FACULTY OF ENGINEERING AND ARCHITECTURE

BULLETIN

OCTOBER 2025

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FACULTY OF ENGINEERING AND ARCHITECTURE

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MONTHLY BULLETIN

OCTOBER 2025

NEWS FROM THE FACULTY

●INDUSTRIAL ENGINEERING●

2025-2026 ACADEMIC YEAR INDUSTRIAL ENGINEERING DEPARTMENT ORIENTATION HELD

The Industrial Engineering Department of Istanbul Gelişim University held a "Department Orientation" program on Wednesday, October 1, 2025, at 1:00 p.m. in classroom J-289 for newly registered first-year, transfer, and vertical transfer students. During the orientation, all faculty members introduced themselves and provided detailed information about the department and faculty. The presentation covered topics such as the meaning and fields of Industrial Engineering, the department curriculum, laboratories and physical facilities, educational objectives and principles, as well as regulations and guidelines. The aim was to help students adapt more quickly to university and departmental life.

The primary goal of the program was to ensure that new students feel like a part of the IGU family and make a strong start to their academic journey.

We wish all our students and esteemed faculty members a successful, productive, and prosperous 2025-2026 academic year.

●INDUSTRIAL ENGINEERING●

INFORMATIONAL MEETING FOR THE END401 INDUSTRIAL ENGINEERING PROJECT COURSE WAS HELD

The Department of Industrial Engineering, Faculty of Engineering and Architecture at Istanbul Gelişim University, held an informational meeting for fourth-year students regarding the END401 Industrial Engineering Project course.

The meeting was led by Asst. Prof. Didem Yılmaz, a faculty member of the department. Detailed information was provided to the students about the project course's purpose, processes, deadlines, and evaluation criteria. Students' questions regarding the project topics, consulting process, and technical requirements were also answered.

The meeting aimed to provide students with practical experience by applying the theoretical knowledge they acquired during their studies to real-life problems, thus preparing them for the professional world after graduation.

At the end of the meeting, students had the opportunity to meet one-on-one to discuss their expectations and curiosities regarding their projects.

We wish all our students success.

●INDUSTRIAL ENGINEERING●

INDUSTRIAL ENGINEERING DEPARTMENT EXTERNAL STAKEHOLDER MEETING HELD

The Department of Industrial Engineering at Istanbul Gelişim University's Faculty of Engineering and Architecture continues to strengthen its collaboration with the industry. In this context, an external stakeholder meeting was held on October 24, 2025, with Cenk Gogo of Truva Tekstil.

The meeting addressed increasing internship opportunities to support students' professional development, assessing the relevance of course content to current business needs, and joint projects and practice areas that will strengthen industry-university interaction. During the meeting, which featured a mutual exchange of ideas, important topics were discussed, including diversifying opportunities for students to apply their theoretical knowledge in the field and developing new collaboration models.

The Department of Industrial Engineering aims to integrate its educational programs with current industry dynamics, ensuring its graduates enter the industry with greater competence and competence. These external stakeholder meetings contribute to both the continuous development of the curriculum and the strengthening of students' career opportunities.

At the end of the meeting, a positive framework was outlined for future collaborations with Truva Tekstil, focusing on joint internship programs, workplace project implementations, and graduate employment. The Department of Industrial Engineering continues to add value to both its students and the industry by increasing such strategic collaborations.

EXTERNAL STAKEHOLDER VISIT: DEMSAY AT OUR DEPARTMENT

The Department of Electrical and Electronics Engineering hosted DEMSAY, one of our key external stakeholders. During the visit, discussions focused on strengthening university–industry collaboration, expanding internship and project opportunities for our students, and aligning the curriculum with current sector needs. The meeting concluded with productive evaluations and plans for future cooperation.

VISIT FROM THE CHAMBER OF ELECTRICAL ENGINEERS TO IGU

Representatives from the Chamber of Electrical Engineers (EMO) Istanbul Branch visited our Department of Electrical and Electronics Engineering. During the meeting, opportunities for enhancing university–industry collaboration, professional development activities, and student engagement with the chamber were discussed. The visit contributed to strengthening professional connections and opened the door for potential joint projects in the future.

ASST. PROF. İBRAHIM RASIN DÜZCEER ATTENDS EFFC MEETING IN GDANSK

Asst. Prof. İbrahim Rasin DÜZCEER, a faculty member of the Department of Civil Engineering and President of the Turkish Federation of Foundation Contractors (TMD), attended the meeting of the European Federation of Foundation Contractors (EFFC) held in Gdansk on 2–4 October.

The meeting, hosted by the Polish Federation (PZWFS), was attended by the presidents of national associations and representatives of working groups from Turkey, the United Kingdom, Germany, France, Italy, Austria, the Czech Republic, the Netherlands, and Belgium. During the meeting, representatives of the Contract, Technical, Sustainability, and Health & Safety Working Groups provided updates on their ongoing activities.

Asst. Prof. İbrahim Rasin DÜZCEER delivered a presentation on the activities of TMD members in Turkey and abroad, current projects, and the association's contributions to the geotechnical sector.

It was decided that representatives from Turkey would join the newly established committee focused on developing artificial intelligence applications in the geotechnical field. The challenges faced by young engineers working in the geotechnical sector were also discussed.

The gathering of ten national federations in Gdansk provided an excellent opportunity for a productive workshop aimed at enhancing the quality and reputation of the geotechnical industry, promoting leadership in quality, sustainability, and occupational safety, and further advancing the deep foundation industry.

CIVIL ENGINEERING DEPARTMENT HOLDS EXTERNAL STAKEHOLDER MEETING

The External Stakeholders of the Civil Engineering Department, Faculty of Engineering and Architecture, convened online on Thursday, October 23, 2025, at 12:00, under the chairmanship of Asst. Prof. Hamit ÖZTÜRK. The meeting aimed to strengthen the alignment between the department's educational objectives and industry expectations through constructive dialogue.

