tasarımında malzeme seçimi, mekânsal organizasyon ve doğal havalandırma stratejileri üzerinde belirleyici rol oynamaktadır. Ancak bu verilerin, tarihi yapıların yeniden kullanım süreçlerinde sistematik ve bütünlük bir şekilde ele alınmadığı dikkat çekmektedir (Georgopoulos & Stylianidis, 2018). Bu çalışma, söz konusu iki alan arasındaki boşluğu ele alarak, HBIM ile iklim duyarlı tasarım yaklaşımlarının entegrasyonunu incelemektedir. İstanbul'da yer alan Esmâ Sultan Yalısı örneği üzerinden geliştirilen analizler doğrultusunda, adaptif yeniden kullanım projelerinde kullanılacak çok katmanlı bir karar destek modeli önerilmektedir. Çalışma kapsamında, yapının dijital modelleme süreci, mekânsal ve malzeme temelli veri katmanları ile birlikte ele alınmakta; güneşlenme, doğal havalandırma ve termal konfor gibi iklimsel parametrelerin iç mekân tasarımına etkileri tartışılmaktadır. Bu modelin, iç mekân tasarım sürecinde daha bilinçli, sürdürülebilir ve bağlama duyarlı müdahalelerin geliştirilmesine katkı sağlaması amaçlanmaktadır (Bianchi & Fioravanti, 2020; Murphy, McGovern & Pavia, 2013).



Bildiri

Mimarlık Bölümü Öğretim Üyesi Dr. Öğr. Üyesi Ezgi Yılmaz, Asena Nur Kırca ile birlikte; “Comparative Analysis Of Climate-Responsive Design and Adaptive Comfort Performance In Shanghai Tower and Taipei 101” başlıklı bildirisini 1. International Yeditepe Scientific Research And Innovation Congress’ta sunmuştur.

Abstract

This study presents a comparative analysis of Shanghai Tower (Shanghai, China) and Taipei 101 (Taipei, Taiwan) from the perspective of climate-responsive design. The analysis focuses on building form, facade design, passive and active strategies, HVAC systems, and occupant comfort. Typical Meteorological Year (TMY) climate data, heating and cooling degree-day calculations (HDD/CDD), and adaptive comfort models were utilized. Additionally, facade ratios, shading devices, and natural ventilation potential were assessed. The findings demonstrate the impact of design strategies on energy performance and occupant comfort under subtropical climate conditions.

Keywords: climate-responsive design, high-rise building, adaptive comfort, passive strategies, facade design, Shanghai Tower, Taipei 101.

Bildiri

Mimarlık Bölümü Öğretim Üyesi Dr. Öğr. Üyesi Ezgi Yılmaz, Meriç Büyükceylan ile birlikte; “Climate-Responsive Design in Istanbul: A Comparative Analysis of Maslak No. 1 and Sapphire Maslak Office Buildings” başlıklı bildirisini 1. International Kapadokya Scientific Research And Innovation Congress’ta sunmuştur.

Abstract

This study aims to conduct a comparative assessment of climate-responsive design strategies in Maslak No 1 and Sapphire Maslak office buildings located in Istanbul’s temperate-continental climate. Heating and Cooling Degree Day (HDD/CDD) analysis, psychrometric evaluation, and adaptive comfort modelling were applied to examine the passive and active design approaches of both buildings. Structural characteristics such as facade design, shading elements, natural ventilation, and thermal mass utilization were systematically compared. The results indicate that integrating climate data into early design stages enhances both energy performance and occupant comfort. Additionally, the study highlights differences in performance and adaptive comfort potential between bioclimatic and technology-driven strategies.