The first discussion focused on curriculum and sectoral applications. Alumni feedback highlighted the need for stronger integration between academic content and professional software and practices. The department shared information on how these skills are addressed through applied courses and internship programs.

Next, alumni–student interaction and social activities were discussed. Stakeholders emphasized the importance of organizing more networking and social events that enhance professional and interpersonal development. The department outlined existing and planned activities to support these goals.

Another topic addressed was the development of sector-oriented applied courses, potentially through the IGU Continuing Education Center (İGÜSEM). The department noted that such initiatives help strengthen students' technical competencies and professional readiness.
The meeting concluded with discussions on new course proposals and potential curriculum updates to better reflect the current needs of the construction and engineering sectors.

With active participation and valuable insights from external stakeholders, the meeting was completed successfully. The department extends its appreciation to all participants for their contributions and continued collaboration.

CIVIL ENGINEERING DEPARTMENT HOLDS AN INTERNAL STAKEHOLDER MEETING

The Civil Engineering Department (Turkish and English Programs) of the Faculty of Engineering and Architecture held an online internal stakeholder meeting on Tuesday, October 21, 2025, chaired by Asst. Prof. Hamit ÖZTÜRK.

The meeting addressed key topics such as internship processes, technical visits and alumni events, classroom capacity and laboratory allocation, course materials and scheduling conflicts, as well as the use of common areas. Students were informed about internship documentation, laboratory planning, and the effective use of the ALMS platform for accessing course materials. Suggestions regarding technical visits and alumni meetings were discussed, and the importance of maintaining clean and organized shared spaces was emphasized.

The meeting concluded in a constructive environment that encouraged student engagement in academic and administrative processes. We would like to thank all students for their active participation and valuable contributions.

● CIVIL ENGINEERING ●

ORIENTATION PROGRAM BY OUR DEPARTMENT CHAIR, ASST. PROF. AHMAD RESHAD NOORI, FOR CIVIL ENGINEERING TURKISH AND ENGLISH PROGRAM STUDENTS

At the beginning of the 2025–2026 academic year, our Department Chair, Asst. Prof. Ahmad Reshad NOORI, delivered an orientation program for the students of the Civil Engineering Turkish and English Programs.

During the session, students were introduced to the department's academic structure, curriculum, advising processes, and the social and academic opportunities offered by the university. The program also provided insights into the department's goals, international accreditation efforts, and career opportunities, helping students adapt more smoothly to the new academic term.

This orientation program contributed to enhancing the integration of students into both academic and social life.

VISIT TO OUR DEPARTMENT FROM AN EXTERNAL STAKEHOLDER

Macide SAPAN, an external stakeholder and alumna of the Civil Engineering Department at Istanbul Gelişim University, visited the department.

Currently serving as a civil engineer in the public sector, Macide SAPAN shared her professional experiences and insights about the industry, providing valuable feedback. The visit also included discussions on the department's ongoing activities, curriculum development, and collaborations with external stakeholders.

The department emphasized the significance of maintaining strong ties with its alumni and expressed its appreciation to Macide Sapan for her kind visit and contributions.

● CIVIL ENGINEERING ●

ISTANBUL GELIŞIM UNIVERSITY HOLDS THE OPENING CEREMONY OF THE 2025–2026 ACADEMIC YEAR

The Opening Ceremony of the 2025–2026 Academic Year at Istanbul Gelişim University (IGU) was held at the Mehmet Akif Ersoy Conference Hall, Avcılar Campus, with the participation of academic and administrative staff, students, and distinguished guests.

Opening speeches were delivered by Minister of Trade Prof. Ömer BOLAT, Chairman of the Board of Trustees Abdülkadir GAYRETLİ, and Rector Prof. Bahri ŞAHİN, highlighting Türkiye's economic goals, the university's international vision, and the strategic importance of education.

The ceremony also featured the first lecture of the academic year, titled "Gaza," delivered by Asst. Prof. Ali SEMİN, which emphasized the humanitarian and historical dimensions of the Palestinian issue.

Reflecting IGU's commitment to internationalization, research, and social responsibility, the ceremony marked a strong start to the new academic year.

"GRADUATION STUDY INFORMATION TRAINING" WAS HELD FOR MEK401 AND MEK498 STUDENTS

Within the scope of "MEK401 - Mechatronic System Design" and "MEK498 - Graduation Thesis" courses, an informative training was held on October 23rd at 11:00 in the laboratory numbered J-209 within our Department/ Faculty.

During the training, students were given general information about the writing and submission processes of the graduation thesis. Especially students who took MEK401 - Mechatronic System Design course in the Fall Semester 2025-2026 participated in this training, which is critical for the successful completion of their projects.

● ARCHITECTURE ●

ORIENTATION AND INFORMATION EVENT FOR FIRST-YEAR ARCHITECTURE STUDENTS HELD AT IGU

On Tuesday, September 30, 2025, the Department of Architecture (Turkish / English) at Istanbul Gelişim University welcomed its new first-year students with an "Orientation and Information Event" held at K Block, Tower, 15th Floor.

During the event, students received comprehensive information about the department's academic structure, educational process, facilities, and student life. They also had the opportunity to meet the faculty members and connect with their new peers, gaining insight into studio culture, course content, workshops, and laboratories, as well as international exchange programs.

The program was organized in two sessions:

- The Architecture (Turkish) session began at 14:00 and included presentations on the academic structure, curriculum, and departmental procedures.

- The Architecture (English) session followed at 15:00, offering details about the English-taught curriculum, supporting resources, and international networks.

Throughout the event, students also learned about the department's social and cultural activities, student clubs, and the academic calendar for the upcoming year. In the Q&A sessions, participants were able to ask their questions directly to the faculty and receive practical guidance.
The Department expressed its pleasure at the enthusiastic participation and shared its excitement about welcoming the new members of the IGU Architecture community. The event concluded with warm wishes for a successful and inspiring academic journey for all first-year students.

WORLD ARCHITECTURE DAY EVENT HOSTED BY OUR DEPARTMENT OF ARCHITECTURE

On World Architecture Day, 6 October, an event was held under the hosting of our Department of Architecture with the participation of Dean Prof. Dr. Bayram Ünal, our faculty members, and our students. The program, which took place in the Main Studio of our Department, continued with various architecture-themed games following the opening remarks.

The activities were organized at three different stations—a Taboo table, a Sketch table, and a Lego table—and were carried out with mixed teams consisting of faculty members and students. During the event and throughout Architecture Week, an interactive board designed with the theme “Atlas of Strength” was also prepared in the studio for student engagement.

NEWS FROM THE FACULTY

● ARCHITECTURE ●

The International Union of Architects (UIA), within the scope of World Architecture Day 2025, calls on architects to create resilient, sustainable, and equitable built environments with its theme "Design for Strength." The theme aims to raise awareness among architects and architecture students, inviting them to rethink resilience and strength. It encourages architects around the world to look beyond short-term solutions and to embrace approaches that reinforce the resilient, adaptable, and regenerative nature of the built environment.

"Architecture must do more than provide shelter; it must also support equality, continuity, and resilience, especially in times of crisis."

As faculty members of Istanbul Gelişim University, we strive—whenever possible and by creating opportunities—to convey to our undergraduate and graduate students that being beneficial to the architectural environment begins with thinking about and producing what is beneficial for people. Although "building a place or a structure" may appear to be the primary goal, what truly matters is constructing places that ensure equality, continuity, resilience, and durability. We aim to inspire our students in this regard and to continually remind them of the responsibilities inherent in the profession.

– Assoc. Prof. İlke Ciritci

FACULTY OF ENGINEERING AND ARCHITECTURE

ACTUEL TOPICS IN ENGINEERING AND ARCHITECTURE

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ACTUEL TOPICS IN ENGINEERING AND ARCHITECTURE

● COMPUTER ENGINEERING ●

GLOBAL DEVELOPMENTS IN ARTIFICIAL INTELLIGENCE AND CYBER SECURITY

As of October, significant advancements are being observed worldwide in the fields of Artificial Intelligence (AI) and cybersecurity. Major technology corporations and research institutions are focusing on strengthening the security of AI models and minimizing the risks of misuse by establishing new frameworks and standards. In the United States and Europe, initiatives under the “Secure Artificial Intelligence Framework” aim to ensure that machine learning systems are transparent, auditable, and secure. AI-based threat detection systems are increasingly being deployed across finance, defense, and healthcare sectors to enhance real-time cyber defense capabilities. Asian countries—particularly South Korea, Japan, and Singapore—continue to invest heavily in cybersecurity integration within smart city infrastructures. National-level digital security centers are being established to ensure data protection and threat monitoring in IoT-based systems. According to the 2024 threat report released by the European Union Agency for Cybersecurity (ENISA), ransomware attacks have become one of the most prominent global cyber threats, with an estimated 40% increase expected by 2025. This highlights the growing necessity of strengthening global cyber defense mechanisms. Within the global academic and industrial communities, ongoing research in AI-driven defense systems, autonomous network security, and cyber threat intelligence continues to lay the foundation for next-generation protection technologies. Collaborations among universities, technology firms, and government agencies are accelerating this transformation.

ACTUEL TOPICS IN ENGINEERING AND ARCHITECTURE

● INDUSTRIAL ENGINEERING ●

INDUSTRIAL ENGINEERING: DIGITAL TRANSFORMATION, SUSTAINABILITY AND BUSINESS MODELS

Industrial Engineering is a discipline that aims to make systems more efficient, flexible, and sustainable in many areas, from manufacturing to the service sector. Technologies such as digital transformation, automation, artificial intelligence, and data analytics have expanded the scope of this field, enabling engineers to manage not only production processes but also supply chain, logistics, and strategic decision-making mechanisms.

Today, industrial engineers are moving beyond traditional efficiency-focused approaches to address issues such as environmental sustainability, resource optimization, and customer-centric production. This makes software literacy, data analysis, systems thinking, and teamwork crucial for graduates.

The demand for industrial engineers will only increase in the future with the widespread adoption of flexible manufacturing systems, robotic applications, and university-industry collaborations. This field offers graduates strong career opportunities not only in manufacturing but also in many sectors, including logistics, consulting, data science, and innovation.

ACTUEL TOPICS IN ENGINEERING AND ARCHITECTURE

● SOFTWARE ENGINEERING ●

AI-ASSISTED SOFTWARE DEVELOPMENT: FROM CODE TO ARCHITECTURE

Introduction: A New Era in Software

Artificial intelligence is no longer just a supportive tool for software engineering — it is becoming an integral part of software itself.

AI systems used in code completion, test generation, and bug prediction are evolving from time-saving assistants into collaborative agents that shape software architecture, design patterns, and decision-making processes.

According to Gartner's 2025 Strategic Trends report, by 2028 over 90% of software engineers will actively collaborate with AI tools.

This marks a profound paradigm shift from "code-centric development" toward "architecture-oriented governance" in software engineering.

1. From Code Assistants to Strategic Architects

Tools such as GitHub Copilot, Amazon CodeWhisperer, and ChatGPT Code Interpreter now go beyond line-by-line suggestions — they analyze functional blocks, test scenarios, and inter-component relations.

As a result, the role of the software engineer is transforming:

- Writing effective prompts and system instructions rather than manual code,
- Verifying and optimizing AI-generated code,
- Ensuring technical quality and ethical compliance across the pipeline.

In essence, the engineer is no longer a mere programmer, but a decision architect empowered by AI.

2. Architectural Transformation: Beyond the Code

AI-driven development also reshapes how we perceive system architecture.