Keywords: Maslak No 1, Sapphire Maslak, Climate-Responsive Design, Adaptive Comfort, Degree-Day Analysis, Passive Design Strategies



Bildiri

Mimarlık Bölümü Öğretim Üyesi Dr. Öğr. Üyesi Ezgi Yılmaz, İdris Özcan ile birlikte; ““Contemporary Mosque Architecture In The Context Of Topography, Light, And Spatial Experience: A Comparative Evaluation Of Sancaklar Mosque And The Grand National Assembly Of Turkey Mosque” başlıklı bildirisini International Yeditepe Scientific Research Congress-IV’de sunmuştur.

Abstract

In recent years, contemporary mosque architecture has become an important field of research in terms of reinterpreting traditional typologies and reconsidering worship spaces within the framework of contemporary architectural approaches. In modern mosque design, architectural form, spatial organization, the use of natural light, and the relationship established with the environmental context are considered not only aesthetic choices but also fundamental design parameters that shape spatial experience. In this context, the architectural quality of worship spaces is evaluated through multidimensional factors such as users’ perception of space, atmospheric experience, and environmental compatibility. This study aims to examine two significant examples of contemporary mosque architecture, Sancaklar Mosque and the Grand National Assembly of Turkey Mosque, in terms of spatial organization, their relationship with topography, the use of natural light, and passive environmental design strategies. Within the scope of the study, the architectural design decisions of both mosques, their plan and section organizations, spatial transitions, and atmospheric qualities contributing to user experience are evaluated. A qualitative architectural analysis method was employed in the research. Architectural projects, plan and section diagrams, visual documents, and relevant academic literature were analysed in order to interpret the spatial and environmental design approaches of the buildings. The analysis particularly focuses on the relationship between the buildings and topography, the spatial hierarchy of the prayer space, the guiding role of light within the interior, and the design strategies developed in relation to the environmental context. The findings of the study indicate that the two mosques contribute to contemporary mosque architecture through different design approaches. In Sancaklar Mosque, the architectural design is shaped by a spatial configuration embedded into the topography and the controlled use of natural light. This approach creates an introverted, simple, and intense atmosphere within the prayer space, deepening the spatial experience. In contrast, the Grand National Assembly of Turkey Mosque emphasizes an open courtyard layout, semi-open spaces, and a strong relationship with the surrounding landscape. This design approach integrates the prayer space with the environmental context and provides a more permeable and public spatial experience. As a result, the study demonstrates that design decisions such as topography, natural light, and spatial organization directly influence the atmosphere of worship spaces and user experience in contemporary mosque architecture. In this respect, the research emphasizes the importance of architectural approaches that strengthen spatial experience while maintaining harmony with the environmental context in modern mosque design, and it presents a holistic analytical framework for evaluating contemporary mosque architecture.

Keywords: Contemporary Mosque Architecture, Spatial Experience, Natural Light, Topography and Architecture, Passive Design Strategies



Bildiri

Mimarlık Bölümü Öğretim Üyesi Dr. Öğr. Üyesi Ezgi Yılmaz, Kamronbek Anvarov ile birlikte; “Climate-Responsive Strategies in Contemporary Museum Architecture: A Comparative Analysis of the National Museum of Norway and the MUNCH Museum” başlıklı bildirisini 9th International Trakya Scientific Research Congress’ten kabul almıştır.