The success of modern software now depends not only on correctness of code but also on how AI-generated components integrate and interact.

This elevates the importance of:

- Model Governance — oversight of AI model lifecycle and versioning,
- Explainable AI — transparency and interpretability of decisions,
- MLOps / DevSecOps integration — continuous alignment between models, data, and deployment.

Software architects must therefore design systems not merely around data flow and service connections but also around the trustworthiness, sustainability, and ethical impact of AI outputs.

3. New Roles in Human–Machine Collaboration

The transformation is not only technological but also cultural.
AI-augmented teams introduce entirely new professional identities:

- Prompt Engineer: a specialist in crafting effective AI interactions,
- AI Ethics Officer: ensuring compliance and fairness of generated content,
- AI Architect: overseeing the end-to-end pipeline from model training to system integration.

These roles make development teams more agile, strategic, and creative, proving that human intelligence remains the key force guiding artificial intelligence.

Closing: The Future of Engineering Is Architectural

AI-assisted software development transcends the classic input–output model, paving the way for self-improving, decision-driven, and continuously learning systems.
Engineering success will no longer mean "writing flawless code" but designing scalable, explainable, and intelligent systems that make the right decisions.
From code to architecture, this transformation positions software engineering as one of the most strategic disciplines of the next decade.

Suggested Reading

- Gartner (2025): Strategic Trends in Software Engineering
- IEEE Software Journal (2025): AI-Augmented Architectures
- BairesDev (2025): Software Development Trends
- ArXiv (2025): Human–AI Collaboration in Software Design

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● INDUSTRIAL ENGINEERING ●

ASST. PROF. DIDEM YILMAZ, RES. ASST. DUYGU TÜYLÜ, AND NILSU ŞIMŞEK ATTENDED THE ISPR 2025 CONFERENCE

Faculty members of the Department of Industrial Engineering, Faculty of Engineering and Architecture at Istanbul Gelisim University, Asst. Prof. Dr. Didem Yılmaz, Res. Asst. Duygu Tüylü, and Industrial Engineering student Nilsu Şimşek presented their study titled "The Impact of Material Requirements Planning Systems on Production Performance: An Application Example in the Textile Industry" at the The International Symposium for Production Research 2025 (ISPR2025), held on October 9–11, 2025.

The study examines the impact of material requirements planning systems on production performance in the textile industry and highlights how integrating these systems with lean manufacturing tools can contribute to improving operational efficiency.

We congratulate our faculty members and student for proudly representing our university at the international level and wish them continued success in their academic endeavors.

ACADEMIC AND SCIENTIFIC ACTIVITIES

● INDUSTRIAL ENGINEERING ●

ASST. PROF. MERT YILDIRIM ATTENDED THE "TECHNOLOGY AND INNOVATION SUMMIT 2025" AS AN INVITED GUEST

Asst. Prof. Mert Yildirim, a faculty member in the Department of Industrial Engineering at the Faculty of Engineering and Architecture, Istanbul Gelisim University, attended the "HBR Türkiye Technology and Innovation Summit 2025" as an invited guest. The event was organized by Harvard Business Review Türkiye and held at Swissotel The Bosphorus in Istanbul.

Prominent figures such as Faruk Eczacibasi, President of the Turkish Informatics Foundation and Vice Chairman of the Board of Eczacibasi Holding, and Sina Afra, Chairman of the Board of the Turkish Entrepreneurship Foundation, also participated as speakers. During the summit, experts in the field shared their insights and experiences while discussing the question, "How will we find our direction in the winds of artificial intelligence?"

ACADEMIC AND SCIENTIFIC ACTIVITIES

● ELECTRICAL ELECTRONICS ENGINEERING ●

INTERNATIONAL PUBLICATION ACHIEVEMENT BY PROF. DR. BAYRAM ÜNAL

A research study co-authored by Prof. Dr. Bayram Ünal, Dean of the Faculty of Engineering and Architecture at Istanbul Gelisim University, has been published in the prestigious journal Materials Chemistry and Physics (Elsevier). This significant publication contributes to strengthening the international scientific visibility of our university.

The article, titled “Impact of platinum doping on the structural, cation distribution, electrical and dielectric properties of CoZn nanospinel oxides,” investigates in detail how platinum incorporation influences the structural, electrical, and dielectric characteristics of CoZn nanospinel oxides. The findings offer valuable insights for the development of advanced materials with potential applications in energy storage and next-generation electronics.

Prof. Dr. Bayram Ünal’s involvement in this study reflects the strong foundation and expanding collaboration network of Istanbul Gelisim University in the field of advanced material technologies.

We sincerely congratulate Prof. Dr. Ünal for his outstanding scientific contributions and wish him continued success in future research endeavors.

● MECHATRONICS ENGINEERING ●

Mechatronics Engineering Research Assistant Muhammed Lütfi TIRABZON's full text paper titled "Design and Prototyping of an Unmanned Ground Vehicle Integrating Single-Actuator Vertical Jumping and Passive Self-Righting Mechanisms" was presented at the International Science and Art Research conference.

ACADEMIC AND SCIENTIFIC ACTIVITIES

● ARCHITECTURE ●

RESEARCH ASSISTANT BURCU KORKUT SERVED AT MARUF25

Research Assistant Burcu Korkut from the Department of Architecture at Istanbul Gelişim University took part in the Marmara Urban Forum 2025 (MARUF25) held between 1–3 October 2025 at the Haliç Congress Center, serving actively throughout all three days of the event. This year's forum was organized under the theme "On the shore of all possibilities", bringing together multidisciplinary discussions on the present and future of cities.

The Marmara Urban Forum (MARUF) is a major international platform organized biennially by the Marmara Municipalities Union, focusing on urbanization and contemporary urban issues. Bringing together participants from public institutions, academia, civil society, and the private sector, the forum hosts sessions, panels, workshops, and events that address a wide range of topics including urban governance, architecture, sustainability, climate resilience, digital transformation, disaster preparedness, and social inclusion.

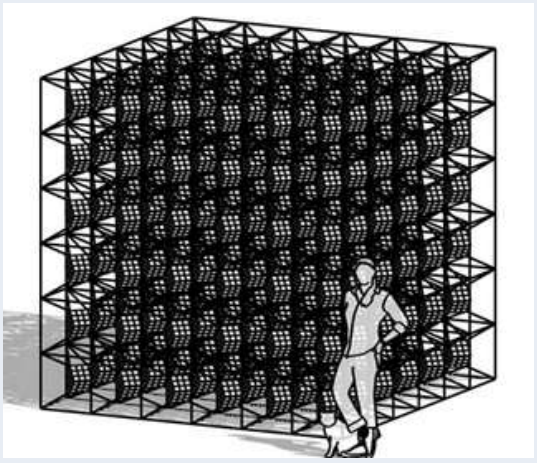
MARUF25 offered an extensive program that explored innovative approaches to the future of cities, highlighting key themes such as resilience, the care economy, artificial intelligence applications, local democracy, and urban transformation. Throughout the three-day event, contemporary perspectives on urban policy-making were discussed in depth and from multiple disciplinary angles.

During the forum, Burcu Korkut contributed to the organization and coordination of various sessions and activities, while also engaging with experts from different fields. Participating in an international event of this scale provided valuable insights that enrich her academic work and her perspective on current urban debates.