Abstract

Museums represent one of the most complex building types in contemporary architecture due to their strict environmental requirements, controlled daylight conditions, and high expectations for spatial quality. In recent decades, the integration of sustainable design strategies and climate-responsive architectural approaches has become increasingly important in museum design, particularly in northern European countries where climatic conditions significantly influence building performance. In this context, contemporary museum buildings are expected to provide optimal exhibition environments while simultaneously achieving high levels of environmental performance and energy efficiency. This study aims to examine climate-responsive architectural strategies in two prominent museum buildings located in Oslo: National Museum of Norway and MUNCH Museum. Both structures represent significant examples of contemporary museum architecture and incorporate different approaches to daylight control, Façade design, and environmental performance. The research adopts a comparative architectural analysis methodology. Within the scope of the study, climatic characteristics of Oslo were first evaluated in order to understand the environmental conditions influencing building design. Subsequently, the architectural design strategies of the two buildings were analysed in terms of daylight utilization, Façade performance, spatial organization, environmental control strategies, and sustainable design principles. Data were obtained through architectural project documents, technical reports, and relevant academic literature. The findings indicate that although both museums are designed within the same climatic context, they employ different architectural strategies to achieve environmental performance. The National Museum of Norway utilizes controlled daylight systems and carefully designed roof lighting elements to provide balanced illumination within exhibition spaces. In contrast, the MUNCH Museum adopts a vertical architectural form with a layered Façade system that regulates solar radiation and daylight penetration. These different strategies demonstrate how contemporary museum architecture can respond to climatic conditions through both passive and technologically supported design solutions. The study contributes to the understanding of climate-responsive museum architecture by highlighting the relationship between environmental design strategies, daylight control, and spatial performance in contemporary cultural buildings.

Keywords: Museum Architecture, Climate-Responsive Design, Daylight Performance, Façade Design, Sustainable Architecture.



Bildiri

Mimarlık Bölümü Öğretim Üyesi Dr. Öğr. Üyesi Ezgi Yılmaz, Sundus Alaa Hussein Faed Allah ile birlikte; “Sustainable Architecture in Helsinki: A Comparative Study of Helsinki Central Library Oodi and Temppeliaukio Rock Church” başlıklı bildirisini 13th International Palandöken Scientific Research Congress’te sunmuştur.

Abstract

The growing importance of sustainable design at a global scale parallels the need to improve energy efficiency and occupant comfort. Buildings with different functions and spatial characteristics provide valuable insights into the effectiveness of sustainable architectural strategies. This study aims to comparatively examine Helsinki Central Library Oodi and Temppeliaukio Rock Church in terms of energy efficiency, façade design, daylight utilization, passive and active design strategies, and environmental performance. The research employs document analysis, literature review, and climate-based environmental assessments. Heating Degree Days (HDD) and Cooling Degree Days (CDD) data were analyzed, and psychrometric evaluations were conducted to assess indoor comfort potential. Helsinki’s climate is predominantly heating-dominated (HDD ~4200; CDD ~200 – indicative), with limited cooling needs during summer months. This emphasizes the importance of passive solar gain, natural ventilation, and daylight utilization in sustainable design. Oodi, as a modern library, features an open, flexible spatial organization that supports social interaction. Its expansive glazed façades and advanced mechanical systems optimize daylight usage while reducing energy consumption. Temppeliaukio Rock Church, carved into solid rock, employs passive design strategies. Its dome system and thermal mass maximize daylight and maintain indoor comfort with minimal energy usage. Findings indicate that buildings with differing functions and design approaches can achieve similar environmental performance targets through distinct strategies. Oodi’s active system-based approach and Temppeliaukio’s passive and spatial strategies highlight the need to integrate technological and environmental design components in sustainable architecture. This study contributes to the limited body of comparative research on sustainability performance in buildings of differing typologies, offering methodological and practical insights for architectural practice and academic literature.

Keywords: Sustainable Architecture, Helsinki Central Library Oodi, Temppeliaukio Rock Church, Daylight Utilization, Passive Design Strategies, Energy Efficiency, Environmental Performance, Climate-Based Analysis.



Bildiri

Mimarlık Bölümü Öğretim Üyesi Dr. Öğr. Üyesi Ezgi Yılmaz, Menekşe Kınay ile birlikte; “Sustainable Office Buildings In The Context Of Smart Building Technologies And Energy Efficiency: A Comparative Study Of The Edge And The Bullitt Centre” başlıklı bildirisini 13th International Palandöken Scientific Research Congress’te sunmuştur.