ACADEMIC AND SCIENTIFIC ACTIVITIES

● ARCHITECTURE ●

"VOLUMETRIC SOLAR CELL" HAS BEEN GRANTED A NATIONAL PATENT

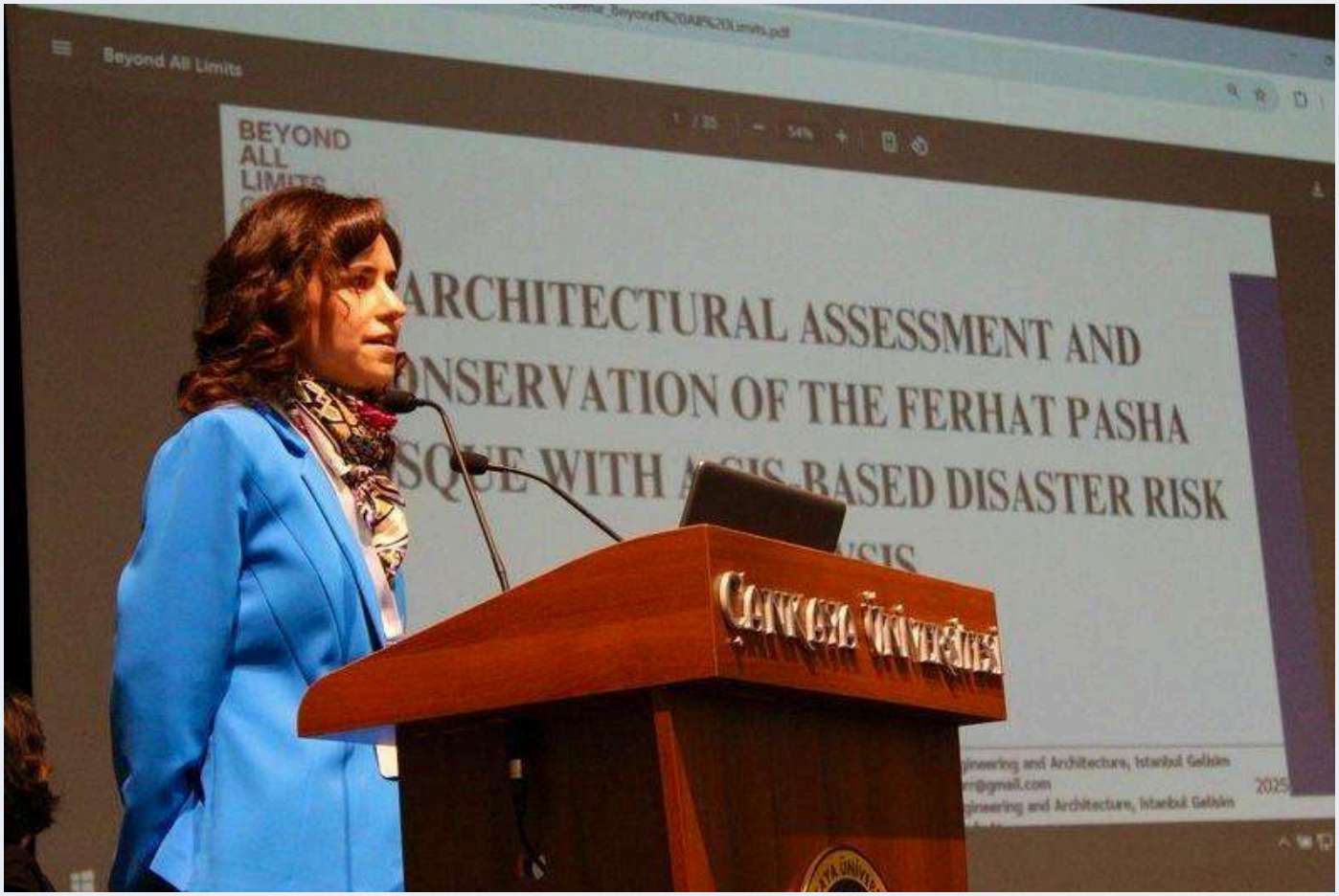


The invention titled "Volumetric Solar Cell," filed under application number 2024/009973 by Dr. N. Ömer Saatcıoğlu from the Department of Architecture, Faculty of Engineering and Architecture at Istanbul Gelisim University, has been officially granted as a national patent on behalf of our university as of 21 October 2025. The international registration process and patent application studies of the advanced version of the invention are currently ongoing. Dr. Saatcıoğlu holds 3 international and 7 national granted patents among his 8 innovative works. The purpose of the invention is to provide an alternative to traditional solar cells by utilizing a high surface area of transparent solar cells in a compact and limited area. Traditional solar cells require larger areas. This volumetric design aims to achieve similar production values in smaller areas. For the invention to function, sunlight needs to pass through multiple solar cells and generate energy from numerous solar cells. Transparent solar cells are used back- to-back to achieve this. Transparent solar cells with different levels of transparency harness light from various wavelengths to produce energy. Light passes through to lower levels and reflects. To maximize efficiency from a single beam of light and its reflections, the number of layers and transparency levels must be optimized. For this purpose, single-surface transparent solar cells formed of interlocking cubic layers and double-surface solar cells positioned back-to-back are used. The aim of the double-surface cells is to capture light reflected or coming from the opposite direction. At the center of the geometry, highly efficient opaque solar cells are placed. Thus, the outermost solar cells with the highest transparency transition towards increasing opacity and efficiency as they move inward. In this way, within a compact and reflective volume, the design aims to maximize contact between light and the densely utilized solar cell surfaces across various wavelengths. The efficiency of transparent solar cells is lower compared to conventional panels. Efficiency is further reduced due to light passing through layered surfaces, as well as losses from reflection and absorption. However, the large surface area of the solar cells, along with reflections and reflectors capturing light from different directions, enables a total energy output that introduces an alternative system.

ACADEMIC AND SCIENTIFIC ACTIVITIES

● ARCHITECTURE ●

OUR ALUMNI HANDENUR ÖZDEMIR PRESENTED AT THE BEYOND ALL LIMITS CONFERENCE



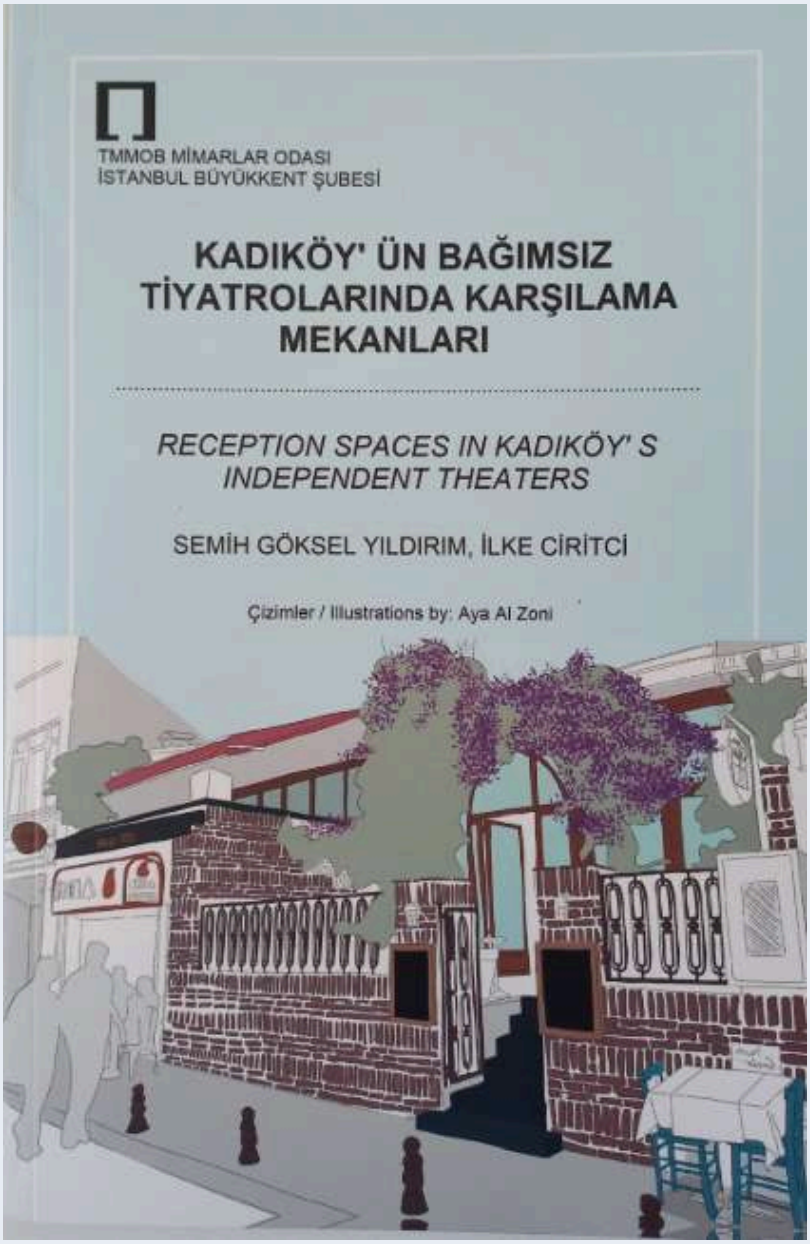
Handenur Özdemir, a graduate of the Istanbul Gelişim University Master of Architecture Program completed under the supervision of Assoc. Prof. İlke Ciritci, and currently pursuing her PhD in the Architectural Restoration and Conservation program at Yıldız Technical University, participated in the Beyond All Limits Conference on 17 October 2025 with a paper derived from her master's thesis.

The conference, held for the third time with a focus on Sustainability in Architecture, Planning, and Design, was hosted this year by Çankaya University.
For more information: https://beyondalllimits.cankaya.edu.tr/

ACADEMIC AND SCIENTIFIC ACTIVITIES

● ARCHITECTURE ●

THE BOOK TITLED "RECEPTION SPACES IN KADIKÖY'S INDEPENDENT THEATRES", CO-AUTHORED BY ASSIST. PROF. SEMIH G. YILDIRIM (PHD) AND ASSOC. PROF. DR. İLKE CIRITCI (PHD) FROM THE DEPARTMENT OF ARCHITECTURE, WAS PUBLISHED BY THE ARCHITECTURE FOUNDATION OF THE CHAMBER OF ARCHITECTS OF TURKEY (TMMOB), ISTANBUL METROPOLITAN BRANCH.



Theater halls are unique spaces characterized by their architectural design, stage arrangement, and audience seating, as well as their acoustic and visual requirements. This book specifically focuses on the reception areas rather than the performance halls themselves. When attending a theater performance, individuals often find themselves distracted from the concerns of everyday life and instead become immersed in thoughts related to the play and broader existential themes. The experience of being transported to another world can arise directly from the performance itself, the anticipation of the event, or the spatial qualities of the reception area. In fact, the act of waiting for the performance can stimulate creative thinking.

This study draws inspiration from the profound relationship between urban theaters and their surrounding streets. The book offers reflections on these often-overlooked and undefined reception spaces.

ACADEMIC AND SCIENTIFIC ACTIVITIES

● ARCHITECTURE ●

THE BOOK CHAPTER ENTITLED “BUILDING INFORMATION MODELING (BIM); INTERDISCIPLINARY INSIGHTS AND RESEARCH PERSPECTIVES”, AUTHORED BY ASSIST. PROF. SEMIH G. YILDIRIM (PHD) FROM THE DEPARTMENT OF ARCHITECTURE, WAS PUBLISHED IN THE BOOK “CIVIL ENGINEERING, ARCHITECTURE, AND BUILDING TECHNOLOGIES”, EDITED BY PROF. DR. ERCAN ÖZGAN.C

This study explores the potential of Building Information Modeling (BIM) to serve as a bridge between architecture and civil engineering, focusing particularly on current challenges such as interdisciplinary misalignment, issues of standardization, and the limited fulfillment of sustainability goals. The aim is not only to describe the present state of BIM but also to propose future research perspectives, offering a guiding framework for both academia and industry. The methodology is based on an extensive literature review and the examination of current research trends. In doing so, debates in the literature are compared with research-oriented tendencies, resulting in a thematic analysis. The analysis was structured around five key themes: (i) interdisciplinary collaboration and data sharing, (ii) sustainability and environmental impacts, (iii) new production technologies and BIM integration, (iv) cultural heritage and adaptive reuse, and (v) regional approaches and application differences. The interconnections among these perspectives were highlighted, emphasizing BIM’s holistic capacity to link diverse areas of research. The findings indicate that BIM enhances interdisciplinary communication, contributes to sustainability goals, provides a critical integration platform for new production technologies, and offers an effective method for preserving cultural heritage. However, gaps in standardization, institutional adaptation challenges, and cost barriers limit its global dissemination and adoption. In conclusion, the study demonstrates that BIM is not merely a technical tool but a strategic platform for interdisciplinary collaboration and sectoral transformation. The proposed research perspectives thus provide a valuable reference framework for both academic inquiry and professional practice.

ACADEMIC AND SCIENTIFIC ACTIVITIES

● ARCHITECTURE ●

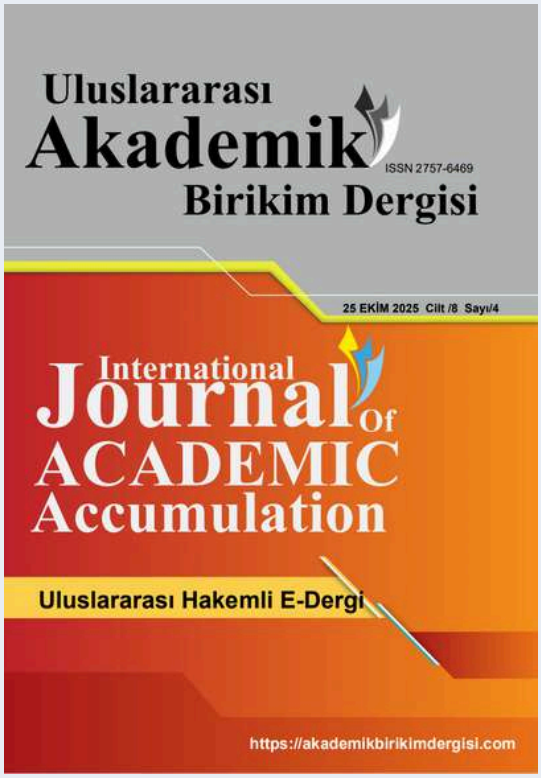
YAZARLARI MIMARLIK BÖLÜMÜNDEN DR. ÖĞR. ÜY. SEMIH G. YILDIRIM VE İÇ MIMARLIK VE ÇEVRE TASARIMI BÖLÜMÜNDEN DR. ÖĞR. ÜY. İBRAHIM EROL OLAN "İNSAN VE YAPAY ZEKA ODAKLI TASARIM YAKLAŞIMLARININ KARŞILAŞTIRMALI DEĞERLENDIRMESI; FÜTÜRISTIK BIR İÇ MEKAN KURGUSU" BAŞLIKLI MAKALE "NEW ERA INTERNATIONAL JOURNAL OF INTERDISCIPLINARY SOCIAL RESEARCHES" NDE YAYINLANMIŞTIR.