Abstract

Office buildings, in particular, have become a significant area of research within sustainable architecture due to their high energy consumption and intensive user occupancy. In this context, sustainable office buildings that integrate smart building technologies, energy efficiency strategies, and passive design approaches are gaining increasing importance in contemporary architectural practice. This study aims to comparatively examine two prominent examples of sustainable office architecture: The Edge in Amsterdam and Bullitt Center in Seattle, in terms of energy efficiency, smart building technologies, facade design, daylight utilization, and environmental design strategies. Architectural design decisions, facade systems, natural ventilation strategies, renewable energy applications, and technological solutions related to user comfort were analysed. Moreover, the climatic conditions of Amsterdam and Seattle were analysed, and the annual heating and cooling degree-days (HDD/CDD) values were used as key data to understand the passive design and energy management strategies of both buildings.

Keywords: Sustainable Office Buildings, Smart Building Technologies, Energy Efficiency, Daylighting, Passive Design Strategies.

Bildiri

Mimarlık Bölümü Öğretim Üyesi Dr. Öğr. Üyesi Ezgi Yılmaz, Ayberk Paşaoğlu ile birlikte; “İlman Okyanusal İklimde Ofis Yapılarında Pasif Tasarım Stratejilerinin İklim Verisi Temelli Karşılaştırmalı Analizi: Melbourne Örneği” başlıklı bildirisini 1th International Pamukkale Scientific Research Congress’te sunmuştur.

Abstract

This study aims to comparatively evaluate two sustainable office buildings located in Melbourne, characterized by a temperate oceanic climate, through climate data-based performance assessment. Pixel Building and Council House 2 were selected due to their high environmental performance reported in the literature. The research methodology consists of three stages: (i) analysis of Typical Meteorological Year (TMY) data and calculation of Heating Degree Days (HDD) and Cooling Degree Days (CDD), (ii) evaluation of natural comfort potential through psychrometric distribution analysis, and (iii) qualitative assessment of building envelope systems and passive design strategies supported by reported performance indicators. The findings indicate that Melbourne’s climatic conditions offer significant potential for natural ventilation and adaptive comfort strategies. Pixel Building demonstrates reduced energy demand through modular facade systems and dynamic shading, while Council House 2 utilizes thermal mass and ventilation stacks to decrease heating and cooling loads. The study highlights the importance of integrating quantitative climate data with passive design strategies in temperate regions.

Keywords: Passive Design, Heating and Cooling Degree Days, Psychrometric Analysis, Adaptive Comfort, Sustainable Office Buildings.



Hakemlik

Mimarlık ve Tasarım Fakültesi Dekanı Prof. Dr. Ufuk Fatih Küçükali, WOS ve Scopus indekslerinde yer alan Q1 dilimindeki Springer Nature dergisine hakemlik yapmıştır.

İç Mimarlık Bölümü Öğretim Üyesi Prof. Dr. Alev Erarslan, AHCI ve Scopus indekslerinde yer alan Q1 dilimindeki Frontiers of Architectural Research dergisine hakemlik yapmıştır.

Proje Başvurusu

İç Mimarlık Bölümü Öğretim Üyesi Dr. Öğr. Üyesi Hilal Türkođdu'nun, "TÜBİTAK ARDEB Bilim ve Toplum" 226B446 nolu projede Konuşmacı olarak görev aldığı proje başvurusu tamamlanmıştır.

İç Mimarlık Bölümü Öğretim Üyesi Dr. Öğr. Üyesi Hilal Türkođdu'nun, "TÜBİTAK ARDEB 4009 - Köy Okullarına Yönelik Destek Programı" başlıklı 954389 nolu projede Eğitimci olarak görev aldığı proje başvurusu tamamlanmıştır.

Yeni görev

Mimarlık bölümü öğretim üyesi Prof.Dr. Gökçen Firdevs Yücel Caymaz Emerging Sources Citation Index (ESCI) ve Scopus index (Q1 CiteScore Best Quartile)' te yer alan Cities&Health dergisinde editör yardımcılığına (<https://www.tandfonline.com/journals/rcah20/about-this-journal#journal-metrics>) atanmıştır.