Bu çalışma, insan eliyle yürütülen dijital modelleme süreçleri ile yapay zekâ destekli tasarım yaklaşımlarının, fütüristik bir iç mekân kurgusu üzerindeki etkilerini karşılaştırmalı olarak incelemektedir. İstanbul Avcılar' da bulunan İstanbul Gelişim Üniversitesi' ne ait mühendislik ve mimarlık fakültesi giriş ve lobi alanında yürütülen vaka çalışması, tasarım sürecinin iki aşamada ele alınmasına dayanmaktadır. İlk önce, tasarımcı tarafından konvansiyonel yazılımlar kullanılarak biçimsel ve işlevsel bir kurgu geliştirilmiş; ikinci aşamada ise yapay zekâ tabanlı görselleştirmelerle alternatif öneriler üretilmiştir. Son aşamada da, yapay zeka tabanlı görselleştirmelerden elde edilen çıktılar, konvansiyonel görselleştirmelere entegre edilmiştir. Çalışmada, yapay zekânın kavramsal zenginlik, estetik çeşitlilik ve hız avantajı sağladığı; buna karşın ergonomi, ölçek doğruluğu ve teknik detaylandırmada insan deneyimine dayalı kontrolün vazgeçilmez olduğu görülmüştür. Analiz, biçim ve estetik, süreç ve kontrol, işlevsellik, kullanıcı deneyimi ve mekânsal anlam başlıkları altında gerçekleştirilmiştir. Bulgular, yapay zekânın özellikle konsept geliştirme aşamalarında yaratıcı bir katalizör işlevi gördüğünü; ancak uygulanabilir bir tasarım çıktısı elde edilmesi için insan uzmanlığının belirleyici olduğunu ortaya koymaktadır. Sonuç olarak, çalışma hibrit bir yaklaşımın, geleceğin iç mekân tasarımında sürdürülebilir ve özgün çözümler geliştirme potansiyeline sahip olduğunu göstermektedir.

ACADEMIC AND SCIENTIFIC ACTIVITIES

● ARCHITECTURE ●

YAZARI MIMARLIK BÖLÜMÜNDEN DR. ÖĞR. ÜY. SEMIH G. YILDIRIM OLAN "YAPI BILGISI DERSLERINDE TEORI–PRATIK ENTEGRASYONU: VAKA ANALIZI TEMELLI BIR DEĞERLENDIRME" BAŞLIKLI MAKALE "ULUSLARARASI AKADEMIK BIRIKIM DERGISI" NDE YAYINLANMIŞTIR.



Mimarlık eğitimi, tasarım stüdyoları ile teknoloji odaklı derslerin bütünleşmesini gerektiren çok boyutlu bir yapıya sahiptir. Literatürde sıkça vurgulanan kalıcı sorun, derslerde aktarılan teknik bilginin tasarım ve uygulama süreçleriyle zayıf biçimde hizalanmasıdır. Bu çalışma, teorik içeriğin yapılandırılmış ödevlerle eşleştirilmesinin teori–pratik entegrasyonunu güçlendirdiği ve ders etkinliğini artırdığı yönündeki hipotezi test etmektedir. Türkiye'de bir Mimarlık Bölümünde 2022–2025 yılları arasında yürütülen iki ardışık yapı bilgisi dersi (Building Construction I–II) üzerinde bir vaka analizi gerçekleştirilmiştir. İçerik analizi yöntemiyle ders izlenceleri ve ödevler dört ölçüte göre incelenmiştir: içerik uygunluğu, entegrasyon düzeyi, uygulama yoğunluğu ve aktif katılım. Analiz, ders anlatımı ile ödevler arasında belirgin bir senkronizasyon ve temel teknik alanların kademeli dizilimini göstermektedir. Bununla birlikte, çıktılar büyük ölçüde çizim temellidir ve atölye çalışmaları, saha gezileri, dijital üretim gibi deneyimsel bileşenler sınırlıdır; bu durum pratik derinliği kısıtlamaktadır. İçerik kapsamı çekirdek teknik alanlarla uyumlu olmakla birlikte, çağdaş teknolojiler ve sürdürülebilirlik temaları seçici biçimde ele alınmaktadır. Çalışmanın kapsamı—tek kurum ve eğitmen kaynaklı materyaller—bulguların bağlama özgü olduğunu işaret eder. Genel olarak sonuçlar, deneyimsel öğrenme olanaklarının güçlendirilmesi ile çağdaş teknolojiler ve sürdürülebilirlik stratejileriyle içerik zenginleştirmenin, yapı bilgisi eğitiminde teori–pratik entegrasyonunu ve pedagojik etkililiği artırmak için umut verici yönler olduğunu göstermektedir.

ACADEMIC AND SCIENTIFIC ACTIVITIES

● AERONAUTICAL ENGINEERING ●

PATENT ACHIEVEMENT BY OUR FACULTY MEMBERS FROM THE DEPARTMENT OF AIRCRAFT ENGINEERING


TURK PATENT

PATENT BELGESİ

No: TR 2024 002169 B

Buluş Başlığı

İŞ UZVUNUN KONUM VE YÖNELİMİNİ BAĞIMSIZ KONTROL EDEBİLEN BİR HİBRİT MANİPÜLATÖR

Patent Sahibi

BURSA ULUDAĞ ÜNİVERSİTESİ

Bu belge, 6769 sayılı Sınai Mülkiyet Kanunu kapsamında 23/02/2024 tarihinden itibaren 20 yıl süre ile korunmak üzere 22/12/2024 tarihinde verilmiştir.

Prof. Dr. M. Zeki DURAK
Başkan

Prof. Dr. Osman KOPMAZ, Head of the Department of Aircraft Engineering at the Faculty of Engineering and Architecture, Istanbul Gelisim University, and Research Assistant Dr. Ercan DÜZGÜN have been granted a patent by the Turkish Patent and Trademark Office for their invention entitled “A hybrid manipulator capable of independently controlling the position and orientation of the end-effector.”

This innovative study introduces a hybrid mechanism that enables independent control of the position and orientation of the manipulator’s end-effector, offering significant contributions to industrial robotics and precision positioning technologies.

The scientific productivity and research contributions of our faculty members continue to strengthen the innovative and research-oriented vision of our university.

As the Istanbul Gelisim University community, we sincerely congratulate Prof. Dr. Osman KOPMAZ, Head of the Department of Aircraft Engineering and we wish them continued success in their academic and scientific endeavors.

• TAG •

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